Italian vowel paragoge in loanword adaptation. Phonological analysis of the Roman variety of Standard Italian

Olga Broniś

Cardinal Stefan Wyszyński University, Warsaw, Poland <o.bronis@uksw.edu.pl>

This paper investigates the phonological adaptation of consonant-final loanwords recently borrowed into Italian. The analysis focuses on the examination of Italian vowel paragoge (i.e., word-final vowel epenthesis) which occurs with some of these loans. The data used in the analysis come from a self-designed field study, carried out in Rome on the local variety of Standard Italian. The phonological analysis of the data leads to the formulation of the following descriptive generalizations. Consonant-final loanwords adapted into Italian undergo vowel paragoge for two independent reasons. First, paragoge applies in all loanwords which end in a consonantal cluster, irrespective of their stress pattern. In this group, vowel epenthesis is employed as a repair strategy to salvage an extrasyllabic consonant. Second, paragoge is applicable in loanwords ending with a single consonant provided their stem-final syllable is stressed. Here the process applies to avoid the adaptation of words with a highly marked ultimate stress. The insertion of a word-final vowel creates an additional syllable, which leads to the emergence of a form with an unmarked penultimate stress.*

KEY WORDS: Italian, phonology, loanwords, vowel paragoge, epenthesis

1. Introduction

Some consonant-final loanwords are adapted into Italian with a vocalic element added at the word end. To illustrate the point, a common Italian rendition of the English word *weekend* is [wi'kɛndə]. This type of vocalic insertion was pointed out by a number of linguists, such as Lepschy & Lepschy (1981), Hurch & Tonelli (1982), Castellani (1987) or Thornton (1996). Castellani (1987, 2000), a recognized advocate of general Italianization of foreign words, went so far as to say

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that the presence of the inserted vowel should be shown in the spelling. He suggested that words such as *nord* 'north' and *sud* 'south' should be spelled as *norde* and *sudde*, respectively. This attempt to visualize the sound process in question confirms its phonological importance.

The specific phenomenon addressed in this paper consists in post-lexical insertion of a vowel after the final consonant of an Italian loanword ending in a consonant or a consonant cluster. This may be equivalently referred to as final vowel insertion, final vowel epenthesis, or vocalic paragoge. Since the notion 'paragoge' already includes the idea of an insertion that occurs at the end of a word, I shall adopt the label of Italian Vowel Paragoge (henceforth **IVP**).

According to many sources, the addition of the vocalic element at the end of consonant-final loanwords is determined either geographically or socially. For example, Lepschy & Lepschy (1981) observe that foreign words such as *sport*, *tram*, *gas* and *cognac* are pronounced by uneducated speakers of some central and southern varieties of Italian as spo[rte], tra[mme], ga[sse] and cogna[kke],[1] respectively. Hurch & Tonelli (1982) notice that the paragoge is active in vernaculars spoken by lower-social-class speakers, although it can also be found in very sophisticated varieties of Italian. Given this, one might be tempted to formulate the following conclusion. Educated speakers of Standard Italian from across the country are not expected to pronounce loanwords such as *weekend* with a vocalic element inserted at the word end. As a matter of fact, such a view is in line with the statement made by Krämer (2009), who argues that words such as *bar, film* or *sport* are pronounced in Standard Italian as ['bar], ['film] and ['spɔrt]. No vocalic paragoge is assumed to apply here. However, there are reasons to doubt this view. My own prolonged, impressionistic analysis of Italian seems to show that a significantly large number of native users of Standard Italian pronounce words such as *weekend* or *tram* with a vocalic element inserted word-finally, that is, as [wi'kɛndə] and ['trammə]. What is more, it appears that the process in question is not restricted to lower-class speakers, but is also applied by educated users of Standard Italian. In order to verify these impressionistic observations, I set up an experimental study to help determine the actual range and the phonological status of this process in the Roman variety of Standard Italian.[2,3] The goal of this paper is to discuss relevant generalizations regarding the scope and rationale for the vowel insertion in question. Still, the analysis presented in this paper is a preliminary proposal, which requires further research and tests against a larger body of data.

2. Data and methodology

The present analysis is based on the investigation of 450 tokens extracted from 38 informants residing in Rome, 23 male and 15 female, in the age ranging from 15 to 50 (the mean = 26). The participants, mostly students and people with a degree, were interviewed in Standard Italian. Crucially, they did not respond in the Roman dialect, but in a regionally colored variety of Standard Italian.

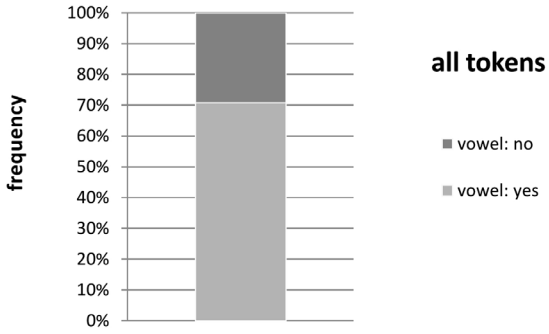
The field research, conducted in Rome in 2012, was followed by a phonetic study of the data, which was based on the impressionistic and acoustic data examination. The recordings were segmented manually and analyzed in WaveSurfer (Sjölander & Beskow 2006/2012) and PRAAT (Boersma & Weenink 2012). The data segmentation yielded a total of 450 different realizations of consonant-final loanwords, pronounced by the Italian informants either with or without a paragogic element. Thus obtained tokens were subjected to an acoustic examination, including the analysis of the waveform, the spectrogram and the intensity contour of each token. The analysis showed clearly that the inserted element is a vowel, which in the majority of instances is a schwa.[4] All the tokens considered for the analysis are cited in relevant sections of this paper.

Further data analysis involved the organization of the tokens and a basic statistical analysis, which was conducted in order to calculate frequencies of vowel occurrence in different subsets of the data. The descriptive statistical analysis was carried out with Excel (Microsoft). In particular, the data were analyzed with PivotTables.

The goal of the statistical data examination was to establish the general frequency of vowel occurrence in consonant-final loans. The data were divided into phonologically-oriented subsets, so that it could be established whether there exists a regular pattern in the occurrence of the paragogic vowel. The frequency analysis revealed that the occurrence of the loanword-final vowel is related to the stress pattern of a loan and to the number of consonants at the word end.

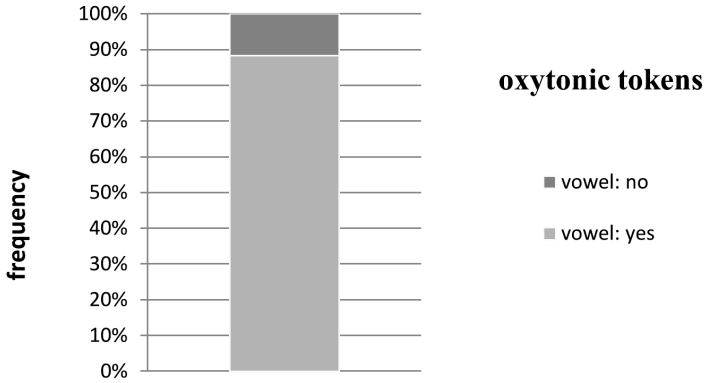
First, consider a diagram showing the occurrence of a paragogic vowel at the end of all the tokens used in the analysis. The evaluation of the 450 tokens submitted to the analysis yielded the following result: a loanword-final vowel occurred in 318 tokens, while in 132 tokens no vowel was present. In other words, 71% (95% Confidence Interval [CI], 66%–75%)[5] of all the tokens included a vowel and 29% (95% CI, 25%–34%) tokens did not.

Figure 1. The frequency of paragoge at the end of consonant-final loanwords (450 tokens)



Having established that, it seemed necessary to determine whether it is possible to make a generalization with reference to the conditions under which the vowel occurs. Thus, the set of 450 tokens was next subdivided into two stress-based groups: 258 oxytonic and 192 non-oxytonic items.[6] The frequency of paragoge among the oxytones[7] is illustrated in Figure 2.

Figure 2. The frequency of paragoge at the end of consonant-ending oxytonic loanwords (258 tokens).

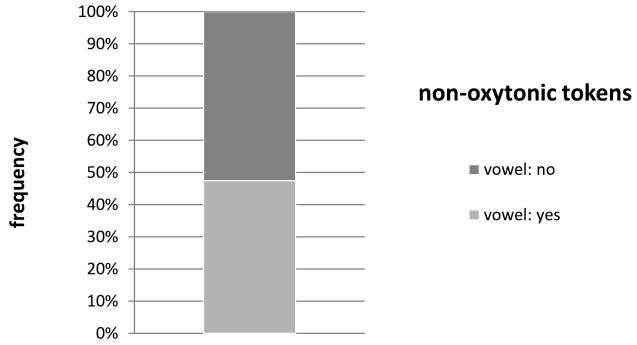


The total number of oxytones included in the study was 258. The examination showed that a word-final vowel occurred in 228 oxytonic tokens, which equals to 88% (95% CI, 84%–92%). 30 oxytones were pronounced with no vowel present, which constitutes 12% of the oxy-

tonic tokens used in the analysis (95% CI, 8%–16%). Crucially, the data used in the analysis do not suggest that vowel occurrence might be speaker-specific. It was not the case that some speakers consistently pronounced consonant-final tokens with a vowel and others without.

Let us now turn to the tokens with non-ultimate stress. Consider the diagram in Figure 3, which displays the distribution of 192 non-oxytonic tokens with reference to the occurrence of the word-final vowel.

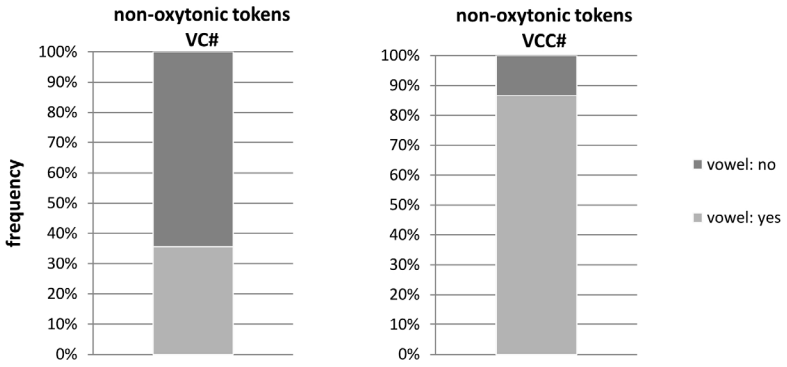
Figure 3. The frequency of paragoge at the end of consonant-ending oxytonic loanwords (192 tokens).



The diagram shows that 90 of the tokens were pronounced with a vowel and 102 tokens without. The numbers correspond to 47% (95% CI, 40-54%) oxytonic tokens with a vowel present and 53% (95% CI, 46%–60%) of the tokens with no vowel at the word end. Such a distribution (47%-53%) seems to demonstrate that the occurrence of the vowel is arbitrary, which means that no regularity exists in the application of paragoge in non-oxytones.

Furthermore, it proved worthwhile to explore the possibility that the vowel occurrence is additionally related to the number of consonants appearing at the end of the analyzed loanwords. Specifically, what was tested was the occurrence of the word-final vowel in non-oxytones terminating in a single consonant versus those ending in a consonantal cluster. The results are provided in Figure 4.

Figure 4. The frequency of paragoge at the end of non-oxytonic tokens (147 singletons vs. 45 consonantal-clusters).



Of all 194 non-oxytonic tokens used in the analysis, 147 end in a single consonant and 45 in a consonantal cluster. As regards the non-oxytones terminating in a singleton, 51 tokens surfaced with a word-final vowel present, while 96 tokens without. These numbers correspond to the frequencies of 35% (95% CI, 27%–43%) and 65% (95% CI, 57%–73%), respectively. With reference to non-oxytonic tokens ending in a consonantal cluster, 39 were pronounced with an inserted vowel and 6 without, which equals to 87% (95% CI, 74%–94%) and 13% (95% CI, 6%–26%), respectively.

Based on these data, the following observations can be made. Given the fact that 87% of non-oxytones ending in a consonantal cluster occur with a word-final vowel, I conclude that paragoge is a typical process within this group of tokens. As for the non-oxytonic tokens ending in a singleton, the data show that such non-oxytones are more likely to occur without a word-final vowel (65%) than with it present in the surface representations (35%).[8] However, this tendency is not as strong as it is in the case of the tokens ending in a cluster of consonants. Clearly, the non-oxytonic data terminating in a singleton call for a closer scrutiny.[9]

In sum, the statistical analysis of the available data shows that there are two factors that condition the presence of an inserted vowel. One is stress and the other is the number of consonants at the word end. The data at hand do not indicate the relevance of the quality of the word-final consonant, hence this factor is omitted in the analysis below.

The next step of the study consists in the phonological analysis of the data. The main focus of the analysis lies on the formulation of

descriptive phonological generalizations which explain what triggers the paragoge. For reasons of accessibility, I assume the traditional framework of generative rule-based phonology (Chomsky and Halle 1968, *inter alia*) and express my generalizations in terms of descriptively formulated rules.[10]

As regards the representational model applied in this work, the analysis is syllable-based, where syllables are represented as moraic onset-mora constituents (Hayes 1989).[11] The application of the moraic representation of segments entails the introduction of a readjusted Syllable Structure Algorithm. The formulation of the Moraic Syllable Structure Algorithm (MSSA, hereafter) is extracted from Rubach (1999), who developed it on the basis of Hayes (1989).[12]

3. Italian vowel paragoge in VCC# monosyllables

Let us begin the phonological discussion by looking at a set of data where IVP does not interact with other phonological processes. The data in question are foreign monosyllabic words that end in a cluster of two consonants. Consider illustrative examples of such tokens extracted from my fieldwork. The transcriptions in (5) show the original pronunciations in the source languages.

(5)

TOKEN	L1	L1 TRANSCRIPTION	GLOSS
fard	French	['faːʁ]	'blush' (a cosmetic)
Hart	English	['hɑrt][13]	'surname of a soccer player'
Klein	German	['klain]	'luxury goods brand' (Calvin Klein)

The examples cited in (5) are foreign words adapted into Standard Italian from French, English and German. The right edge of the token *Hart* ['hɑrt] is formed by a cluster of two consonants which are preceded by a short vowel. The token *Klein* ['klain] ends in a single consonant which is preceded by a diphthong. Thus, *Klein* is similar to *Hart* because the two words have three segments in the syllable rhyme. The token *fard* appears to be different, as it is originally pronounced with a single consonant at the word end, that is, as ['faːʁ]. However, the Italian pronunciation of this item is clearly influenced by orthography, because *fard* enters the lexicon of Italian as a word terminating in a cluster of two consonants, [rd], both of which are present in the original spelling of the word. Given this fact, the token *fard* belongs to the same category as the remaining foreign words in (5). With this background in mind, consider the Italian renditions of the three words.

(6) *fard* ['fardə]
Hart ['artə][14]
Klein ['klejnə]

Based on the data in (6), the following observation can be made. All the tokens in (6) surface with a vowel inserted word-finally. Thus, one can generalize that monosyllabic foreign words that enter the system of Italian with a consonantal cluster at the word end undergo IVP.

As regards the context for IVP, it appears that the process applies at the end of the phonological word and before a pause or another word beginning with a consonant. No vowel insertion is attested in the prevocalic context, even in loanwords that otherwise surface with a paragogic vowel.[15]

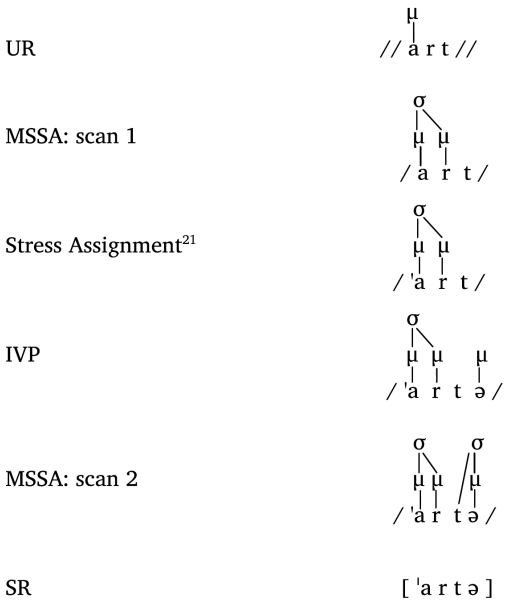
In order to understand what triggers IVP, it is crucial to recall that Italian does not tolerate complex codas. While simple codas are tolerated word-internally, the VCC-syllable is not present in this system.[16] Given this fact, it looks like the word-final consonants [d], [t] and [n] in *fard, Hart, Klein,* cannot be syllabified into the coda. Thus, it appears that at a certain stage of derivation, the right-edge consonants are extrasyllabic. In (7), a syllabic derivation of the token *Hart* is given, which illustrates the creation of a form with an unparsed word-final consonant.

(7)

UR	μ // a r t //[17]
MSSA: σ-Assignment	σ μ / a r t /
MSSA: CV Rule	--------
MSSA: Complex Onset	--------
MSSA: Weight-by-Position	σ μ μ / a r t /
MSSA: Coda Rule	*inactive in Italian*

First, a syllable is erected over every moraic vowel.[18] This is obtained by the application of σ-Assignment. Second, the CV-rule applies, which links the segment standing immediately before the moraic vowel to the syllable onset. In the case of the Italian representations in (6), there is no segment that could constitute the syllable onset, so the CV-rule has no effect. By the same token, the rule of Complex Onset is not applicable to *Hart,* either. Next, the rule of Weight-by-Position applies, which is responsible for assigning a mora to the coda consonant and for adjoining this consonant to the syllable. Additionally, some languages employ the Coda Rule, which forms complex codas. Since Italian does not tolerate codas consisting of more than one consonant, the Coda Rule is inactive. Therefore, the application of the MSSA rules to the Italian rendition of the loanword *Hart* yields a form with an extrasyllabic consonant at its right edge. In order to avoid extrasyllabicity of the word-final consonant, a vowel is inserted at the end of the VCC# loanword, so that a new syllable can be formed. Now, the extrasyllabic consonant can be adjoined as an onset of the new syllable, which successfully resolves the problem of an unparsed segment. The application of IVP outlined above is illustrated in (8).

(8)



In sum, the derivation in (8) shows that the analysis hinging on the idea that IVP applies to salvage extrasyllabic consonants generates the desired result. Thus, it looks like elimination of an extrasyllabic consonant is a plausible driver for IVP in loanword adaptation.

4. Italian vowel paragoge: VC# monosyllables

The inspection of monosyllabic examples ending in consonantal clusters led to the conclusion that IVP applies in order to eliminate the extrasyllabicity of the word-final consonant. In the data in (5), the consonant occurring at the right word edge is extrasyllabic due to a general ban on complex codas in Italian. With this in mind, it can be assumed that there is no reason for IVP to apply in foreign words which do not terminate in a consonant cluster. To see if the model makes correct predictions, consider a set of foreign monosyllabic words ending in a single consonant. The transcriptions in (9) reflect the facts of the source language.

(9)

TOKEN	L1	L1 TRANSCRIPTION	GLOSS
Cech	Czech	['tʃɛx]	'surname of a soccer player'
cross	English	['krɔs]	'cross' (noun)
Dior	French	['djɔːʁ]	'luxury goods brand'
Gap	English	['gæp]	'clothing brand'
Guess	English	['gɛs]	'clothing brand'
Lahm	German	['laːm]	'surname of a soccer player'
speck	German	['ʃpɛk]	'Italian smoked ham'
stop	English	['stɑp]	'stop' (noun)
brioche	French	[bʁi'jɔʃ]	'French pastry'[19]

The examples in (9) are monosyllabic foreign words terminating in a single consonant. The word *brioche* is originally composed of two syllables, but it is cited in (9) due to the fact that all of my Italian informants consistently pronounced the word's stem as monosyllabic.[20]

As mentioned above, the scenario outlined in section 3 suggests that no vowel should be epenthesized at the end of the tokens in (9), as they do not terminate in complex codas. This, however, turns out not to be the case. Consider the Italian SRs of the foreign words listed in (9).

(10)

Cech	['tʃɛkkə]
cross	['krɔssə]
Dior	['djɔrrə]
Gap	['gappə]
Guess	['gɛssə]
Lahm	['lammə]
speck	[s'pɛkkə]
stop	[s'tɔppə]
brioche	['brjɔʃʃə]

Looking at the examples in (10), it is surprising to observe that despite the predictions, the tokens originally ending in a single consonant surface with a paragogic vowel. Additionally, a change in the number of consonantal segments can be observed. The Italian tokens in (10), which originally end in a single consonant, surface with a geminate.[21] Given the observations, it looks like there exist two disparities between the tokens' original pronunciations in (9) and their Italian representations in (10).[22]

(11)

	donor language		**Italian**
gap	[ˈg æ p$_A$ $_B$]	⟶	[ˈg a p p$_A$ ə$_B$]

As illustrated in (11), one discrepancy consists in the presence of the word-final vowel in the Italian form, and another in an apparent doubling of the word-final consonant [p]. In light of these facts, it can be concluded that the adaptation of words such as *Gap* involves the application of two phonological processes: vowel paragoge, which adds a vowel at the word end, and gemination of the L1 word-final consonant. Given this, the analysis of the data in (10) must include the examination of both vowel paragoge and consonant gemination. It is important to observe that the two processes operate on segments that are adjacent, so it is likely that what is an output of one process becomes a context or an input to another. Therefore, it is necessary to consider two possible orders in which the two rules might apply.

(12)

rule order A		**rule order B**	
L1-representation	[ˈg æ p]	L1-representation	[ˈg æ p]
Italian UR	//gap//[23]	Italian UR	//gap//
Stress Assignment[24]	/ˈgap/	Stress Assignment	/ˈgap/
Gemination	/ˈgapp/	IVP	/ˈgapə/
IVP	/ˈgappə/	Gemination	/ˈgappə/
Italian SR	[ˈgappə]	Italian SR	[ˈgappə]

As regards the rule order designated as 'A', it is unlikely to be correct, which is due to the fact that it assumes that the UR //gap// changes into the highly marked structure /'gapp/. Loanwords undergo various phonological changes in order to meet language-specific constraints imposed by the borrowing language. Italian does not tolerate complex codas at all, neither does it allow for consonants to appear at the end of the word.[25] In addition, the application of consonant doubling to the UR //gap// does not seem to introduce any structural

changes that would reduce the markedness of the incoming form /gap/. Therefore, it looks like rule order 'A' is not accurate.[26]

Let me point out that if this rule order were to be correct, it could be postulated that vowel paragoge illustrated in (10) is driven by the same rationale that works for the examples in (6). Specifically, if vowel paragoge were to operate on the input /gapp/, it would look like the process is employed to rescue the word-final extrasyllabic consonant. By the same token, one could claim that both the data in (6) and (10) show that vowel paragoge is used as a repair strategy against consonant extrasyllabicity. Still, it is unlikely that a rule changing //gap// into /gapp/ should exist in Italian, as was explained above. Therefore, a conclusion can be drawn that rule order 'A' is untenable. This in turn implies that the unified analysis leaning on the elimination of extrasyllabicity as the driver for vowel paragoge both in (6) and in (10) is doomed.

With that established, it is now clear that the correct rule order is the one marked as 'B'. Consequently, it emerges that vowel paragoge must apply before gemination. Based on the data in (6) and (10), the process in question can be descriptively formulated as follows:

(12) **Italian vowel paragoge (IVP)**

$$\emptyset \rightarrow \text{ə} \; / \begin{bmatrix} \text{k} \\ \text{p} \\ \text{s} \\ \text{ʃ} \\ \text{m} \\ \text{r} \\ \text{t} \\ \text{d} \\ \text{n} \end{bmatrix} \_\_\_ \; \#$$

The examples in (6) and (10) show that the left-hand context for IVP is not limited to any specific class of consonants: it encompasses both obstruents and sonorants. *Ergo*, the process applies in the context of any word-final consonant. Notice that the formulation of vowel paragoge in (13) is very broad and accounts for IVP in monosyllabic VCC# tokens as well. Actually, the formula in (13) does not confine the rule input to words consisting of one syllable. It says that IVP

applies to all consonant-final words, irrespective of their size.

Seemingly, it could be further postulated that IVP is triggered by a general ban on word-final codas. Such an analysis would be independently supported by the fact that the Italian native lexicon is known to disfavor consonants in the word-final position (e.g. Passino 2008, Krämer 2009). Thus, the generalization would state that when a consonant-final word enters the lexicon of Italian, a vowel is inserted word-finally to satisfy the general ban on word-final codas. This claim is supported by each and every datum presented so far. However, inspection of further examples extracted from my fieldwork undermines this generalization. Consider the examples in (14). As before, transcriptions reflect the facts of the source language.

(14)

TOKEN	L1	L1 TRANSCRIPTION	GLOSS
hamburger	English	['hæm͵bɜrgər]	'hamburger'
transfer	English	['trænsfər]	'transfer' (noun)
Rubinstein	German	['Rubɪnʃtain]	'luxury goods brand'

The vast majority of the speakers who took part in the field study were unanimous with regard to the pronunciation of the examples in (14). The most common Italian renditions of these words are given in (15).

(15)

hamburger	[am'burger]
transfer	['transfer]
Rubinstein	['rubisten]

As the data show, some consonant-final loanwords are adapted into Italian without a vowel inserted word-finally.[27] Clearly, this observation belies the generalization that every word that ends in a consonant undergoes IVP. Still, it might be noticed that the three examples that are not subject to IVP end either in /r/ or /n/, both of which are sonorants. Given this fact, one could postulate that Italian is regulated by the Coda Condition,[28] which in the word-final position allows only for sonorant consonants. Other word-final consonants would be prohibited.[29]

In fact, Italian is known to tolerate only word-internal codas. What is more, only a limited group of consonants can form a coda. According to Krämer (2009), the tolerated word-internal codas are: the first part of a geminate, a nasal with the same place of articulation as the following consonant, /r/, /l/ and /s/. In order to account for the exceptional behavior of the data in (15), one could advance the idea that besides the limited set of word-internal codas, Italian allows for word-final codas as well, yet with a special limitation to a certain

group of segments. On the basis of the data in (15), the segments allowed word-finally would be /r/ and /n/, or, in more general terms, sonorants.

Adopting the extended Coda Condition for Italian, one is able to account for the absence of the paragogic vowel in tokens such as *hamburger*. However, close inspection of the data in (6) and (10) shows that this solution is erroneous. Specifically, it incorrectly predicts that words such as *Dior*, originally pronounced with a word-final /r/, should surface with no vowel at the end, that is, as *['djɔr]. This is not the case, as the token in question typically undergoes both IVP and consonant gemination, thus surfacing as ['djɔrrə].

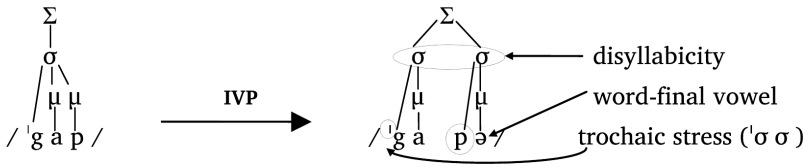
All things considered, it looks like the formulation of IVP provided in (13) is too general, as it predicts that any consonant-final loanword should be adopted into Italian with a vowel inserted at the word end. Given the fact that the tokens in (15), such as *hamburger,* surface without a paragogic vowel, it emerges that the rule in (9) makes incorrect predictions about the system.

Therefore, it appears that the data need to be considered from a different angle. Notice that in both (6) and (10) the insertion of a word-final vowel leads to a formation of a new syllable. This in turn results in an increase in the number of syllables in words such as *Hart* and *Gap* from one to two. This observation can be accounted for in terms of a language-specific requirement on the minimal size of the lexical word in Italian.

Many languages are known to disallow lexical words or other constituents which are smaller than it is required by a language-specific minimality condition. (See, for example, McCarthy & Prince 1990 and Golston 1991.) As regards the structure of a minimal prosodic word in Italian, researchers agree that it must be composed of a bimoraic foot (Repetti 1991, Vogel 1999, Thornton 1996). However, while Repetti and Vogel assume it suffices to say that a minimal Italian word is required to be bimoraic, Thornton argues that it needs to be formed of two syllables, of which the first is stressed.[30] Additionally, Thornton's Minimal Word is supposed to terminate in a vowel. In other words, Thornton states that Italian Minimal Word must fulfill three conditions: disyllabicity, trochaic stress and a vowel at the word end.[31]

Considering the data in (5) from Thornton's perspective, it looks like IVP is a process well suited to yield the structure which satisfies all the three conditions. With a vowel inserted at the word end, the monosyllabic examples in (5) and (9) become bisyllabic trochees, with a vowel at the end.[32] The structural improvements made by IVP are illustrated in (16).[33]

(16)



It looks like the observations made by Thornton provide a plausible rationale for ordering IVP before gemination. In addition, with the minimality requirement as the driver for paragoge, the analysis successfully accounts not only for the appearance of the vowel in all monosyllables, but also for its absence in the polysyllabic examples in (15). All these tokens are originally composed of more than one syllable, so there is no need for a vowel to be inserted at their end.

In light of the facts mentioned above, it is crucial to restate the descriptive formulation of IVP in (13). The revised formula, based on Thornton's analysis, is provided in (17).

(17) IVP - REVISED
ø → ə / # C_0V(C)C ____ #

The rule in (17) states that IVP applies to all monosyllabic lexical items that end in at least one consonant. Since IVP is triggered by the minimality requirement, the description of the process encompasses all monosyllabic tokens, both those ending in a singleton and in a consonantal cluster. This is why the first 'C' of the word-final cluster is parenthesized. The quantity of consonants appearing in the onset is irrelevant for the analysis proposed by Thornton, so the formula predicts that it might be equal to any number of segments. Formulated in this way, IVP successfully repairs undersized phonotactic units, without evoking any changes in the polysyllabic tokens in (15), which surface without a vowel.

Having established the trigger and the context for IVP, let us now consider the process of consonant gemination. Recall from the data in (10) that in monosyllables ending in a singleton IVP co-occurs with consonant gemination. Given the fact that gemination needs to apply after IVP, the process of consonant doubling can be descriptively formulated as follows.

(18) **consonant gemination**

$$\begin{bmatrix} k \\ p \\ s \\ ʃ \\ m \\ r \end{bmatrix} \rightarrow \begin{bmatrix} kk \\ pp \\ ss \\ ʃʃ \\ mm \\ rr \end{bmatrix} / V \_\_\_\_ ə$$

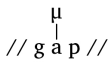
Assuming that the paragogic vowel is a schwa, the formulation of the IVP rule does not pose any challenges. It simply needs to state that any consonant preceded by a vowel and followed by a schwa undergoes gemination. An additional observation can be made that IVP provides the context for consonant gemination, thus the two rules stand in a feeding relationship, with IVP feeding gemination.

Gemination is a common process in Standard Italian, where it operates not only to accommodate foreign words, but also to repair prosodic structures in the native lexicon (Chierchia 1986, Nespor & Vogel 1986/2007, Sluyters 1990, Repetti 1993, Loporcaro 1996, Passino 2008, Benedetti & Marotta 2014, among others).[34] In Italian, consonants undergo gemination for different reasons. In principle, the trigger for consonant doubling is strongly related to the prosodic domain in which the process applies. As regards the context, all types of gemination in Italian typically apply intervocalically, although there are cases where the consonant undergoing gemination is preceded by a vowel but followed by a consonant. This is exemplified by the classic example of syntactic doubling a.k.a. *Raddoppiamento Sintattico,* as in *città triste* [tʃit'ta t'triste] 'sad city'. Importantly, gemination never applies in Italian in the context of a pause, either at the beginning or at the end of a domain.[35] In order not to obscure the picture, the present discussion focuses on the gemination of the stem-final consonants in loanwords, formulated as in (18).

As regards the driver for gemination in the tokens in (10), such as *Gap* ['gappə], it is crucial to recall a few facts. First, it is cross-linguistically typical that onsets are preferred over codas. Thus, a segment linked to a coda can be resyllabified to the onset of a newly formed syllable. This is what happens in monosyllabic VC# loanwords after IVP has applied, as is illustrated by the syllabification of the word *Gap*.

(19)

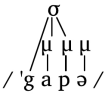
UR



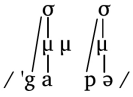
MSSA: scan 1

Stress Assignment

IVP



MSSA: scan 2

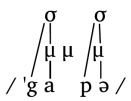


After IVP has applied, /p/ is resyllabified to the onset of the newly formed syllable /pə/ in /'ga.pə/. This results in delinking of the mora from the first scan. Now it can be seen that the application of consonant gemination is a means to incorporate the floating element.

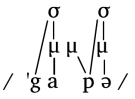
This observation constitutes a relevant piece of evidence supporting the generalization made by Vogel (1982), who argues that Italian stressed syllables must be heavy. Since the stressed syllable in /'gapə/ is light, some sort of readjustment is called for. To satisfy the heaviness condition, the intervocalic /p/ undergoes gemination, which results in the addition of a mora to the first syllable.[36] In other words, the application of gemination leads to the increase in the weight of the first syllable from one to two morae. This is demonstrated by the derivation in (20).

(20)

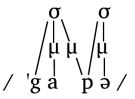
MSSA: scan 2



Gemination



MSSA: scan 3



SR [ˈg a p p ə]

To sum up, in order to successfully account for gemination and IVP in the data in (10), paragoge must apply before gemination, as it creates the context for consonantal doubling. As regards the rationale for the two processes, the examination of monosyllabic loanwords prompted that IVP is driven by the minimality requirement, while gemination is triggered by the condition stating that stressed syllables must be heavy in Italian.

5. Polysyllables

On the basis of the data adduced in the previous sections, I concluded that IVP is triggered by the requirement that Italian nouns should be minimally composed of two syllables, the first of which must be stressed and the second must end in a vowel. In light of this generalization, it is interesting to see whether all polysyllabic tokens consistently occur without a paragogic vowel, as is predicted by this model.

The present and the subsequent sections investigate the occurrence of the word-final vowel in consonant-ending polysyllabic loanwords. Following Rainer (1996), Repetti (1993) and Passino (2008), who investigate the pattern of gemination in derived forms of consonant-ending loanwords, let us divide polysyllabic loans into two stress-based groups. Polysyllabic tokens with word-final stress (oxytones) are analyzed in section 5.1. Loanwords with stress falling on either the penultimate or the antepenultimate syllable, labeled together as non-oxytones, are examined in section 5.2.

5.1. Polysyllables: oxytonic stress pattern

The present section investigates the phonological adaptation of polysyllabic loanwords with stress falling on their originally word-final syllables. Crucially, the analysis considers only the Italian stress pattern of the tokens, without referring to the original metrical structure of the source languages. This decision was made on the basis of the fact that, by default, loanwords are adapted with no metrical structure, which is subsequently erected on the basis of language-specific prosodic requirements of L2. In other words, when a foreign word is borrowed from one language to another, typically only the phonological segments are passed over to the borrowing system, not their prosodic structure.

It is crucial to note that in the varieties of Standard Italian where vowel paragoge does not apply, the stressed stem-final syllables are also word-final. That is why the words in question are traditionally referred to as oxytonic (Repetti 1993, Rainer 1996, Passino 2008). However, in the varieties of Italian where these oxytonic tokens are subject to IVP, the stressed syllable no longer surfaces as word-final. This point is illustrated by the following examples.

According to Repetti (1993), the Italian loanword *weekend* is pronounced with no final vowel, that is, as [wi.'kɛnd]. Thus, in the variety of Standard Italian analyzed by Repetti, the word *weekend* carries a word-final stress, which makes it an oxytone. Following the traditional taxonomy, I also label words such as *weekend* as oxytonic. However, notice that when IVP applies the stressed syllable can no longer be tagged as ultimate, as it becomes penultimate: [wi.'kɛn.də]. Despite this, the present paper consistently refers to foreign words with stem-final syllables stressed as 'oxytonic', irrespective of whether vowel insertion occurs or not. In (21), consider a list of polysyllabic foreign words whose Italian renditions are pronounced with stress falling on their stem-final syllables. The transcriptions represent the pronunciations in the source languages.

(21)

TOKEN	L1	L1 TRANSCRIPTION	GLOSS
Albiol	Spanish	[al'βjol]	'surname of a soccer player'
beautycase	English	['bjuti͵keɪs]	'surname of a soccer player '
boutique	French	[bu'tik]	'clothing store'
Buffon	Venetian	[buf'fon]	'surname of a soccer player'
Cavour	Piedmontese	[ka'vur]	'street name'
Chanel	French	[ʃa'nɛl]	'luxury goods brand'
Clinique	French	[kli'nik]	'cosmetic brand'
fastfood	English	['fæst 'fud]	'fast food'
h&m	English	['eɪtʃ ən 'ɛm]	'clothing brand'
hot dog	English	['hɑtdɑg]	'hotdog'
Lancôme	French	[lɑ̃'kom]	'cosmetic brand'
Lloris	French	[lo'ʁis]	'surname of a soccer player'
L'Oréal	French	[loʁe'al]	'cosmetic brand'
Mexes	French	[mɛk'sɛs]	'surname of a soccer player'
popcorn	English	['pɑp͵kɔrn]	'pop corn'
weekend	English	['wikɛnd]	'weekend'

The tokens listed in (21) are loanwords and foreign names used as stimuli in the Roman fieldwork. The data encompass six tokens which in English are known to be compounds. The relevant examples are: *beautycase*, *fastfood*, *h&m*, *hot dog*, *popcorn*, and *weekend*. A question arises whether such tokens should be included in the analysis. In my view, the answer is positive for two reasons. First, Italian representations of these examples have only one primary stress. As observed by Nespor & Vogel (1986/2007), if a word, might it be a compound, has only one primary stress, it forms a single phonological unit. Given this, it looks like each of these loanwords forms one phonological word. Thus, the prosodic status of these loans is parallel to that of the tokens that are not compounds in the languages from which they were adopted. The case in point is the fact that native speakers of Italian do not perceive words such as *weekend* as compounds. This includes native researchers of Italian phonology. For instance, Repetti (1993) and Passino (2008), both native speakers of Italian, treat words such as *weekend* on a par with other oxytonic / non-oxytonic tokens. Apparently, based on their native speaker intuitions, the loans in question are not different from non-compound words. This independently suggests that Italian representations of these tokens are most likely assimilated as non-compound structures.

With this established, let us consider the data in (22), which show Italian surface representations of the tokens in (21).

(22)

A. SINGLE CONSONANT AT THE WORD END		B. CONSONANT CLUSTER AT THE WORD END	
Albiol	[albi'jɔllə]	*beautycase*	[bjuti'kejsə]
boutique	[bu'tikkə]	*popcorn*	[pop'kɔrnə]
Buffon	[buf'fɔnnə]	*weekend*	[wi'kɛndə]
Cavour	[ka'vurrə]		
Chanel	[ʃa'nɛllə]		
Clinique	[kli'nikkə]		
fastfood	[fas'fuddə]		
h&m	[ejtʃɛn'ɛmmə]		
hotdog	[od'dɔggə]		
Lancôme	[lan'kɔmmə]		
L'Oréal	[lore'allə]		
Lloris	[lo'rissə]		
Mexes	[mek'sɛssə]		

The examples in (22) highlight three observations. First, virtually all these words surface with a word final vowel.[37] This observation is valid both for the tokens ending in a consonantal cluster (22b) and for those that end in a singleton (22a). A second observation is that the tokens originally terminating in a single consonant undergo gemination, which leads to the doubling of the originally singleton word-final consonant. Third, it looks like paragoge is applicable in the context of any type of consonant: the left-side context may include either an obstruent or a sonorant.

In light of these observations, it appears that the polysyllabic oxytonic tokens exhibit a pattern analogous to the monosyllabic words analyzed in sections 3 and 4, both with respect to IVP and consonant gemination. Specifically, if an oxytonic polysyllable terminates in two consonants, a vowel is added word-finally. As for the tokens ending in a singleton, they are subject both to IVP and gemination of the stem-final single consonant. This behavior is fully parallel to the pattern of monosyllabic tokens.

Given this similarity, it seems warranted to suggest an analysis which accommodates the generalization that both monosyllables and oxytonic polysyllables behave identically. Recall that sections 3 and 4 were concluded with the following generalizations.

(23) The analysis of monosyllabic tokens showed that:
a. IVP applies in order to satisfy the minimality requirement,
b. gemination applies to create a heavy stressed syllable. It is fed by IVP.

The question that arises here is whether it is possible to use the two generalizations to account for the phonological behavior of the data in (22). The answer is negative, at least with reference to IVP. Assuming that a vowel is inserted in order to create a minimal prosodic word, there is no reason for a vowel to occur in the tokens in (22), as they enter the lexicon with the required minimal number of

syllables. Next, if there is no rationale for vowel paragoge, gemination cannot apply either, as it is fed by IVP. Consequently, it seems that the analysis based on the minimality requirement cannot successfully account for the adaptation pattern of the forms in (22).

It appears that there are two possible scenarios to consider. One way of looking at the data is to assume that vowel insertions in monosyllables and in polysyllabic oxytones are two separate processes, driven by two different rationales. However, such an analysis would obviously miss the generalization that monosyllables and polysyllabic oxytones are analogical with regard to IVP. Additionally, assuming that the two sets of data are unrelated, we fail to show that monosyllables have an oxytonic stress pattern, just like the polysyllables in (22).

An alternative analysis is not challenged by such difficulties. Based on the fact that monosyllabic loanwords are oxytones as well, let us analyze monosyllables together with final-stress polysyllables. In this analysis, the main issue is to establish what triggers IVP in the group of oxytonic mono- and polysyllables. As argued above, the minimality requirement cannot be used to account for the data in (22). To find the driver for IVP, it is necessary to determine how the tokens surfacing with a vowel are different from those that are pronounced without it. Recall the polysyllabic examples where no vowel is inserted word-finally.

(24)	*hamburger*	[am'burger]	'hamburger'
	transfer	['transfer]	'transfer' (noun)
	Rubinstein	['rubisten]	'luxury goods brand'

In contrast to the polysyllabic tokens in (22), the examples in (24), also formed of multiple syllables, are pronounced with no vowel inserted at the word end. However, in the examples in (24) the word stress falls either on the penult or on the antepenult, never on the last syllable, which is also stem-final. In contrast, all the tokens in (22) have their stem-final syllables stressed. Moreover, it can be observed that all the examples in (24) end in a sonorant.

As demonstrated in section 5.1, the absence of a paragogic vowel in (24) cannot be accounted for in terms of the quality of the stem-final consonant.[38] Alternatively, one could exploit the fact that the tokens that do not undergo IVP are polysyllabic. However, this approach is doomed as well, because the examples in (22) are also polysyllabic and yet they do surface with a paragogic vowel.

Some insight into the analysis can be gained through the comparison of stress patterns of the tokens in (6), (10) and (22) versus

those in (24). Apparently, the loanwords that surface with a paragogic vowel, that is, those in (6), (10) and (22), have their stem-final syllables stressed, while those that do not undergo IVP (in 24) are stressed either on the penultimate or antepenultimate syllable. Given these facts, it looks like the context for IVP has been successfully specified as stress-related.

Since it turns out that stress plays a key role in determining whether a loanword undergoes paragoge or not, let us outline the basic characteristics of stress placement in Italian. Italian nouns are stressed on either the ultimate, the penultimate or the antepenultimate syllable, yet the vast majority of words occur with the penultimate stress pattern. The preference for penultimate stress can be explained as follows. Lexical stress in Italian falls on a binary trochaic foot, and feet are parsed from right to left. This is illustrated by the word *melanzana* 'eggplant' [me.lan.'tsaː.na], which has its rightmost heavy syllable stressed. As regards word-final stress in Italian, in native words ultimate syllables are never heavy, so in principle they should not attract stress. Thus, as suggested by Chierchia (1986), Den Os & Kager (1986), D'Imperio & Rosenthall (1999), *inter alia,* all words that surface with word-final stress are marked and need to be prespecified for stress in the underlying representation.[39]

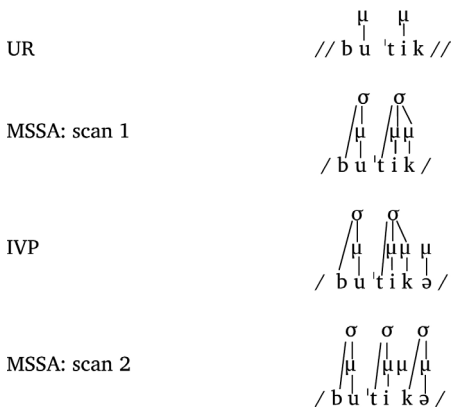
Given the Italian stress requirements recapitulated above, the following observations about the analyzed oxytonic loanwords can be made. First, it transpires that oxytonic loanwords are marked in Italian. However, after having a vowel added word-finally, their stress pattern changes from the marked ultimate to the unmarked penultimate. Were IVP not to apply, words such as *boutique* [bu'tikkə] would surface without an extra word-final syllable. *Ergo,* they would be pronounced with the marked final stress, as in *[bu'tik].[40] Alternatively, they could surface with the unmarked penultimate stress, as in *['butik]. The fact that the latter form is not the attested SR demonstrates that in oxytonic words, such as *boutique*, stress must be marked in the UR. Based on these observations, it can be postulated that IVP is necessary to repair the illegality of the word-final stress. With this in mind, the rule of IVP can be descriptively formulated as follows.

(25) **IVP** – FINAL VERSION

$$\text{ø} \rightarrow \text{ə} / \text{C)}\underset{[+\text{stressed}]}{\underset{|}{\sigma}}\,]_{PW}\ \_\_$$

The rule presented in (25) says that if a consonant-final phonological word is stressed on the last syllable, it undergoes word-final schwa insertion. This means that a vowel is inserted at the end of all consonant-final monosyllables as well as of those consonant-final polysyllables that are underlyingly prespecified as having their stem-final syllable stressed. The application of the rule defined in (25) is illustrated in (26).[41]

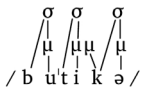
(26)



Recall from section 3 the observation made by Vogel (1982): Italian stressed syllables must surface as heavy. Given this, one can notice that the form /bu.'ti.kə/ still does not conform to the native prosodic requirements of Italian. This is due to the fact that the stressed syllable in / bu'tikə/ is light. In order to satisfy the heaviness condition, /k/ undergoes regressive gemination, which results in the addition of a floating mora to the stressed syllable. As it was already shown in the derivation in (20), gemination is employed in order to fill an empty mora, which is assigned to the word-final /k/ in /bu'tik/ in the first syllable scan. Overall, it can be generalized that gemination is employed in order to change the stressed syllable from light to heavy.[42] This is illustrated in (27).

(27)

Gemination



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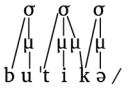


SR [b u ˈt i k k ə]

It looks like the analysis assuming that IVP applies to readjust the marked stress pattern works: it yields the desired SR of the polysyllabic oxytone *boutique*. Notice that this scenario is fully parallel to the analysis of consonant gemination in monosyllabic tokens discussed in section 4. Thus, it can be concluded that the present analysis successfully accounts for the application of IVP in oxytonic tokens as well, irrespective of whether they end in a single consonant or in a consonantal cluster and whether they are composed of one or more syllables. (In VCC# oxytonic loans gemination does not apply, as there is no need to increase the weight of the stressed syllable which is heavy before gemination has a chance to apply.)

Observe that in the case of consonantal clusters a different solution is also possible.

As shown in section 3, tokens ending in consonant clusters can be postulated to undergo IVP in order to rescue word-final extrasyllabic consonants, which cannot be parsed due to the general ban on complex codas in Italian. Both the stress-driven analysis and the one relying on extrametricality successfully account for the occurrence of the word-final vowel in examples such as *fard* or *weekend*. Therefore, as regards the analysis of oxytonic tokens ending in a cluster of consonants, it looks like IVP can be motivated by either of the two drivers. However, only one of the two rationales can be used to account for the application of IVP in the set of examples ending both in a cluster and in a singleton. Here the driver is stress-related. Therefore, in order to keep the overall analysis as simple as possible, I conclude that in all the oxytonic data, both mono- and polysyllabic, whether ending in a single consonant or in a cluster, IVP can be analyzed as being conditioned by stress. Paragoge applies in order to repair the marked word-final stress pattern, while gemination is employed to ensure that the stressed syllable surfaces with the required number of morae.

5.2. Polysyllables: non-oxytonic stress pattern

This section examines the pattern of IVP within the group of polysyllabic loanwords stressed on the penultimate or the antepenultimate syllable. Section 5.2.1 presents an analysis of non-oxytones that do not undergo IVP, while section 5.2.2 investigates non-oxytones surfacing with a paragogic vowel.

5.2.1. Non-oxytones without a paragogic vowel

Consider the set of non-oxytonic foreign words typically pronounced without a paragogic vowel. The transcriptions reflect the facts of the donor languages.

(28)

TOKEN	L1	L1 TRANSCRIPTION	GLOSS
Diesel	German	['di:zəl]	'clothing brand'
hamburger	English	['hæmˌbɜrgər]	'hamburger'
Lloris	French	[lo'ʁis]	'surname of a soccer' player
McDonald	English	[mək'dɑnəld]	'fast food chain'
Neuer	German	['nɔʏɐ]	'surname of a soccer player'
Rubinstein	German	['Rubɪnʃtaɪn]	'luxury goods brand'
transfer	English	['trænsfər]	'transfer' (noun)
tunnel	English	['tʌnəl]	'tunnel'

The tokens in (28) are consonant-final polysyllabic words, some of which appeared in the previous sections of this paper. Let us now consider Italian representations of the foreign words cited above.

(29)

Diesel	['dijezel]	'clothing brand'
hamburger	[am'burger]	'hamburger'
Lloris	['lɔ:ris][43]	'surname of a soccer player'
McDonald	[mek'dɔ:nal][44]	'fast food chain'
Neuer	['nɔjjer]	'surname of a soccer player'
Rubinstein	['rubisten]	‚luxury goods brand'
transfer	['transfer]	'transfer' (noun)
tunnel	['tunnel]	'tunnel'

On the basis of the data presented in (29), the following observations can be made. First, all the examples are stressed either on the penultimate or antepenultimate syllable, where none of these syllables is stem-final. Second, all the examples in (29) terminate in a single consonant. (As I show below, tokens ending in a consonantal cluster seem to fall into a separate category, as they exhibit a different behavior towards IVP.) Third, the final consonant of each token listed in (29) is a sonorant, except for *Lloris*, which terminates in an obstruent.[45]

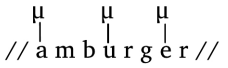
Given these observations, it looks like the data in (29) fit in well with the stress-related analysis of oxytonic data. The scenario in question predicts that IVP applies in order to repair the undesired stress pat-

tern of oxytonic loanwords. Under this rationale, it is logical that no vowel insertion applies to non-oxytonic tokens such as those given in (29).

Let us now see how the analysis coined to account for the operation of IVP in oxytonic tokens deals with the derivation of non-oxytonic examples surfacing without a word-final vowel. In section 5.1, it was established that IVP applies as a repair strategy to eliminate marked ultimate stress. Significantly, it must be assumed that stress is assigned before IVP is employed. Next step in the derivation is consonant gemination, which applies to provide the stressed syllable with two more. To see if this model yields correct SRs of the non-oxytonic tokens cited in (29), consider the illustrative derivation of the word *hamburger*. Notice that stress is not prescribed here. This is due to the fact that penultimate stress is derivable in Italian. Additionally, in order to generate the desired output forms, it is necessary to assume that word-final syllables are extrametrical in Italian (Den Os & Kager 1986, D'Imperio & Rosenthall 1999, *inter alia*). In rule-based theories, syllable extrametricality is obtained by the application of the rule of Final Syllable Extrametricality (Hayes 1982). This rule is followed by Stress Assignment and the rule of Stray Syllable Adjunction, which guarantees that the extrametrical syllable is not deleted but parsed as a weak member of the adjacent foot. The derivation of the illustrative example *hamburger* is given in (30).

(30)

UR



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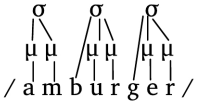
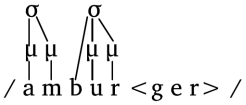
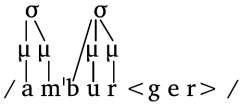


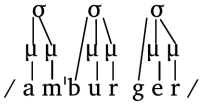
Final Syllable Extrametricality



Stress Assignment
('stress the rightmost heavy syllable')



Stray Syllable Adjunction



IVP[50] ----------

Gemination ----------

SR [a m.ˈb u r. g e r]

Clearly, the rule order which correctly generates all the oxytonic tokens works also for the non-oxytones. However, in the analysis of non-oxytonic tokens, such as *hamburger*, it is necessary to introduce syllable extrametricality. With extrametricality, one can correctly predict that the word-final syllable is not footed, and hence, not considered in stress assignment.

What also emerges here is that lexical stress marking of oxytonic loanwords is indispensable. Since IVP applies in order to repair the marked ultimate stress, this process must take place after the rule of Stress Assignment. This is because if tokens with stressed stem-final syllables were not to have their stress prescribed in the UR, they would be generated with an incorrect stress pattern.

As regards the form of lexical marking of oxytonic stress in Italian, D'Imperio & Rosenthall (1999) simply assume that tokens with word-final stress, such as *avidità* 'greed' or *gas* 'gas', have their stem-final stress marked in the UR. However, encoding stress as a feature in the lexicon is slightly problematic, as it involves an introduction of a diacritic into the UR. In search of a more explanatory solution, it may be insightful to consider an alternative way of representing the exceptional stress of oxytonic tokens advocated by Van Oostendorp (1999). On grounds of Kager's (1995) and Kiparsky's (1991) research on catalexis, Van Oostendorp suggests that words with final stress, which is in itself unusual and not derivable in Italian, might be marked in the lexicon as having covert word-final constituents. The question is, however, what type of constituency should be invoked here. Repetti (1991), who reanalyzes *Raddoppiamento Sintattico* in terms of compensatory lengthening, postulates that words triggering the syntactic doubling terminate in an empty mora which is not added by a rule, yet is present in the UR. With this in mind, let us consider the scenario assuming that both native and foreign words with ultimate stress can be interpreted as having an underlying empty mora at the word end, with no correspondents on the melodic tier. The underlying forms of representative oxytonic and non-oxytonic loanwords formulated in line with Repetti's analysis are provided in (31).

(31)

MONOSYLLABLE	OXYTONIC POLYSYLLABLE	NON-OXYTONIC POLYSYLLABLE
μ μ	μ μ μ	μ μ
// g a p //	// b u t i k //	// ... b u r g e r //

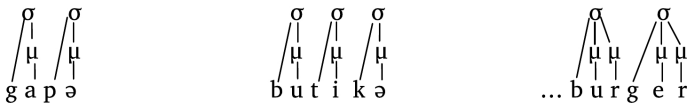
The representations displayed in (31) allow for a distinction between oxytonic and non-oxytonic tokens. With such an approach, IVP can be interpreted as applying only to the tokens with the underlyingly prespecified morae in order to provide the empty morae with a melodic segment. However, the empty mora convention is not sufficient to account for all the facts discussed in this paper, as I detail below.

As mentioned above, word-final syllables are not considered in stress assignment in Italian. This is a standard approach assumed, for example, by Den Os & Kager (1986), D'Imperio & Rosenthall (1999) and Krämer (2009). Given the fact, the following problem arises. In order to obtain the expected SR of *hamburger*, it is necessary to ensure that the word-final syllable is rendered extrametrical

before lexical stress is assigned. However, this implies that also the word-final syllable in the oxytone *boutique* is marked as extrametrical before it receives stress.[46] This, in turn, leads to the generation of an unattested surface form *['butik]. To block the marking of the word-final syllable as extrametrical in *boutique*, IVP must be employed prior to the application of the Extrametricality rule and Stress Assignment, so that an additional word-final syllable can be erected. Subsequently, the new syllable is rendered extrametrical, which results in the formation of the desired stress marking.

In terms of syllabification, the CV-RULE precedes the rule of Weight-by-Position, which is responsible, among other things, for the adjunction of simple coda consonants to the syllable. Therefore, the word-final /p/ and /k/ in *Gap* and *boutique,* respectively, are not linked to the coda, but to the onset of the syllables formed of the underlyingly prespecified morae. This is illustrated in (32).

(32)



In order to attract stress, the penultimate syllable must be bimoraic. Hence, gemination should apply before stress assignment. This is problematic, because if we assume that gemination applies in order to provide the penultimate syllable with an additional mora, the rule in question yields incorrect output forms. For instance, the loanword *Adidas* ['adidas] and the native Italian word *pendolo* ['pɛndolo] 'pendulum' both of which surface with antepenultimate stress would undergo consonant gemination in the penultimate syllable, which consequently would attract stress. As a result, the two examples would be incorrectly derived as *[pen'dollo] and *[a'diddas]. Therefore, empty morae may not be an adequate means to encode the information about the oxytonic stress of the analyzed loanwords. An alternative solution involves postulating an underlying covert syllable. This solution is attractive, because it allows us to account not only for the operation of IVP, but also for other processes applying to native words with word-final stress. However, including syllabic structure in the UR is a far-fetched and controversial solution, so I conclude that the most appropriate means to express the exceptionality of word-final stress in Italian is, *nolens volens*, to simply postulate that ultimate stress is diacritically marked in the lexicon, as it was done by e.g. D'Imperio & Rosenthall (1999).

In summary, the present section showed that non-oxytonic polysyllables which end in a single consonant exhibit a behavior which is fully compatible with the pattern established for oxytonic tokens. As predicted by the stress-related analysis, no vowel is inserted at the end of non-oxytonic tokens, at least when they end in a single sonorant or the obstruent /s/. Nevertheless, it remains necessary to conduct further empirical research into the group of non-oxytonic tokens ending in single obstruents, as this group turned out to be underrepresented in the study reported in the present paper.

5.2.2. Non-oxytones with a paragogic vowel

Having accounted for the absence of a paragogic vowel in some non-oxytonic tokens, let us turn to examples with the same stress pattern, but surfacing with a vowel inserted at the word end. Representative foreign words that appear with a paragogic vowel are given in (33). The transcriptions reflect the pronunciations of the source languages.

(33)

TOKEN	L1	L1 TRANSCRIPTION	GLOSS
assist	English	[ə'sɪst]	'assist' (noun)
Converse	English	['kɑnvɝs]	'clothing brand'
McDonald	English	[ˌmək'dɑnəld]	'fast food chain'
pressing	English	['prɛsɪŋ]	'press' (verb, Gerund)
pudding	English	['pʊdɪŋ]	'pudding'
Rubinstein	German	['Rubɪnʃtain]	'luxury goods brand'

Based on my field study, the tokens listed in (33) are typically pronounced with a vowel epenthesized at the word end. The most common Italian renditions of the foreign words given above are provided in (34).

(34)

assist	['assistə]
Converse	['kɔnversə]
McDonald	[mek'dɔnaldə][47]
pressing	['prɛssiŋgə]
pudding	['puddiŋgə]
Rubinstein	['rubstejnə][48]

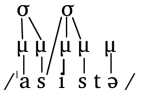
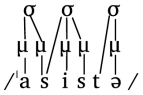
On the face of it, it looks like the data in (34) belie the analysis assuming that IVP is a stress-related process. This is due to the fact that the examples cited in (34) are not stressed on the stem-final syllable, and words with such a stress pattern have so far been reported to surface without a word-final vowel. It is thus surprising to observe that the non-oxytonic examples in (34) are pronounced with a vowel inserted word-finally.

Close inspection of non-oxytones that surface with a vowel versus those that are pronounced without it shows that IVP applies only to non-oxytonic tokens that terminate in a consonantal cluster. In contrast, when a non-oxytone ends in a single consonant, IVP does not operate.[49]

Given these facts, the generalizations made in the preceding sections of this paper can be restated as follows. A paragogic vowel occurs in all loanwords that have their stem-final syllable stressed. Loans with a different stress pattern do not undergo IVP unless they end in a consonantal cluster. In such a case, IVP applies.

In other words, it looks like IVP is employed for two different reasons. First, as established in section 5.1, a vowel is inserted at the end of oxytonic tokens to repair the marked ultimate stress. Second, IVP applies to loans terminating in a consonantal cluster, irrespective of the stress pattern of these words. In this case, IVP is used as a repair strategy to rescue extrasyllabic consonants. As shown in section 3, extrasyllabicity of the rightmost consonant occurring at the end of VCC# words is caused by the fact that Italian does not tolerate complex codas. Thus, only the leftmost consonant of the word-final cluster can be parsed into the coda. The consonant at the word edge is extrasyllabic and needs to be salvaged. Given the fact that the application of IVP illustrated in (34) appears to be driven by the need to eliminate extrasyllabicity as well, it can be concluded that the data in (34) can be analyzed in the same way as the data in (6), such as *fard*.

(35)

UR	
MSSA: scan 1	
Stress Assignment	
IVP (stress-related)	----------
IVP II (against extrasyllabicity)	
MSSA: scan 2	
SR	[ˈa s s i s t ə]

The analysis above appears to be able to account for the presence of a paragogic vowel at the end of the tokens in (34). Thus, it looks like IVP is driven by two independent rationales: the need to repair the marked ultimate stress in oxytones and the need to eliminate consonant extrasyllabicity in non-oxytones.

The analysis relies on two drivers rather than just one, and so it goes against the major tendencies in newer phonological models (such as OT), which establish generalizations by looking for phonological conspiracies, i.e. where a single driver accounts for many processes. In the alternative analysis, one would need to assume that consonant gemination applies prior to IVP, first yielding the form /gapp/. Under this assumption, all instances of IVP can be reconsidered as a repair strategy against extrasyllabicity.

The analysis is based on the idea that the word-final single consonant, such as /p/ in *Gap*, first undergoes gemination. Next, a vowel is added word-finally, which results in the creation of a new syllable. The rule order which illustrates the application of this scenario is provided in (12), where gemination is ranked before IVP.

However, Italian never parses two consonants into the coda, and the word-final position is not an exception. Thus, IVP applies at the word edge to eliminate extrasyllabicity of the rightmost /p/, which cannot be prosodified. An analologous line of reasoning has been presented in section 3 above, which accounts for vowel occurrence at the end of words such as *Hart* in terms of elimination of consonant extrasyllabicity. If the analysis where gemination precedes IVP were to be correct, it would offer a desired unified approach towards paragoge. However, as already mentioned in section 4, this analysis runs into a serious difficulty, which makes it less appropriate than the analysis relying on two different rationales for vowel insertion. This is demonstrated below.

Let us assume that the word-final /p/ in //gap// first undergoes consonant doubling. What emerges is a form with a geminate at the word end, that is, /gapp/. This step in the analysis is problematic for two separate reasons. First, formation of a word-final geminate leads to a creation of a highly marked structure, which, to the best of my knowledge, is cross-linguistically extremely rare.[51] Second, a typical rationale for submitting a foreign word to any phonological change consists in rendering the loanword more similar to the native vocabulary. Since Italian does not tolerate complex codas, let alone word-final geminates, the doubling of the word-final consonant does not seem to be a plausible repair strategy.

As a matter of fact, it is a formidable task to find a rationale for the gemination changing //gap// into /gapp/. In order to determine what a possible trigger for this type of consonant doubling might be, one needs to establish what improvements are made by changing //gap// into /gapp/. It is clear that gemination leads to an apparent increase in the number of consonants that follow the vowel. However, as shown above, gemination does not lead to any improvement as far as the syllabic structure is concerned. Hence, it cannot be driven by any syllable-structure requirement.

The analysis assuming that gemination applies prior to IVP may turn out to be problematic for yet another reason. Considering the Moraic Theory of syllable weight by Hayes (1989), let us look into the number of morae in the relevant examples before and after gemination applies. First, however, recall some basic facts that are necessary for the understanding of the analysis.

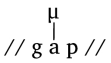
Based on Hayes (1989), short vowels are underlyingly linked to one mora.[52] Consonants linked to the onset cannot bear any mora, while those linked to the coda can be provided with a mora *via* the Weight-by-Position rule, whose activeness and formulation is language-

specific (Hayes 1989). As regards system-internal restrictions on syllable weight in Italian, let me recall that Italian stressed syllables must be heavy. Additionally, as noticed by Basbøll (1974), Vogel (1982), Chierchia (1982, 1986), Prince (1984) and Itô (1988), Italian syllable rhymes can maximally be formed of a long vowel / diphthong or a short vowel followed by a coda consonant. Krämer (2009) translates these two observation into moraic terms and concludes that Italian allows for syllables (specifically, syllabic rhymes) with a maximum of two morae. Consequently, Weight-by-Position must be active in Italian assigning, by convention, a mora to the consonant in the coda.

With this background in mind, let us assume for a moment that oxytonic foreign words that surface with a geminate first undergo gemination and second IVP. The moraic structure of the loans in question is illustrated by the derivation of the word *Gap*.

(36)

UR



MSSA: scan 1

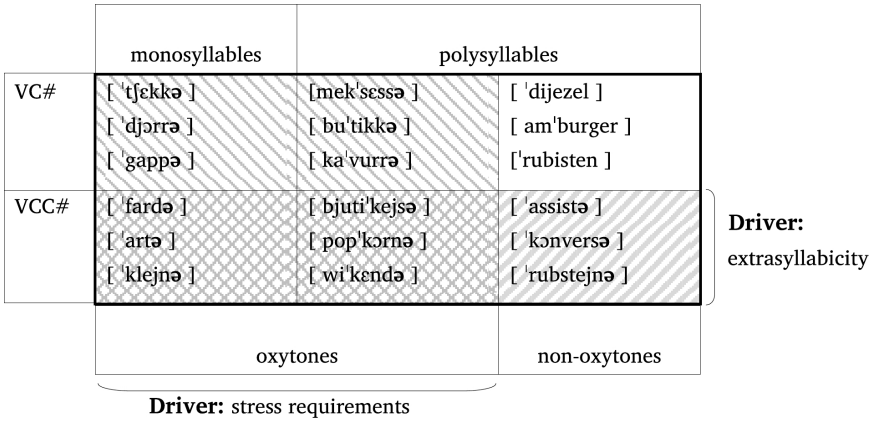
Gemination

The loanword *Gap* has only one mora, assigned by default to the vowel. Then, Weight-by-Position generates an additional mora, which is assigned to the coda consonant. Next, gemination applies. What we see here is a representational problem: in Moraic Theory, a geminate is represented by being linked simultaneously to a moraic coda and to the onset of the following syllable. However, such a structure cannot be formed at the word end. Hayes (1989) states clearly that geminates carry only one mora, as opposed to a sequence of two consonants, which in some languages may be linked to one mora each. Thus, the word-final geminate in /gapp/ cannot be assigned to more than one mora in total. Therefore, one might conclude that gemination does not seem to entail any improvement in terms of syllable weight.[53]

In sum, the analysis leaning on the idea that gemination applies before IVP does not seem to introduce any improvements to the input form //gap//. Therefore, it can be concluded that it is not ten-

able. Consequently, it cannot be postulated that the Roman version of Standard Italian unequivocally applies vowel paragoge as a means to eliminate extrasyllabicity of the word-final consonant. Instead, it looks like vowel insertion is employed for two different reasons. One is to heal the marked oxytonic stress pattern, another is to rescue an extrasyllabic consonant. Notice that the present model entails the overlapping of the two rationales for IVP in tokens such as *fard* and *weekend*. This, however, does not challenge the analysis in any way.[54] The distribution of the two triggers for IVP in the tokens discussed in the present paper is provided in (37).

(37)



6. Conclusion

The Roman variety of Standard Italian exhibits a strong tendency to adapt consonant-ending loanwords by inserting a vowel in the word-final position. Based on the analysis of 450 self-collected tokens, it was demonstrated that IVP is a phonologically motivated process driven by two independent rationales. The loanwords stressed on the stem-final syllable, labeled in the paper as oxytonic, undergo IVP in order to readjust their marked ultimate stress. In the loans that are borrowed with a word-final consonantal cluster, IVP applies as a repair strategy to avoid extrasyllabicity of the word-final consonant.

It was also noticed that in the case of oxytonic tokens that end in a singleton, IVP co-occurs with gemination of the originally word-final

consonant. It appears that in oxytonic tokens such as *Gap* ['gappə] and *boutique* [bu'tikkə] both IVP and gemination are stress-related. As observed by Chierchia (1986), word-final stress is highly marked in Italian. Thus, a vowel is inserted word-finally so that an additional word-final syllable can be erected. As a result, the oxytonic loan has no longer the marked ultimate stress pattern. Instead, stress falls on the default penultimate syllable. With regard to the gemination of the word-final single consonant, I argued that this process applies after IVP in order to ensure that the stressed syllable is bimoraic. As observed by Vogel (1982), Italian stressed syllables must be heavy. Given this, words such as *Gap* are still not fit to enter the system of Italian after IVP has been employed, as the stressed syllable in ['ga.pə] is light. Thus, in order to render the stressed syllable heavy, gemination applies, yielding the surface form ['gap.pə].

Nevertheless, the analysis presented in the paper speaks only of the facts of Standard Italian spoken in Rome. To make more general observations regarding Standard Italian not restricted to any geographical region it is necessary to collect a larger and more varied sample of data than the one discussed here. It is my intention to continue the research of the matter and to investigate the phonological contexts and rationales for IVP in other locations.

Notes

[1] For an analysis of consonant gemination in words such as *tram*, see section 4.

[2] The interviews were conducted in Standard Italian, without resorting to the Roman dialect, which was required by the fact that the interviewer, that is the author of the present paper, does not have any command of the regional dialect in question. It is also important to notice that the system investigated in this paper is not a Roman vernacular (*Romanesco*), but Standard Italian spoken by the residents of Rome.

[3] A similar phonological analysis was carried out by Bafile (2002, 2003a, 2003b, 2005), who investigated Italian vernaculars spoken in Florence and Naples. Based on her studies, Bafile (2005) comes to the conclusion that word-final vowel insertion is a regular process, driven by a general ban on word-final consonants. Although Bafile's findings are not identical to the generalizations presented in this paper, they clearly show that vocalic paragoge, which seems to be applied in a large number of varieties of Standard Italian, is not a purely phonetic effect, as suggested by Repetti (2012), but a regular phonological process.

[4] The quality of the paragogic vowel lies beyond the scope of the present analysis. For reasons of simplicity, this paper arbitrarily assumes that the vowel added after consonant-final loans is a *schwa*, that is, /ə/. For details regarding the phonetic analysis of the data, see Broniś (in preparation).

[5] Confidence Interval (CI) is a type of interval estimate of a population parameter. It is used to indicate how reliable an estimate is. Roughly speaking, it says that we can be 95% confident that the true value of the parameter lies within the

provided confidence interval. CI was calculated on the basis on the formula drawn from Krysicki *et al*. (1986/2004).

[6] The decision to examine the relevance of a loan's stress pattern was made on the basis of the results of the pilot study, carried out in Warsaw during the 2012 UEFA European Football Championship.

[7] In this paper, the term 'oxytonic' is used to denote foreign words with stem-final syllables stressed, irrespective of whether vowel insertion occurs or not.

[8] Given the relatively small size of the consonantal cluster sample (149 VC# vs. 45 VCC#), the issue calls for a more extensive empirical research.

[9] The data seem to suggest a possible relevance of the quality of the word-final consonant (obstruent/sonorant). Actually, it appears crucial to examine whether this parameter is significant in vowel occurrence. However, such an analysis cannot be conducted on the spot with reference to the data used in this analysis. If cluster-final tokens are excluded from the analysis, the data set consisting of tokens ending in a single obstruent comprises only examples that end in /s/. This would render the examination unreliable, as it is not accurate to make generalizations about a whole natural class with reference to only one sound. Consequently, I conclude that it is necessary to collect more non-oxytonic data to generalize about the relevance of word-final consonant quality is non-oxytones terminating in a single consonant.

[10] From the analytical point of view, these data can also be successfully processed in other frameworks, such as Optimality Theory, or, as pointed out by an anonymous reviewer, Government Phonology.

[11] The Moraic Theory has many advantages when compared to other representational models. For instance, this framework has less structure than the CV or the X-slot theory. This property renders the moraic framework more elegant and practical. Furthermore, it was demonstrated by Hayes (1989) that the mora-based approach allows for a compatible analysis of all types of Compensatory Lengthening, which cannot be achieved by means of the other two frameworks. A reviewer questions the implementation of the moraic model for this analysis. They point out that this framework is not neutral and that the analysis would be more transparent if it was based only on syllabic positions with the inclusion of the requirement on the heavy stressed syllable. However, the baseline of my work is to avoid non-theory-internal labels whenever possible. This is the basic reason for including morae instead of positing a series of additional descriptive constraints. What is more, the inclusion of morae helps to reveal an interaction of vocalic paragoge and gemination, which could otherwise go unnoticed. For discussion, see sections 4 and 5.

[12] I follow Hayes (1989) and Rubach (1999) in assuming that Weight-by-Position is an integral part of syllabification. This is different from Archangeli (1989, after Buckley 1992), who argues that Weight-by-Position may apply independently of syllabification.

[13] The transcription of English tokens reflects the facts of General American English. In GA, vowel length is typically assumed to be a non-phonological feature, so it is not included in the transcription.

[14] The issue of /h/-adaptation is not addressed here, as strategies of dealing with foreign phonemes in loanword assimilation are not within the scope of the present paper. The same concerns any vocalic changes occurring during the adaptation of the examined tokens.

[15] This paper assumes that paragoge is a word-level process applying at the end of a determined group of consonant-final loanwords. According to the tenets of Lexical Phonology (Kiparsky 1982, Booij & Rubach 1987), an upgraded version of the traditional rule-based model, if a rule is lexical, it is assumed to apply before

sentences are formed. This, in turn, entails that the right-hand context for vocalic paragoge is the word boundary. To account for the absence of a paragogic vowel in the context of a following vowel-initial word, it is necessary to invoke a phrase-level rule of prevocalic vowel deletion. Let me point out that such a rule does not constitute an *ad hoc* solution, as it is known to operate in the native phonology of Italian (Vogel *et al.* 1983, Nespor 1987, Burzio 1989, Krämer 2009). In general, however, the absence of the paragogic vowel in the prevocalic context is a complex issue, which calls for a more thorough investigation.

[16] This situation is not unusual. As rightly pointed out by an anonymous reviewer, the preference of the simple coda over the complex coda is attested cross-linguistically and is captured by one of Vennemann's Preference Laws, specifically, by the Coda Law (Vennemann 1988).

[17] See footnote (14).

[18] According to Hayes (1989), vowels have their morae marked in the UR.

[19] *Brioche* might not be the most representative example, as /ʃ/ is inherently long in Italian. Still, I decided to include this token in the analysis, because the aforementioned fact does not seem to affect the analysis of vocalic paragoge.

[20] According to Canepari (1999/2009), the word *brioche* might also be realized by some speakers of Italian as disyllabic.

[21] The geminate surfaces not only in the context of a pause and a consonant, but also before a vowel, where the paragogic vowel is missing, as in *Cech è* ['tʃɛkk ɛ] 'Cech is'.

[22] It is crucial to note that changes in the vowel quality are beyond the scope of the present paper. For transparency, such changes are ignored.

[23] See footnote (14).

[24] So far, no evidence was adduced that would suggest that stress in words such as *Gap* needed to be prespecified in the UR. Therefore, I assume that it is derived by means of the Stress Assignment rule. At this stage of the discussion, the ordering of Stress Assignment does not seem to be relevant. Still, based on the discussion on p. 29, I place this rule before IVP and gemination.

[25] At the end of the phonological word, to be more specific. In the native lexicon, word-final consonants are tolerated in proclitics, which, however, do not form independent phonological words.

[26] I return to the discussion on the rejected rule order in section 5.2.2.

[27] The study included more tokens pronounced without a word-final vowel, which were omitted here for reasons of exposition. A more detailed analysis of such tokens is conducted in section 5.2.2.

[28] The Coda Condition defines a limited set of consonants that may be parsed into the coda (Itô 1988).

[29] See section 5.2.1 for a detailed analysis of these examples.

[30] In her paper on the Minimal Word in Italian, Thornton (1996) is concerned only with the investigation of words belonging to the nominal class.

[31] As regards subminimal words, such as *re* 'king', Thornton (1996) argues that these words are marginal in Italian (1-3% of the investigated corpora). Thus, their exceptional behavior does not challenge her generalizations. One could follow Burzio (1994) and postulate invisible word-final syllables at the end of subminimal words and other words with their word-final syllables stressed. With this approach, words such as *re* are represented by two syllables, which makes them fit the required minimal size.

[32] Interestingly, one of the arguments Thornton uses to demonstrate that the minimal nominal word must end in a vowel is based on examples analogous to those adduced in (6) and (10). On the basis of the data drawn from Rohlfs (1966, 1968) and Lepschy & Lepschy (1981), Thornton argues that loanwords such as

sport, gas, tram, cognac are sometimes pronounced as *sporte, gasse, tramme, cognacche*, because the consonant-final forms do not comply with the requirement on vowel finality.

[33] In order not to obscure the overall picture, figure (16) does not include the floating mora, which was delinked from /p/ after the sound was resyllabified to the onset of the new syllable. An analysis explaining mora delinking and its subsequent adjunction is provided on p.18-19.

[34] A reviewer points out that gemination is an old phenomenon, attested already in Latin forms, such as *cupa* > *cuppa* 'barrel'. The reviewer also notes that the diachronic analysis of the process is couched in the assumption that gemination applies in order to satisfy the strong rhyme requirement. That's a very good case in point.

[35] This observation additionally confirms the analysis assuming that gemination must be preceded by paragoge, which provides an intervocalic context for consonant doubling.

[36] Actually, there are speakers who pronounce some of the loanwords in (10) with no geminate. Instead, they lengthen the stressed vowel. For example, *Buffon* can be pronounced either as [buf'fɔnnə] or as [buf'fɔːnə]. Still, the data show that the frequency of tokens with vowel lengthening is typically much lower than the frequency of tokens with gemination.

[37] In the context of a following pause or consonant. For details, see section 3.

[38] It was argued on the basis of sonorant-final examples that undergo IVP, such as *Dior* ['djɔrrə] and *Albiol* [albi'jɔllə].

[39] Based on the analysis of D'Imperio & Rosenthall (1999), lexical marking is also necessary in the case of antepenultimate stress. However, this fact is not relevant for the present discussion, so it is not covered in the analysis.

[40] A reviewer points out that the exceptional nature of word-final stress in Italian is not unambiguous. They note that such stress is attested in many verbal forms, pronouns and a large number of nouns. I thank the reviewer for this remark. Still, given the purposes and the limited scope of this paper, I do not go into this topic here. I follow the results of the empirical study carried out by D'Imperio and Rosenthall (1999), who demonstrate that ultimate stress constitutes a marked structure in Italian and that it requires lexical encoding. For a detailed discussion to the topic, see D'Imperio & Rosenthall (1999).

[41] In order not to obscure the picture, I follow studies such as D'Imperio and Rosenthall (1999) and assume that the oxytonic loans under analysis need to be underlyingly prespecified for stress. Later I try to determine whether there exists a non-diacritic feature which can be used to express the exceptionality of the word-final stress. For reasons of exposition, the derivations of words that are underlyingly specified for stress do not include the rule of Stress Assignment, which is inactive in these derivations.

[42] In the discussion of monosyllabic tokens, stress played a marginal role: its ordering was irrelevant for the analysis. However, to avoid obscurity, I introduced a stress assignment rule and placed it before IVP. Here I elaborate on the issue of stress assignment and observe that it is typically assumed to be lexically marked when it falls on the ultimate or antepenultimate syllable. In further sections, I try to find a less idiosyncratic representation for exceptional stress patterns. However, at this stage of discussion I simply follow Chierchia (1986) and D'Imperio & Rosenthall (1999) and assume that polysyllabic words with ultimate stress are underlyingly prespecified for stress.

[43] The word *Lloris*, as shown in section 5.1, may surface not only with penultimate stress, but also with ultimate stress (not counting the syllable erected after IVP applied). Typically, if the SR of *Lloris* has its stem-final syllable stressed, IVP

and gemination are expected to apply. Conversely, when *Lloris* surfaces with a non-oxytonic stress pattern, neither IVP nor gemination are employed.

[44] Most of my informants pronounced the token *McDonald* with the retained consonantal cluster [ld]. However, 18% of the token's renditions contained only one of the two word-final consonants. They were pronounced without the word-final [d], that is, as [mek'dɔ:nal]. Crucially, whenever the loanword ended in a single consonant [l], it surfaced without a paragogic vowel.

[45] The sonorant-obstruent disproportion was not intended and resulted from the fact that non-oxytones turned out to pattern differently than projected before the field study was set up. The remaining obstruent-final tokens submitted to the analysis were underrepresented, showed considerable lack of consistency in the application of IVP, or formed part of a word-final consonantal cluster, which turned out to show a different behavior towards IVP. Given this and the fact that my fieldwork was not designed to test any discrepancies within the group of non-oxytones, it needs to be concluded that obstruent-final loans with non-final stress call for further research and a closer scrutiny.

[46] Monosyllables are not problematic here, as words such as [gap] escape the rule of extrametricality by means of minimality. According to Hayes (1982), extrametricality rules should be blocked if they could result in marking a whole domain as extrametrical.

[47] Recall that the illicit structure of *McDonald* is also attested to be repaired by the deletion of the word-final /d/. If this is the case, IVP does not apply.

[48] Actually, the word *Rubinstein* was typically pronounced as ['rubisten], that is with a word-final singleton /n/. In such cases, no paragoge occured. However, whenever the token surfaced with a word-final consonantal cluster, IVP applied. Since *Rubinstein* is the only non-oxytone ending in a cluster with a sonorant at the word edge, I decided to include this example into the analysis. Overall, it would be interesting to examine a larger set of tokens that are adapted into Italian with a sonorant-final consonantal cluster at the word end.

[49] Additionally, it can be observed that in the majority of examples in (29) the word-final consonant is a sonorant. In contrast, most of the data in (34) end in an obstruent. Given these observations, it is possible that differences in the patterns of paragoge within the group of non-oxytones might be caused by the quality of the word-final segment. Basing on my research, I assume that the more likely solution involves the clustering of consonants, but I cannot conclude that the quality of the word-final consonant is insignificant here. This additionally proves that further research into the group of non-oxytones is necessary.

[50] In Hayes's Moraic Theory, geminates are represented as underlyingly marked moraic consonants that are parsed heterosyllabically later in the analysis.

[51] An uncommon example of a language with word-final moraic geminates is Saudi Bedouin Arabic (McCarthy and Prince 1990).

[52] For simplicity, I assume that morae are present in the UR. However, Italian does not have contrastively long vowels, so vocalic morae do not require prespecification and can be derived by rules.

[53] One could postulate that the two identical consonants in *gap*, that is /pp/, are not necessarily geminates, but a sequence of two consonants. However, such a representation seems unlikely given the fact that in the present analysis the inserted segment is always identical to the consonant present in the UR. Also, such a postulate would not save the analysis, given the language-specific restrictions on mora count in Italian.

[54] A more unitary approach towards vocalic paragoge was presented by Bafile (2003a, 2003b, 2005), who investigated the Florentine and Neapolitan dialects. The data collected by Bafile allow for the formulation of the following generaliza-

tion: no consonant is allowed in the word-final position. This elegant solution cannot be adopted in the analysis of the Roman variety of Standard Italian, as it is not applicable to all the data discussed in this paper.

Bibliographical References

Archangeli, Diana 1989. *Prosodic Syllabification and Yawelmani 'CVVC' Syllables*. Manuscript, University of Arizona.

Bafile, Laura 2002. Il Trattamento delle Consonanti Finali nel Fiorentino: Aspetti Fonetici. In Marotta, Giovanna & Nocchi, Nadia (eds.), *Atti delle XIII Giornate di Studio del Gruppo di Fonetica Sperimentale (AIA)*. 205-212.

Bafile, Laura 2003. Le Consonanti Finali nel Fiorentino e nel Napoletano. *Rivista Italiana di Dialettologia* 27. 149-178.

Bafile, Laura 2003. Syncopy, Epenthesis and Syllable Structure: the Case of some Italian Dialects. *Rivista di Grammatica Generativa* 28. 19-29.

Bafile, Laura 2005. Struttura Sillabica e Consonanti Finali in Varietà Italiana. *Quaderni del Dipartimento di Linguistica dell'Università di Firenze* 15. 1-25.

Basbøll, Hans 1974. Structure Consonantique du Mot Italien. *Revue Romane* 9. 27-40.

Benedetti, Marina & Marotta, Giovanna 2014. Monottongazione e Geminazione in Latino: Nuovi Elementi a Favore dell'Isocronismo Sillabico. In Molinelli, Piera; Cuzzonlin, Pierluigi & Fedriana, Chiara (eds.), *Latin Vulgaire - Latin Tardif X. Actes du X^e Colloque International sur le Latin Vulgaire et Tardif*. 25-43.

Boersma, Paul & Weenink, David 2012. *Praat: Doing Phonetics by Computer* [Computer program]. Version 5.3.15, retrieved 10 May 2012 from www.praat.org/.

Booij, Geert E. & Rubach, Jerzy 1987. Postcyclic versus Postlexical Rules in Lexical Phonology. *Linguistic Inquiry* 18. 1-44.

Broniś, Olga (in preparation). Phonetic Analysis of Word-final Epenthetic Vowel in Italian Loanwords.

Buckley, Eugene 1992. Kashaya Closed-Syllable Shortening and Prosodic Syllabification. In Dawn Bates (ed.), *The Proceedings of the Tenth West Coast Conference on Formal Linguistics*. 65-74.

Burzio, Luigi 1989. Prosodic Reduction. In Kirschner, Carl & DeCesaris, Janet Ann (eds.), *Studies in Romance Linguistics*. 51-68.

Burzio, Luigi 1994. *Principles of English Stress.* Cambridge University Press.

Canepari, Luciano 1999/2009. *Dizionario di Pronuncia Italiana.* Bologna: Zanichelli.

Castellani, Arrigo 1987. Morbus Anglicus. *Studi Linguistici Italiani* 13. 136-153.

Castellani, Arrigo 2000. *Grammatica Storica della Lingua Italiana. Vol. 1.* Bologna: Il Mulino.

Chierchia, Gennaro 1982. An Autosegmental Theory of Raddoppiamento. In Pustejovsky, James & Sells, Pater (eds.), *Proceedings of the Twelfth Meeting of the North Eastern Linguistic Society (NELS 12)*. 49-62.

Chierchia, Gennaro 1986. Length, Syllabification and Phonological Cycle in Italian. *Journal of Italian Linguistics* 8. 5-34.
Chomsky, Noam & Halle, Morris 1968. *The Sound Pattern of English*. The MIT Press.
D'Imperio, Mariapaola & Rosenthall, Sam 1999. Phonetics and Phonology of Main Stress in Italian. *Phonology* 16. 1-28.
Golston, Chris 1991. Minimal Word, Minimal Affix. In Sherer, Tim (ed.), *Proceedings of the NELS* 21. 95-109.
Hayes, Bruce 1982. Extrametricality and English Stress. *Linguistic Inquiry* 13.2. 227-276.
Hayes, Bruce 1989. Compensatory Lengthening in Moraic Phonology. *Linguistic Inquiry* 20. 253-306.
Hurch, Bernhard & Tonelli Livia 1982. Zur Konsonantenlänge im Italienischen. *Wiener Linguistische Gazette* 29. 17-38.
Itô, Junko 1988. *Syllable Theory in Prosodic Phonology*. New York: Garland.
Kager, René 1995. Consequences of Catalexis. In van der Hulst, Harry &van de Weijer Jeroen (eds.), *Leiden in Last: HIL Phonology Papers I*, The Hague: Holland Academic Graphics. 269-298.
Kiparsky, Paul 1982. From Cyclic to Lexical Phonology. In van der Hulst, Harry & Smith, Norval (eds.), *The Structure of Phonological Representations. Part I.* Foris Publications, Dordrecht. 131-175.
Kiparsky, Paul 1991. *Catalexis*. Manuscript, Stanford University.
Krämer, Martin 2009. *The Phonology of Italian.* Oxford: Oxford University Press.
Krysicki, Włodzimierz; Bartos, Jerzy; Dyczka, Wacław; Królikowska, Krystyna & Wasilewski, Mariusz 1986/2004. *Rachunek Prawdopodobieństwa i Statystyka w Zadaniach. Statystyka Matematyczna*. Warszawa, Wydawnictwo Naukowe PWN.
Lepschy, Giulio C. & Lepschy, Anna Laura 1981. *La Lingua Italiana. Storia, Varietà dell'Uso, Grammatica.* Milano: Bompiani.
Loporcaro, Michele (1996). On the Analysis of Geminates in Standard Italian and Italian Dialects. In Bernhard Hurch and Richard Rhodes (eds.) *Natural Phonology: The State of the Art.* Berlin / New York / Amsterdam: Mouton de Gruyter, 153-187.
McCarthy, John & Prince, Alan 1990. Foot and Word in Prosodic Morphology: The Arabic Broken Plural. *Natural Language and Linguistic Theory* 8.2, 209-283.
Nespor, Marina 1987. Vowel Degemination and Fast Speech Rules. *Phonology Yearbook* 4, 61-85.
Nespor, Marina & Vogel, Irene 1986 / 2007. *Prosodic Phonology.* Berlin / New York / Amsterdam: Mouton de Gruyter.
Os, Els Den & Kager, Rene 1986. Extrametricality and Stress in Spanish and Italian. *Lingua* 69, 23-48.
Van Oostendorp, Marc 1999. Italian s-voicing and the Structure of the Phonological Word in Hannahs, S. J. & Davenport, Mike (eds.) *Issues in Phonological Structure.* Amsterdam: Benjamins, 197-214.
Passino, Diana 2008. *Aspects of Consonantal Lengthening in Italian*. Padova: Unipress.
Prince, Alan 1984. Phonology with Tiers in Aronoff, Mark & Oehrle, Richard (eds.) *Language, Sound, Structure*. Cambridge, MA.: MIT Press, 234-44.

Rainer, Franz 1996. Auslautdoppelung im Italienischen. *Italienisch* 35, 44-54.
Repetti, Lori 1991. A Moraic Analysis of Raddoppiamento Sintattico. *Journal of Italian Linguistics* 3.2, 307-330.
Repetti, Lori 1993. The Integration of Foreign Loans in the Phonology of Italian. *Italica* 70, 182-196.
Repetti, Lori 2012. Consonant-final Loanwords and Epenthetic Vowels in Italian. *Catalan Journal of Linguistics* 11, 167-188.
Rohlfs, Gerhard 1966. *Grammatica Storica della Lingua Italiana i dei suoi Dialetti: Fonetica.* Torino: Einaudi.
Rohlfs, Gerhard 1968. *Grammatica Storica della Lingua Italiana i dei suoi Dialetti: Morfologia.* Torino: Einaudi.
Rubach, Jerzy 1999. The Syllable in Phonological Analysis. *Journal of Italian Linguistics* 11.2, 273-314.
Sjölander, Kåre & Jonas Beskow 2006 / 2012. *Wavesurfer - an Open Source Speech Tool.* Retrived 04 December 2012 from www.speech.kth.se/wavesurfer/.
Sluyters, Willebrord 1990. Length and Stress Revisited: a Metrical Account of Diphtongisation, Vowel Lenghtening, Consonant Gemination and Word-final Vowel Epenthesis in *Modern Italian*. Probus 2.1, 65-101.
Thornton, Anna M. 1996. On Some Phenomena of Prosodic Morphology in *Italian: Accorciamenti, Hypocoristics and Prosodic Delimitation*. Probus 8, 81-112.
Vennemann, Theo 1988. *Preference Laws for Syllable Structure and the Explanation of Sound Change. With Special Reference to German, Germanic, Italian and Latin.* Berlin / New York / Amsterdam: Mouton de Gruyter.
Vogel, Irene 1982. *La Sillaba come Unità Fonologica*. Bologna: Zanichelli.
Vogel, Irene 1999. Subminimal Constituents in Prosodic Phonology in Hannahs, S. J. & Davenport, Mike (eds.) *Issues in Phonological Structure*. Amsterdam: Benjamins, 251-69.
Vogel, Irene, Drigo, Marina, Moser, Alessandro and Zannier, Irene 1983. *La Cancellazione di Vocale in Italiano*. Studi di Grammatica Italiana 12, 191-230.