How Neapolitan produces double consonants from Spanish singletons

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Abstract

Twenty-eight Spanish verbal etyma are adapted into Neapolitan with a prothetic a- followed by double consonants, which are not present in the original etyma. Optimality Theory explains the conflict between the three restraints, Maxµ, which disfavors the deletion of an underlying mora, the obligatory contour principle, which disfavors double consonants, and *Coda, which disfavors coda consonants. Maxµ dominates and accommodates the surfacing of an underlying mora by lengthening the consonant following the initial a-. While this is a word-formation process, the theory is based on a Neapolitan syntactic process, phono-syntactic reduplication.

Keywords: Phono-syntactic reduplication, Neapolitan, Spanish, loanwords, adaptation, Optimality Theory.

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1 Introduction

While Spain was exploring and conquering the New World, she carried out an equally aggressive foreign policy in the Mediterranean, incorporating southern Italy into her empire. Although Spain did not establish a long-lasting Spanish-speaking community in Naples, she did loan hundreds of words to Neapolitan. The semantic fields have a clear relationship with groups of Spaniards in Naples and represent the linguistic legacy left by those groups. Linguistic proof—the very loanwords—can characterize the groups of people who introduced them into Neapolitan. The loanwords enclose information about their users and by extension, information about the type of social contact among Neapolitans and Spaniards (Thomas 2006, 2009 and 2011).

A corpus that consists of 400 Spanish loanwords in Neapolitan found in Altamura’s (1956) Dizionario dialettale napoletano, one of the first Neapolitan etymological dictionaries, has been elaborated Thomas (2006). Twenty-eight of those loanwords are infinitives that begin with the sequence a+CC. Those double consonants, however, are not present in their Spanish etyma. Among the romance languages, only the dialects of Italy maintain the phonemic opposition of short and long consonants inherited from Latin (Renzi 1985, 224). Those dialects also have phono-syntactic reduplication processes that produce geminate consonants from singletons. This process is also known as raddoppiamento sintattico (RS, syntactic reduplication) or rafforzamento sintattico (syntactic strengthening). Although RS is a syntactic process, the aim of this paper is to explain how RS can be applied during a word formation process, thereby explaining how double consonants are produced in the 28 Neapolitan infinitives. Optimality theory (OT) will be used as the theoretical framework. One of optimality theory’s first tasks was to explore the phonologic and morphologic interface in the process of reduplication (Cutillas Espinosa 2003, 147). The reduplication dealt with herein is a consonantal gemination and is different from the traditional reduplication molds: morae, syllables, feet and prosodic word, although those prosodic elements need to be addressed in RS. The two prior OT analyses that have been done on RS in Neapolitan (Bullock and Borelli) will be summarized and a new analysis of the phenomenon will be proposed, because the prior analyses do not explain gemination in the Hispanisms. Traditional grammatical descriptions of RS in Neapolitan (Oliva 1970; Rohlfs 1949) explain the process as gemination of a word initial consonant by a preceding word. Optimality Theory can easily show how both segmental and prosodic processes work together to produce double consonants.

2 Methodology: data sources

Hispanism here means a loanword from a language of the Iberian Peninsula, although in the majority of cases, it is synonymous with Castilian Spanish. The Diccionario de la lengua española (RAE 2001) was consulted online, especially older editions, in order to detect any semantic evolutions. All Neapolitan entries are
found in Altamura (1956) and are presented in his notation: è and ò represent tonic open mid-vowels; è and ó the tonic closed mid-vowels; all other tonic vowels are indicated with grave accents: ì, ù, à. Atomic vowels in Neapolitan are usually realized as the neutral mid-vowel schwa, which Altamura often indicates by ø and ë, the former allows for etymological representations of the orthography. Uppercase letters used here refer to Latin terms, except for C, which is the standard symbol for consonant.

(1) Hispanicisms with double consonants. Etyma are Castilian unless otherwise indicated.

<table>
<thead>
<tr>
<th>Loanword</th>
<th>Etyma without a-</th>
<th>Loanword</th>
<th>Etyma with a-</th>
</tr>
</thead>
<tbody>
<tr>
<td>acapëzzà ‘to harness a donkey’</td>
<td>capëzza (N) &lt; cabeza ‘head’</td>
<td>arrunzà ‘to do something in haste’</td>
<td>arronsar (Catalan Balear) ‘to shrug’</td>
</tr>
<tr>
<td>acciaiavattà ‘to do something in the least worse way’</td>
<td>ciavatta (N) &lt; zapata ‘footwear’</td>
<td>acciaccà ‘to become sick’</td>
<td>achaque / achacar ‘weakness, infirmity’</td>
</tr>
<tr>
<td>ammantëcà ‘to make butter from milk’</td>
<td>manteca (N) &lt; manteca ‘lard, grease’</td>
<td>affùfà ‘to run away; to rob’</td>
<td>afufar ‘to run away’</td>
</tr>
<tr>
<td>acciappà ‘to cover with sequins’</td>
<td>chapar ‘to cover with sequins’</td>
<td>afflusìa ‘to slow down, to loosen’</td>
<td>aflojar ‘to slacken, to loosen’</td>
</tr>
<tr>
<td>accasàrsë ‘to get married’</td>
<td>casarse ‘to get married’</td>
<td>aggiuntà ‘to tolerate; to endure’</td>
<td>aguantar ‘to tolerate; to endure’</td>
</tr>
<tr>
<td>abbuscà ‘to look for; to earn’</td>
<td>buscar ‘to look for’</td>
<td>atrassà ‘to delay payments; to leave something undone’</td>
<td>atrasar ‘to delay’</td>
</tr>
<tr>
<td>abbrammmà ‘to desire something’</td>
<td>bramar ‘to bellow’</td>
<td>ammassà ‘to knead; to gather many things in one place’</td>
<td>amasar ‘to knead’</td>
</tr>
<tr>
<td>aggrapà ‘to join materials’</td>
<td>grapar ‘to staple’</td>
<td>asëntà ‘to squeeze (clothes); to register; to call to arms’</td>
<td>asentar ‘to seat; to settle’</td>
</tr>
<tr>
<td>accaglià ‘to disappear; to go far away’</td>
<td>callejar ‘to go from street to street’</td>
<td>aprovaèciarsè ‘to profit from’</td>
<td>aprovecharse ‘to profit from’</td>
</tr>
</tbody>
</table>

(Continued)
3 Background: Phono-syntactic reduplication

As Spanish loanwords were phonologically adapted into Neapolitan, double consonants appeared even though they were absent in the original etyma. Among the 93 verbs present in the corpus, twenty-eight enter Neapolitan prefixed with a- followed by a double consonant. This study concentrates on those verbs that begin with a+CC. See (1).

At a first glance it might seem puzzling that Neapolitan doubles the consonants of the etyma given in (1). Parasynthesis generates three of the infinitives by prefixing a Spanish noun (cabeza, zapata and manteca) with an a- and changing the accent to word final, the Neapolitan accent pattern for infinitives. Several other etyma were originally infinitives, but upon adaption into Neapolitan, they were prefixed by a-, and yet several others had an initial a- in their Spanish or Catalan etyma. In all three cases though, the consonant after the a is doubled. Even though we are discussing word formation, this process is quite similar to a Neapolitan syntactic reduplication process in which word-initial consonants are geminated after certain words, such as the preposition a ‘to’. In his grammar of the eighteenth century, Oliva alludes to such a practice in Neapolitan:

[...] la lingua napoletana non solo preme con la pronunzia nelle lettere raddoppiate nel mezzo e nel fine delle dizioni, conforme fanno tutte le altre lingue d’Italia, ma spessissimo ancora su le [sic] consonanti che sono nel principio d’esse [...]  

(Oliva 1970, 53)
Neapolitan has the non-regular or lexical phono-syntactic reduplication (Marcato 2002, 94; Fanciullo 1986) initiated by the morphological and etymological nature of the word that catalyzes the gemination.

An example of a lexical item as an initiator of lengthening is described here. The Neapolitan article *lo* used with collective, uncountable nouns procedes from the neuter Latin demonstrative *illu*(*d*), for example *lo pepp*é ‘the pepper’. The lengthening of the initial *p* is explained by the elided *d* of *illud*, which causes the gemination. By analogy, other collective nouns, even those derived from Latin masculine singular nouns, also undergo doubling of their initial consonants: *lo fjiuco* (*<* focu* ‘the fire’), *lo ppane* (*<* pa:ni* ‘the bread’). Other words, whose Latin etyma suffered final consonant deletion, also effect a similar gemination. Rohlfs (1949, 292) and De Blasi (2006, 30) explain that in Neapolitan *a* ‘to’, *e* ‘and’, *ne* ‘neither’, *pè* ‘for’, *chiù* ‘more’, *ché* ‘that’, *tré* ‘three’, *cu* ‘with’, *no* ‘no’, *si* ‘you are’, *è* ‘he/she is’, *so* ‘I am’, *so* ‘they are’, *accussì* ‘thussly, so’, *ogne* ‘each’, *quarché* ‘several’ and the neuter (*l*)o (pronoun and article) can cause gemination. In this study, the focus is on those verbs, whose initial consonant lengthens after a prefixed *a*. In their chapter about the dialects of Campania, Devoto and Giacomelli cite an example that figures in (1):

Un ulterior rafforzamento è dato dalla introdizione di un presunto prefisso a(b) nel napoletano *abbasca* “affanno” dallo spagnolo *basca.*

(Devoto & Giacomelli 1971, 113)

Rather than the prefix *a(b)*, however, we propose an underlying *a(d)* for the list of Hispanisms in (1).

Bullock’s (2000) and Borrelli’s (2002) optimal theoretical analyses of RS in Neapolitan illustrate how the segmental and prosodic tiers interact to produce gemination. Borrelli (2002) offers an exhaustive and unifying treatment of syntactic reduplication in northern, central and standard Italian and southern dialects. Indeed, she presents some examples from Neapolitan. Borrelli postulates underlying etymological mora and formulates the gemination as C: Her (Borrelli 2002, 89) three constraints that analyze the Neapolitan [a:#tina] *a Tina* ‘to Tina’ are in (2), (3), and (4).

(2) $\text{Max}_\mu$ which disfavors mora deletion

This is a faithfulness restraint that requires that all elements in the input to be present in the output.

(3) $\text{NoC}_\mu$ which states that the head of a mora must be a vowel

This is an allignment condition which requires mora to be attached to vowels or to coda consonants, but not to onset consonants.

(4) $*V:\#$ final vowels cannot be long.
This is a markedness constraint that disfavors long vowels in word final position.

(5) Borrelli’s (2002, 89) tableau a Tina ‘to Tina’

\[
\begin{array}{|c|c|c|}
\hline
\mu & \mu & \mu & \mu \\
/\text{a t i n a}/ & \text{Max}\mu : *V:# & \text{NoC}\mu \\
\hline
\text{[a# 'tina]} & *! & \text{–} \\
\text{[a# 'tina]} & \text{–} & *! \\
\text{[\textit{e}r] a# 'tina]} & \text{–} & * \\
\hline
\end{array}
\]

Borrelli is analyzing a phrase which she interprets as two separate words, hence the symbol ‘#’. Borrelli’s underlying representation, located in the upper left hand corner of the tableau in (5), consists of four morae, each one aligned with one of the vowels in the segmental level of ‘a tina’, except the second one, which is a prosodic residual of the deleted final consonant in AD. Candidate one is rejected because it does not account for that residual mora in any way, hence, it is assumed to be deleted, thereby violating Max\(\mu\). The second candidate does account for that mora by lengthening the final vowel. However, Neoaplitian does not allow long word final vowels. The last candidate accounts for the underlying mora by lengthening the initial consonant of Tina. However, this solution violated NoC\(\mu\), because the mora is assigned to a syllable onset consonant. Bullock avoids this constraint since she formulated the gemination as CC. More crucially, though, for the analysis of the Hispanics in (1), Borrelli’s method cannot explain those surface forms since her analysis treats the process as separate words, and does not even admit the possibility of the formation of a phonological phrase.

Bullock’s OT analysis hinges on the dominance of binary feet. She postulates that the words that cause RS contain binary feet. She prefers to formulate the geminate as CC in which the first segment corresponds to a coda consonant, capable of bearing a mora, and the second segment forms the onset to the second syllable. One of the faithfulness constraints invoked is dependency, symbolized Dep-IO, which is to say, every segment in the input has a corresponding segment in the output, hence the input should be maintained with no insertions (6).

(6) Dependency Dep-IO Insertions are not favored.

Borrelli did not need such a constraint because her candidates did not undergo insertions.

The lengthening of singleton vowels is prohibited by the faithfulness constraint in (7).

(7) WtIdent *V:

This constraint essentially performs the same function as Borrelli’s (4), but it is much less specific. It is a faithfulness constraint that disfavors all long vowels not present in the underlying representation. Since this present analysis deals with consonant length, another weight identity constraint is used here (8), which
penalizes long consonants in the surface form that are absent in the underlying representation. This is a form of the Obligatory Contour Principle (OCP), a tendency that disfavors a contiguous sequence of identical features (Roca & Johnson 1999, 273). Bullock does not use this constraint, but we propose it here because of its relationship with (7).

(8)  \text{WtIdent} *CC \text{ or } \text{OCP} *CC

Three other constraints deal with prosody: two with syllabic structure and one regarding the construction of binary feet. Coda Consonants are disfavored in (9).

(9)  *Coda

Bullock refers to the constraint formalated in (10) as «double prosody», which disfavors the analysis of a light syllable as a heavy one. Each mora must be aligned to a a vowel or a coda consonant.

(10)  \text{Double prosody: } *CV = \mu\mu

FrBin (11) is a prosodic constraint that demands the formulation of a binary foot between the element which causes the reduplication and the following word. A binary foot can be constructed of either two syllables or one syllable of two morae.

(11)  \text{FrBin} \text{ the foot involved in RS must be binary}

One-syllable words only count two morae if a coda consonant is present, or if the nucleus consists of a long vowel or a diphthong. If a word consists of a light syllable, it does not constitute a binary foot.

Bullock’s underlying representation is \[\text{'ku}\text{(PWd)}\text{ me}\text{(PWd)}\], which does not clearly specify the presence of the unassigned mora. The first candidate is rejected because (ku) is not a binary foot; see (12). The second candidate falls because of the long u. Borrelli’s (4) also would have rejected this candidate because she views cu as an independent word, while Bullock considers it to be a new phonological phrase. Candidate 3 falls because of the inserted t and candidate 4 because of the dangling, unassigned mora. The last candidate triumphs in spite of the presence of the coda consonant. If Bullock had used Borrelli’s notation, *Coda might have been avoided but then the restraint of a mora assigned to a head consonant would have needed to be invoked.

(12)  Bullock’s (2000, 54) tableau \[\text{[ku(PWd) me(PWd)]}\]

<table>
<thead>
<tr>
<th></th>
<th>FrBin</th>
<th>Dep-IO</th>
<th>WtIdent*V:</th>
<th>*CV = \mu\mu</th>
<th>*Coda</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ku) me</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ku) me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(kut me)</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(ku[m] me)</td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ku[m] me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Bullock’s approach seems closer to being able to analyze the infinitives in (1). However, we will need to modify her analysis. Bullock proposes FrBin to take care of the unassigned mora present in the words that initiate RS. While this description works for one-syllable words such as cu, it fails for words such as accusá, ogné, quarché, unless it is modified to work only on the last syllable. Nevertheless, we choose to select a more general restraint, such as Borrelli’s Maxµ that will essentially be able to accomplish what FrBin does. Bullock’s formulation of the gemination as CC offers advantages over Borrelli’s C.

4 Analysis of the Hispanisms

The focus in this study is on a < Latin λ(µ), a function word which causes reduplication. This element will be represented underlyingly as /a(µ)/. The tableau in (13) shows the adaptation of the Spanish etymon casar to the Neapolitan accasá. Here, the infinitives are considered in their apocopate forms, which is the Neapolitan infinitive structure. The input in (13) is /a(µ) (ka sá)/. One foot (ka sá) consists of two two syllables ka and sa; the leftmost foot consists of one syllable made of two morae (a[µ]). The representations are divided into syllables separated by spaces. The first candidate [(a) (ka sá)], the most faithful in terms of segmental composition to the underlying representation, violates the constraint Maxµ because of the deletion of the underlying mora.

(13) Analysis of accasá
Maxµ, Dep-IO, WtIdent, *CV = µµ ≫ OCP *CC, *Coda

<table>
<thead>
<tr>
<th>/a(µ) (ka sá) /</th>
<th>Maxµ</th>
<th>Dep-IO</th>
<th>WtIdent V</th>
<th>*CV = µµ</th>
<th>OCP *CC</th>
<th>*Coda</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [(a) (ka sá)]</td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. [(a:) (ka sá)]</td>
<td></td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. [(at) (ka sá)]</td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>d. [(a[µ]) (ka sá)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>e. [(ak) (ka sá)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

The same candidate also would violate Bullock’s FrBin. Here, we prefer to use the Max constraint since it is a more general constraint that doesn’t make assumptions about syntactic reduplication as does FrBin, that is, that the syntactic reduplication catalyst forms a binary foot. Candidate (13b) [(a:) (ka sá)] fails WtIdent *V: since the long vowel is not present in the input. The insertion of the coda consonant in candidate (13c) [(at) (ka sá)] violates a faithfulness restriction Dep-IO. The fourth option [(a[µ]) (ka sá)] does not introduce any consonant different from those in the input, but the first syllable (a[µ]) has an unaligned mora, not associated with any segment, thereby counting a light syllable as a heavy one. Candidate (13e) [(ak) (ka sá)] violates the prohibition of consonant
codas, as well as that against double consonants, but these are the constraints ranked in the lowest positions of the hierarchy: Dep-IO, Maxµ, WIdent, *CV = µµ ≫ *CC, *Coda. The double kk is not considered an insertion, but rather a lengthening of the k present in the input. Since (13e) obeys the dominant restrictions in the hierarchy, it is the optimal candidate. A similar analysis can be performed for the words represented in (1). These verbs whose Spanish etyma begin with a are reanalyzed in Neapolitan and the initial a- are considered in the same manner as the a- of akkasá.

5 Discussion

The analysis presented above explains why some Spanish verbs surface with geminate consonants in Neapolitan. It is not always clear why the prothetic a- is introduced in the morphology, possibly for semantic reasons or by analogy with other Neapolitan verbs beginning with a-, but once it is introduced, it systematically produces lengthening of the following consonant. An underlying mora in the prosodic tier asks for an adjustment in the segmental tier, which is satisfied by lengthening the onset consonant, thereby providing a coda for the preceding syllable. Optimality theory brings together the segmental and suprasegmental levels of analysis, difficult to consider together in rule-based phonology. The rule in (14) lengthens all simple consonants following a word initial a, which includes those etyma like sacar to which a prothetic a is added or to an etymon like apestar, which already possesses the initial a-. The rule does not even hint at the syllabic and metrical processes that are involved in the gemination.

(14) C → [CC] / #a ___

The infinitives in (1) show geminate consonants: pp, tt, kk, bb, gg, ff, mm, ss, tff, and ll- which are not present in the Spanish etyma. The analysis of all the infinitives in (1) would follow the model of (13). In Neapolitan, all the infinitives end in an accented vowel, except the dactyls from the third Latin conjugation in short e. The input proposed herein has already taken into account the elision of the final r of the Spanish etymon. The underlying representation also shows an unaligned mora (a[µ]) in the input, owing to the evolution of the Latin λ(ρ) to the Neapolitan a-.

Borrelli (2002) used optimality theory to treat syntactic reduplication in a unifying approach. Loporcaro (2005, 279–280) has critiqued some of her surface forms and notation. Borrelli postulates underlying etymological mora and formulates the gemination as C. She links morae to single, but lengthened, segments on the melodic tier rather than separating to two different segments (2002, 74), but by rejecting the reality of coda consonants, she incurs a violation of NoCµ upon linking a mora to an onset consonant. Bullock and the present analysis prefer to formulate the geminate as CC in which the first C corresponds to a coda consonant, capable of bearing a mora, and the second forms the onset to the second syllable. This notation avoids invoking NoCµ, because no mora
are linked to onset consonants. Since the lengthened consonant appears after the word boundary, Borrelli uses '#' and thereby forces a single word analysis of all the words involved in the RS process. The lengthened consonant notation makes it difficult to see the real prosodic and segmental structure of the candidates. More importantly, though, since Borrelli specifically refers to word final position in her formulation, we cannot use her model, because we do not consider the a as a word final vowel in the Hispanisms, but rather as a preposition which becomes incorporated as a prefix.

The OT analysis presented here follows that of Bullock’s on the Neapolitan phrase cu mme ‘with me’, with some modifications. The Obligatory Contour Policy, formulated here as a consonantal weight identity constraint, is included in the analysis, even though this constraint does not reject candidates and is lowly ranked in the hierarchy. The existence of a markedness constraint that disfavors long vowels suggests another for long consonants. A key difference from Bullock’s formulation is the hierarchy of constraints and in the constraint FrBin itself. Bullock affirms the dominance of FrBin, because that constraint rejects the candidate [(kú) (mè)], the most faithful with respect to the input [kú(PWd) me(PWd)]. Bullock (2000, 53) states «[…] adhering to input/output faithfulness is not enough if a violation of prosodic structure occurs. Thus, FrBin outranks faithfulness». However, faithfulness constraints can reject candidates that satisfy the prosodic tier, so we do not affirm the dominance of FrBin. Indeed, in our analysis, we found Maxµ adequate to deal with the candidates that also fail FrBin, and prefer the former as it is more general and makes no assumptions «that the syntactic reduplication in Neapolitan arises because its triggers are endowed with a bimoraic prosodic structure» (Bullock 2000, 55). Not only is such a constraint very specific (it can be handled by a more general one such as Max), but also it is not applicable to triggers such as accusi ‘thusly, so’, ogne ‘each’, quarchè ‘several’.

Bullock analyzes reduplication as a syntactic process that spans word/morpheme boundaries. However, unlike Borrelli’s formulation, Bullock’s representation of syllabic structure and the fact that her constraints do not refer to morpheme or grammatical word boundaries, have made her formulation more applicable to the description of gemination in the Hispanisms. Bullock treats syntactic reduplication as the formation of a phonological phrase, which we have extended here to explain word formation in Neapolitan. Here, the input is a prefixed verb, which undergoes a reduplication process similar to that of cu mme.

This study has presented an extension of a previous analysis and is able to explain the presence of geminate consonant groups, absent and impossible in their language of origin, but imposed by the receptor language. Optimality theory offers a way to include the segmental and prosodic tiers in the analysis.
6 Conclusion

The two optimal theoretical accounts of Neapolitan syntactic reduplication (Borrelli, Bullock) have been adapted to describe the consonant gemination of 28 infinitives in Neapolitan whose etyma lack double consonants. The analysis assumes that the underlying representation has an unaligned mora, a prosodic residue from final consonant deletion of the Latin $\lambda(d)$, which is satisfied by consonant lengthening, thereby yielding a coda seat for the mora.

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