

# *Articles of Italian unite! Italian definite articles without allomorphy*

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## **Abstract**

This article examines the various realizations of the Italian definite article and concludes, against all previous accounts of this phenomenon, that neither the singular nor the plural realizations constitute a case of allomorphy *stricto sensu*. Significantly extending Larsen's (1998) analysis, the paper argues that all of the realizations of the definite article, including the problematic [i] and [ʎi], share a single underlying representation. It is proposed that the definite article is associated with a template with separate sites for definiteness and  $\varnothing$ -features. It is further argued that [ʎ] is not a primitive entity in Italian; rather, it emerges from a very specific configuration in which /i/ and /l/ are conjoined and followed by a second realized vowel /i/. The templatic and segmental decompositions yield a morphologically unified analysis in which all of the realizations of the definite article are based on a single lexical representation followed by the application of regular phonology.

**Keywords:** allomorphy, article, Italian, palatalization, CVCV Phonology

## **Résumé**

Dans cet article, nous nous concentrons sur les différentes réalisations de surface de l'article défini de l'italien et proposons, à l'encontre de toute analyse précédente, qu'aucune de ces réalisations n'est un exemple d'allomorphie au sens strict. En étendant considérablement l'analyse de Larsen (1998), nous faisons l'hypothèse que toutes les réalisations de l'article défini, y compris les formes problématiques [i] et [ʎi], partagent une forme sous-jacente unique. Nous proposons d'abord que l'article défini soit associé à un gabarit possédant deux sites séparés qui

sont réservés, respectivement, à la réalisation de la définitude et aux traits  $\varnothing$ . Ensuite, nous montrons que [ʎ] n'est pas un objet primitif de l'italien : il dérive plutôt d'une configuration spécifique dans laquelle /i/ et /l/ sont fusionnés et suivis d'une deuxième voyelle réalisée /i/. La décomposition à la fois gabaritique et segmentale favorise une analyse morphologique unifiée dans laquelle toutes les formes réalisées de l'article défini sont dérivées d'une représentation lexicale unique par l'application régulière de la phonologie.

**Mots-clés:** allomorphie, article, italien, palatalisation, phonologie CVCV

## 1. INTRODUCTION

Pretheoretically, allomorphy is the scenario under which the same grammatical information is realized in more than one way.<sup>1</sup> Yet, if one subscribes to the common view that lexically recorded forms are not necessarily identical to their phonetic production, then two types of allomorphy must be distinguished. In one, general phonological processes (as opposed to morpheme-specific ones) bring about the allomorphic scenario. Thus, in the Argentinian Porteño dialect of Spanish, the /s/ of the masculine plural article is debuccalized unless the noun begins with a vowel (1a). This debuccalization is a general process of the language, whose conditioning does not reference any non-phonological information: [s] is generally impossible when not in onset position, regardless of the meaning of the phonological sequence. Compare this to the parallel French example in (1b), where a [z] appears between the article and the noun only when the latter is vowel-initial. In French, [z] is not ruled out before consonants, either word-internally [uzbɛk] 'Uzbek' or between words [viz-lø] 'aim at it/him'. Unlike the [s~h] alternation of (1a), the [z]~ $\varnothing$  alternation is not general in the language. Rather, it is a specific property of a group of items, among which is found the plural definite article. One may conclude that, unlike in Spanish, the allomorphy in French does reference non-phonological information, in the present case [+definite, +plural].

### (1) Definite article

- a. Porteño Spanish  
[loh] patos 'the ducks' vs. [los] arboles 'the trees'.
- b. French  
[le] canards 'the ducks' vs. [lez] arbres 'the trees'

It is generally agreed that cases such as (1a) do not qualify as allomorphy, because they involve only one lexical or underlying representation, followed by the application of phonology. We adopt Paster's (2014) definition of allomorphy:<sup>2</sup>

<sup>1</sup>The following abbreviations are used: C: Consonant; DAT: dative; ECP: Empty Category Principle; F: feminine; M: masculine; PG: Proper Government; PL: plural; SG: singular; UR: underlying representation; V: vowel.

<sup>2</sup>Paster, however, also uses the term "allomorphy" for phonologically regular cases. For her, the definition in (2) refers to "suppletive allomorphy".

(2) Allomorphy

Any situation where the same set of morphosyntactic/semantic features is expressed by two or more surface forms in complementary distribution that have different underlying forms. (Paster 2014: 220)

Opinions will differ about whether the French case thus qualifies as allomorphy or not. Proponents of the single underlying representation – and hence non-allomorphic – analysis of such phenomena capitalize on the fact that the logic behind the purported allomorphy is phonological improvement (see Nevins 2011 on phonologically conditioned allomorphy). Indeed, the [z] appears where there would otherwise arise a dispreferred hiatus; or, alternatively, it is realized when it can be, that is when an onset position is available. Assuming two underlying representations in such cases fails to express the fact that these two representations differ in only one segment, whose distribution seems to be predictable on general phonological grounds.

The correct analysis of French articles is not the topic of this article (for a survey of the liaison literature, see Côté 2011). Keeping in mind the issues hitherto raised, we now turn to the definite articles of another well-studied Romance language, namely Italian.

1.1 Allomorphy in the Italian definite article?

The masculine definite article in Italian is also realized in more than one way. Two realizations of each number appear in (3a) (we will discuss the prevocalic realization later). The crucial trigger of either realization is again the beginning of the following noun. The singular article has a VC shape before a CV-initial noun, and a CV shape before a noun beginning with a cluster (except a *muta cum liquida*, or branching onset; see the fuller descriptions in sections 3 and 4). Both realizations include the [i], but the vowels differ. The masculine plural article also has a CV shape before the cluster-initial noun, but the consonant is a palatalized [ʎ], rather than a plain [l]. Moreover, the consonant is not shared by the realization before a CV-initial noun. What *is* shared is the vowel [i]; but in contrast to the three other realizations, the vowel is not accompanied by any consonant. Unlike masculine articles, feminine articles are associated with one realization only, regardless of the environment (3b).

(3) The different forms of the masculine definite article in Italian

	Singular		Plural		Environment								
a.	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>i</td><td>l</td></tr><tr><td>l</td><td>o</td></tr></table> sakko	i	l	l	o		<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>i</td></tr><tr><td>ʎ</td></tr></table> sakki	i	ʎ	'the bag'	— CV		
i	l												
l	o												
i													
ʎ													
	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>l</td><td>o</td></tr></table> ska:fo	l	o		<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>i</td></tr><tr><td>i</td></tr></table> ska:fi	i	i	'the hull'	— CCV				
l	o												
i													
i													
b.	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>l</td><td>a</td></tr><tr><td>l</td><td>a</td></tr></table> rɔ:za	l	a	l	a		<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>l</td><td>e</td></tr><tr><td>l</td><td>e</td></tr></table> rɔ:ze	l	e	l	e	'the rose'	— CV
l	a												
l	a												
l	e												
l	e												
	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>l</td><td>a</td></tr></table> skatoła	l	a		<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>l</td><td>e</td></tr></table> skatole	l	e	'the box'	— CCV				
l	a												
l	e												

While there is no doubt that the condition for the distribution of the two realizations is phonological, no previous analysis has managed to account for the entire set of realizations in (3a) *in the phonology*. Indeed, with the exception of Larsen (1998), which we will address in due course, all previous analyses (Davis 1990, Marotta 1993, Del

Gobbo 2001, Tranel and Del Gobbo 2002, Russi 2006) have resorted to postulating two underlying representations in either the singular or the plural or both.

Several articles have addressed the singular alternation. Davis (1990) assumes two allomorphs /i/ and /o/. The allomorph /o/ is selected when the sonority distance between the following two consonants is lower than +4, following a language-specific sonority hierarchy for Italian and Steriade's (1982) syllable formation rule. In other words, this is a case of allomorph selection in the phonology: there are two lexically recorded options, and the phonology chooses one of them. Besides the fact that allomorphy is maintained, Davis' account carries another drawback, namely that the fine-grained sonority hierarchy proposed does not receive independent support within the language or outside it (see Cavirani 2015 and Ulfsbjorninn 2017 for criticisms of sonority as an organizing principle of Italian syllabification). Moreover, unlike the present proposal, Davis' analysis is not shown to extend to plural forms. The same two drawbacks – multiple inputs to phonology, lack of treatment of plural cases – can be attributed to the conclusions of Marotta (1993), McCrary (2004) and Baroni (2011) (Marotta and McCrary also present experimental results). Del Gobbo (2001), superseded by Tranel and Del Gobbo (2002), also assumes multiple inputs to phonology, but differs from the accounts above in that it does include an attempt to cover the plural case, too. In our opinion, however, the analysis is very problematic: it involves several ad hoc tools such as conjunction of constraints, self-conjunction and a constraint BREVITY ruling out the longer allomorph. Moreover, almost entirely different sets of constraints are assumed to explain the plural and the singular allomorphies, and even more constraints are added in the treatment of allomorph selection before inherent geminates.<sup>3</sup> We will briefly return to this account in our analysis, which we claim requires much less machinery.

Russi (2006) proposed a more extreme analysis of the singular realizations, with speakers storing as many allomorphs as appear on the surface, along with their phonological environments. Following Bybee (2001), Russi proposes that allomorph selection upon encountering a new word is based on statistical learning (i.e., frequency). No attempt is made to relate the choice to phonological improvement of any sort. In other words, this is pure allomorphy: phonology has nothing to do with the distribution of allomorphs.

The above studies all assume more than one underlying representation, either in the input to phonology, as in Davis (1990), or in the input to exponence, as in Russi (2006). In contrast, Cardinaletti and Repetti (2007), following Muljačić's (1971) analysis, argue for a single underlying representation of the definite form /l/ (see also Artés 2013). According to these authors, both the [i] of [il] and the [o] in [lo] are epenthetic: [i] is a phonological epenthesis, while the [o] is a "morphological epenthetic vowel" inserted to avoid \*/lsc/ clusters. Since [o] is an inflectional marker in Italian, it can appear in this position, which is typically reserved for the realization of  $\varphi$ -features. The authors do not explain how this vowel can be epenthetic and at the same time carry morphosyntactic information, nor why their general epenthetic

<sup>3</sup>See Bonet and Lloret (2016: 5–8) for a recent discussion of Del Gobbo's analysis.

vowel [i] cannot be inserted in this position. It seems that this approach, too, requires morphologically specific information to be available at the stage of the resolution of phonological problems. Moreover, once again the plural realizations remain unexplained.

As just outlined, all previous studies have assumed two allomorphs, in both the singular and the plural. While several studies of the singular realizations have tried to formalize allomorph selection in the phonology, only one study tried to do so for the plural, with unimpressive results. This is not an accident: when examining the plural realizations [ʎi] and [i], one is hard-pressed to relate the beginning of the noun to the presence or absence of a consonant [ʎ] before the vowel of the article. Indeed, Nevins (2011: 2371) presents this case as an example of phonologically sensitive, *non*-optimizing allomorphy.

In this article, we argue for the first time that there is no allomorphy in the Italian article. In both singular and plural masculine articles there is only one underlying representation. Following up on an analysis of the singular in Larsen (1998), we will hypothesize that *all* definite articles share the structure in (4a), namely (i) a template of two CV units; (ii) an unassociated /i/ above V<sub>1</sub> followed by an /l/ which is associated to C<sub>2</sub>. To this structure are added the vowels in (4b), which are the regular realizations of the different numbers and genders in the nominal morphology. We will claim that the association of the masculine exponents /o/, /i/ to V<sub>2</sub> is determined by phonological factors; but that the feminine exponents /a/ and /e/ are lexically associated to this position in their representations.

(4) [il]/[lo] underlying representation

a. Definiteness	b. φ-features						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">i</td> <td style="padding: 0 10px;">l</td> </tr> <tr> <td style="padding: 0 10px;"> </td> <td style="padding: 0 10px;"> </td> </tr> <tr> <td style="padding: 0 10px;">C<sub>1</sub></td> <td style="padding: 0 10px;">V<sub>1</sub> C<sub>2</sub> V<sub>2</sub>-</td> </tr> </table>	i	l			C <sub>1</sub>	V <sub>1</sub> C <sub>2</sub> V <sub>2</sub> -	/o/ <sub>MSG</sub> , /i/ <sub>MPL</sub> , /a/ <sub>FSG</sub> , /e/ <sub>FPL</sub>
i	l						
C <sub>1</sub>	V <sub>1</sub> C <sub>2</sub> V <sub>2</sub> -						

The concatenation of this structure with the different nominal bases results in different cases of syncope of the segmental material in the surface realizations, as well as in the palatalization of /l/ in the plural allomorph. To anticipate the analysis of palatalization, the structures proposed in section 4 are presented in (5). In order for the definite /l/ to palatalize, two conditions must hold: (i) it has to be fused with an adjacent unassociated /i/, and (ii) its position must be followed by an associated /i/. The two conditions hold in (5a), but not in (5b), in which case the /l/ is simply not realized. The association of the different vowels depends on the form of the following noun, and follows from general principles of the theory adopted, as discussed in the relevant sections of the article.

(5) Proposed representations of the plural allomorphs [ʎi], [i]

a. [ʎi]	b. [i]																		
<table style="border: none; margin: auto;"> <tr> <td style="padding: 0 10px;">{i</td> <td style="padding: 0 10px;">l}</td> <td style="padding: 0 10px;">i</td> </tr> <tr> <td style="padding: 0 10px;"> </td> <td style="padding: 0 10px;"> </td> <td style="padding: 0 10px;"> </td> </tr> <tr> <td style="padding: 0 10px;">C<sub>1</sub></td> <td style="padding: 0 10px;">V<sub>1</sub> C<sub>2</sub></td> <td style="padding: 0 10px;">V<sub>2</sub>-</td> </tr> </table>	{i	l}	i				C <sub>1</sub>	V <sub>1</sub> C <sub>2</sub>	V <sub>2</sub> -	<table style="border: none; margin: auto;"> <tr> <td style="padding: 0 10px;">i</td> <td style="padding: 0 10px;">{l</td> <td style="padding: 0 10px;">i}</td> </tr> <tr> <td style="padding: 0 10px;"> </td> <td style="padding: 0 10px;"> </td> <td style="padding: 0 10px;"> </td> </tr> <tr> <td style="padding: 0 10px;">C<sub>1</sub></td> <td style="padding: 0 10px;">V<sub>1</sub> C<sub>2</sub></td> <td style="padding: 0 10px;">V<sub>2</sub>-</td> </tr> </table>	i	{l	i}				C <sub>1</sub>	V <sub>1</sub> C <sub>2</sub>	V <sub>2</sub> -
{i	l}	i																	
C <sub>1</sub>	V <sub>1</sub> C <sub>2</sub>	V <sub>2</sub> -																	
i	{l	i}																	
C <sub>1</sub>	V <sub>1</sub> C <sub>2</sub>	V <sub>2</sub> -																	

We thus claim that not only is there no allomorphy in the Italian article – as in the Spanish case, the different realizations result from a single underlying representation – but also the number and gender marking on the article are the same as those used elsewhere in the language. Moreover, as we shall see, the account is easily extended to other cases of functional words with the palatal [ $\lambda$ ] (notably the dative [ $\lambda$ i]). The view in (5) also sheds light on the complex nature of the palatals [ $\eta$ ,  $\jmath$ ,  $\text{ts}$ ,  $\text{dz}$ ] in Standard Italian.<sup>4</sup> We claim that like [ $\lambda$ ], these can only be derived in the configuration in (5a), thus explaining both their exclusion from internal and final coda positions (such as 5b) and their exclusively geminated realization in intervocalic position.

The article is organized as follows. After section 2 presents the theoretical background, sections 3 and 4 present the analysis of the singular and plural realizations respectively. In both, a more complete presentation of the data is included, and a third realization, the one preceding V-initial nouns, is also covered. Sections 5 and 6 discuss the above-mentioned extensions to palatals in general and to the paradigms of other function words.

## 2. THEORETICAL BACKGROUND

The analyses we propose here are consistent with the theoretical framework of Autosegmental Phonology (Goldsmith 1979) in general, and adhere to the principles of CVCV phonology (Lowenstamm 1996, Scheer 2004) in particular. CVCV phonology is founded on the basic principle that the only skeletal constituent is a CV unit; the skeleton is thus a strict alternation of non-branching onsets (C) and non-branching nuclei (V). This implies an increased number of empty V-positions in the representation of words. Since Kaye et al. (1990), the distribution of empty V-positions is constrained by the Empty Category Principle (ECP, see 6a) and Proper Government (PG, see 6b).

(6) a. Empty Category Principle

An empty V position may be phonetically non-interpreted iff it is properly governed.

b. Proper Government

A properly governs B iff

(i) A governs B from the right to the left.

(ii) A is not properly governed.

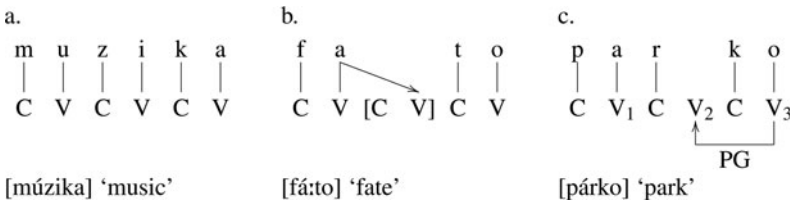
To illustrate the representations of the CVCV approach, consider the three Italian words in (7). In Italian, a phonological process lengthens vowels in an open syllable in the penultimate position, but not in antepenultimate position (Chierchia 1986,

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<sup>4</sup>Though phonetically [ $\text{ts}$ ,  $\text{dz}$ ] are not palatal consonants, they historically developed from  $*\text{tj}$ ,  $*\text{dj}$ . Synchronically these consonants share most of the distributional properties of [ $\lambda$ ,  $\eta$ ,  $\jmath$ ]. Therefore, the five consonants can be considered a natural class, abstractly characterised as ‘palatal’.

Larsen 1998).<sup>5</sup> (7a) illustrates a word containing three open syllables. Stress falls on the antepenult and does not entail lengthening (For phonetically informed studies, see Bertinetto and Loporcaro 2005, D’Imperio and Rosenthal 1999, Hajek et al. 2007).<sup>6</sup> In (7b), we show a case of lengthening under stress, [fá:to]. As can be seen, long vowels span over two CV units, leaving an empty C-slot. The representation in (7c) involves an internal coda. In such a configuration, the ECP is satisfied: the empty V<sub>2</sub> is properly governed by V<sub>3</sub>, as shown by the arrow.

(7) Italian lexicon



In languages with C-final words (Italian C-final words are usually loans or prepositions), the final empty nucleus is allowed to remain unrealized by a parameter setting (Kaye 1990). An example from Modern Hebrew is shown in (8b) below.

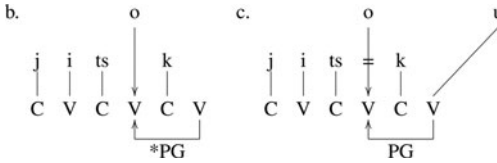
One of the major contributions of CVCV phonology to phonological theory is a straightforward analysis of the syncope of lexical vowels (see Scheer 2015). This is also illustrated by the Modern Hebrew case in (8). In (8a), a non-epenthetic vowel /o/ is syncoated when it comes to stand in an open syllable. According to Scheer, such vowels are represented as floating, and as a result will not be realized when their position is governed, as in (8c). In contrast, if the V-position is ungoverned, it needs to be realized: the vowel thus associates to this position (as in (8b), where the final empty nucleus cannot govern the nucleus preceding it). Crucially for this type of analysis, it is not the case that such segments are completely unassociated to any position: rather, they do “belong to” a designated position, but their realization in it is grammatically controlled.

<sup>5</sup>According to Larsen (1998), stress introduces a CV-unit in the representation of words in Italian. This unit must be properly governed and thus licensed in order to lengthen the preceding vowel, as in (7b). In what follows, we abstract away from this templatic realization of stress; it is not crucial for our analysis, because definite articles are clitics and as such never bear stress.

<sup>6</sup>Hajek et al. (2007) found that the phonetic duration of the antepenultimate stressed vowels in open syllables is variable. Some speakers lengthen this position (accompanied by phonetic compression), while other speakers do not (cf. Ulfsgjorninn 2016 for a CVCV interpretation).

(8) Vowel vs. zero alternations in CVCV phonology

a. Modern Hebrew: [jitsok] – [jitsku] ‘he will mold, they will mold’



Armed with the notions of government and its interaction with syncope, we return to the realizations of the masculine singular definite article in Italian.

3. THE SINGULAR DEFINITE ARTICLE: [il], [lo] and [l]

The masculine singular definite article in Italian has three realizations, two of which were shown in (3) above: [il] and [lo]. The third realization is [l]. The data in (9) illustrate the distribution of these realizations (Nespor 1993: 222ff, Maiden and Robustelli 2007: 61–63).

(9) Masculine singular forms

[il]		[lo]		[l]	
a. il sakko	‘bag’	c. lo ska:fo	‘hull’	e. l azino	‘donkey’
il ka:ne	‘dog’	lo sta:djo	‘stadium’	l eza:me	‘exam’
il ba:tfo	‘kiss’	lo zba:llo	‘mistake’	l inkariko	‘task’
b. il tre:no	‘train’	d. lo strappo	‘rip’	l okkjo	‘eye’
il kjavistello	‘bolt’	lo skja:vo	‘slave’	l urto	‘strike’

The first realization, [il], is selected before nouns beginning with either a single consonant (9a), or a muta cum liquida cluster (9b). The conditioning of the second realization, [lo], is /s + C/ clusters (9c and 9d: the so-called *esse spurio* “spurious s” in Italian grammar, see Serianni 1989.) This realization also appears before geminates, as in (10a), and consonant clusters which are not muta cum liquida, as in (10b).

(10) [lo] appears before other consonant clusters

a. ɲo:mo	lo ɲɲo:mo	‘gnome’	b. lo pterodattilo	‘pterodactyl’
fame	lo ffa:me	‘swarm’	lo psikologo	‘analyst’
ɖɔkkolo	lo ɖɖɔkkolo	‘wooden shoe’	lo ksilofono	‘xylophone’
jo:gurt	lo jjo:gurt	‘yoghurt’	lo ftala:to	‘phthalate’

In the first column, we observe two palatals, [ɲ] and [ʃ], the affricate [ɖʒ], and the glide [j]. These segments belong to a subset of sounds of Italian known as “inherent geminates” (Chierchia 1986): [ɲ, ʎ, ts, ɖʒ, ʃ, (j)<sup>7</sup>]. These sounds surface as geminates in intervocalic position and as singletons in initial onset positions.<sup>8</sup> Since they are

<sup>7</sup>/j/ patterns with inherent geminates only word-initially. It can be ungeminated in intervocalic position, as in [pá:jo] ‘pair’.

<sup>8</sup>See Lai (2015) for a CVCV analysis of initial geminates of Sardinian and Romano (2003a, b) for an acoustic study of initial geminates in Salentino. According to Diana Passino (p.c),



inherently long, the first part of the geminate functions like the first C of a consonant cluster, and the realization [lo] surfaces. The form [lo] is thus found in all environments that would supply it with a coda (assuming *muta cum liquida* cases are branching onsets).

Finally, the singular article has a third realization [l], which occurs before a vowel, as shown in (9e) above.

As discussed in section 1, although the conditioning of each realization is its phonological environment, the logic behind the conditioning is far from obvious: it is not immediately clear why phonology would prefer [il] over [lo] before CV-initial bases. This is why an allomorphic analysis like that of Russi (2006) might adopt a view of this allomorphy as phonologically conditioned, but not phonologically optimizing (i.e., not a result of improving the phonological structure of the output). Other analyses, such as Davis (1990), propose that phonology does have a say, in that it “selects” between /il/ and /lo/. In other words, both options are presented to the phonology. For Del Gobbo (2001) and McCrary (2004), this choice is even structured, in that the allomorphs are ordered [il] > [lo]; the former is not bad enough before CV-initial words that it should lose to the latter.

### 3.1 The analysis of the singular

In this subsection, we present Larsen’s (1998) analysis of the singular article, which will serve as the basis for our own analysis of the plural. As we will see, both Larsen’s analysis and ours involve a single underlying form, rendering the allomorphy epiphenomenal (and of course dispensing with the notion of allomorph ordering).

#### 3.1.1 A single underlying representation

Larsen’s (1998) analysis consists in assuming the following underlying sequence for the two cases of [il] and [lo]:

(11) Larsen’s (1998) underlying representation: /ilo/

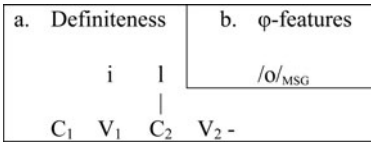
$$\begin{array}{cccc} & i & l & o \\ & & | & \\ C_1 & V_1 & C_2 & V_2- \end{array}$$

As can be seen in (11), /ilo/ bears a lexical template of two CV units, an associated /l/ flanked by two unassociated vowels, /i/ and /o/. We further specify Larsen’s representation as in (12), to make more explicit the decomposition of this sequence into two morphophonological exponents. On one side, /il/ realizes definiteness, while on the other is the exponent of gender/number. This hypothesis builds on the fact that an *l* appears in all singular forms of the article, masculine or feminine [la] and [l], and also appears in the plural, although not in every realization (we return to the plural in section 4). Following Acquaviva (2009), Passino (2009) and Lampitelli (2010) among the most recent accounts, we assume that *-o* is the exponent of MSG, as in the majority of masculine nouns and adjectives.

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other varieties of Italian may allow for inherent geminates to be phonetically long in initial positions; this claim requires clear empirical support. We leave it for future investigation.

(12) What realizes what, in the masculine singular article



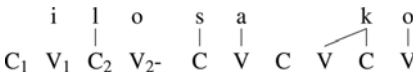
Larsen shows that assuming this structure, the realization of the floating vowels depends on the notion of government, as explained in the next subsection.

3.1.2 *The realization of the masculine forms*

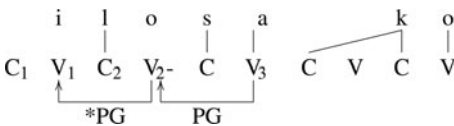
Given the principles of CVCV phonology and the representation (12), the realization of the masculine forms is straightforward. The underlying situation before consonant-initial words is presented in (13a). As shown in (13b), the vowel -o remains afloat because V<sub>2</sub> is properly governed; consequently, the vowel i- must associate with its V-position, because V<sub>2</sub> is empty and cannot govern V<sub>1</sub>.<sup>9</sup>

(13) Realization of [il]:

a. UR of [il sakko] ‘the bag’



b. V<sub>2</sub> being governed, /o/ floats and /i/ must associate



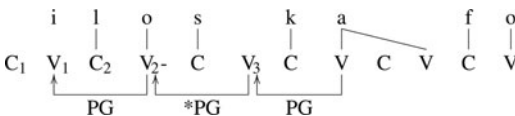
The derivation of [lo] follows the same lines. Recall that this realization is found before complex clusters, chiefly those consisting of /s+C/. The underlying structure is presented in (14a). In such cases, because the first nucleus of the noun (V<sub>3</sub>) is empty, V<sub>2</sub> is ungoverned and /o/ must associate with it, as shown in (14b). As a consequence, V<sub>1</sub> is governed and there is no reason for i- to surface.

(14) Realization of [lo]

a. UR of [lo ska:fo] ‘the hull’



b. V<sub>2</sub> being ungoverned, /o/ associates with it

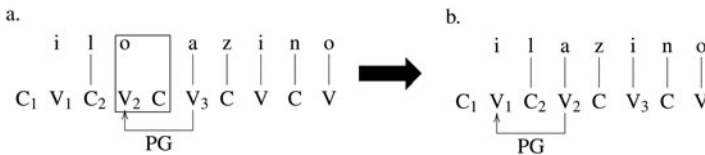


<sup>9</sup>We assume that muta cum liquida sequences constitute a domain above which government can hold (Scheer 2004).

Del Gobbo (2001) and Tranel and Del Gobbo (2002) also propose a representation with a floating /o/ (though they are apparently unaware of Larsen 1998). Yet in those studies, associating the floating vowel -o in /l(o)/ incurs a violation of a phonological constraint proposed specifically for this type of alternation. In the present analysis, in contrast, the association vs. the floatingness of -o (and -i) in (13) and (14) follows from a basic principle of the theory, namely that properly governed nuclei may remain empty.

Larsen (1998) does not treat the third realization of the article, namely [l], which is found before V-initial nouns (9e). We claim that this realization can also be derived from /il+o/. As can be seen in (15a), a sequence of two vowels results from the linearization of the article and the noun. Although hiatus is not a problem in Italian ([baú:le] ‘trunk, chest’), it is crosslinguistically dispreferred, and often resolved through elision, usually of the first vowel (Casali 2011). In our analysis, the first vowel of the hiatus and its position are especially prone to deletion, since they are unassociated. We propose that this is indeed the case, and V<sub>2</sub> is truncated along with the following C, in favor of the vowel that is lexically associated with a templatic position, as in (15b).

(15) The allomorph [l]



Larsen thus derives both [il] and [lo] from a single UR, which we show can also derive [l]. The surfacing of each realization follows from general phonological principles – it is phonologically optimizing in this sense. Unlike anywhere else in the literature, there is no need for more than one underlying representation, and so, according to the definition of allomorphy in (2), there is no allomorphy in the masculine singular definite article.

We further claimed that the [o] in [lo] expresses the same  $\phi$ -feature as the masculine singular suffix on nouns. This assumption is the first step towards generalizing the analysis from the singular to the plural, a task not undertaken by Larsen, to which we now turn.

**4. THE PLURAL DEFINITE ARTICLE: [i], [ɫi] (~ [ɫ<sup>(j)</sup>])**

This section discusses the derivations that yield the plural forms. As shown in (16), these are [i] before consonant-initial stems and branching onsets (16a,b) and [ɫi] before other consonant clusters (16c,d) and before vowel-initial stems (where it is possibly pronounced [ɫ<sup>(j)</sup>]; 16e)

(16) Masculine singular forms

	[i]		[ʌi]		[ʌi]~[ʌ <sup>(j)</sup> ]
a.	i sakki ‘bags’	c.	ʌi ska:fi ‘hulls’	e.	ʌi azini ‘donkeys’
	i ka:ni ‘dogs’		ʌi sta:di ‘stadiums’		ʌi eza:mi ‘exams’
	i ba:tʃi ‘kisses’		ʌi zbaʌʌi ‘mistakes’		ʌi inkariki ‘tasks’
b.	i trɛ:ni ‘trains’	d.	ʌi strappi ‘scraps’		ʌi ɔkki ‘eyes’
	i kjavistelli ‘bolts’		ʌi skja:vi ‘slaves’		ʌi urti ‘strikes’

Recall our hypothesis regarding the decomposition of definite articles: they are concatenations of /i/ + φ-features. As we saw, the masculine singular article involved the general exponent of these features, namely /o/. It is thus predicted that the masculine plural article will contain the general exponent of this feature bundle, namely /i/, as in (17) below. Like the singular exponent, the plural /i/ is lexically unassociated.

(17) Decomposed plural definite article (UR)

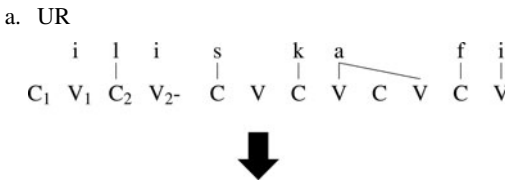
a. Definiteness		b. φ-features	
i	l	/i/ <sub>MPL</sub>	
C <sub>1</sub> V <sub>1</sub>	C <sub>2</sub> V <sub>2</sub> -		

As we saw for the masculine singular definite article, the fact that there are two adjacent nuclei V<sub>1</sub> and V<sub>2</sub> associated with floating melody means that their realization depends on the phonological shape of the stem with which they are concatenated. Again, floating segments will only dock onto V-slots which are ungoverned, and the V-slots of the article acquire their governed or ungoverned status from the first nucleus of the stem. We begin with the configuration in which the first V of the stem is empty and governed.

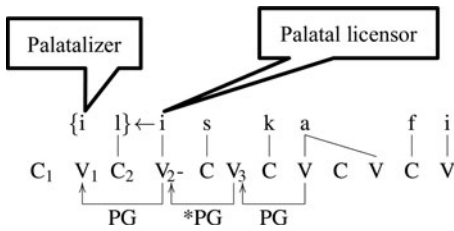
4.1 The realization [ʌi]

When the first V of the stem is empty and governed, V<sub>2</sub> will not be governed. The consequences of this on the derivation can be seen in the diagram and are explained beneath it.

(18) Representations of [ʌi ska:fi] ‘the hulls’



b. Phonology



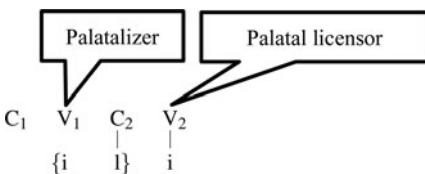
The underlying representation in (18a) depicts the situation before the application of phonology. In (18b), the first nucleus of the stem ( $V_3$ ) is empty and governed, and as such it is not a suitable governor for  $V_2$ .  $V_2$  must therefore be phonetically interpreted. As a result, the unassociated floating melody /i/, the exponent of the  $\varphi$ -features of the plural masculine, associates to  $V_2$ . Because  $V_2$  is contentful, it is able to govern  $V_1$ . The melody above  $V_1$  therefore cannot attach to this position. In Italian, we claim, floating /i/ can link to an adjacent C position containing /l/. This creates a featural complex resulting in palatal [ $\lambda$ ]. Thus, in this account, the /i/ of the definite article is the palatalizing element of the palatal [ $\lambda$ ].

The reader will remember, however, that in the singular [lo ska:fo] ‘the hull’ (14) there was *also* a floating /i/ above a governed  $V_1$ . Why did that floating /i/ not link to the following /l/, forming the unattested \*[ $\lambda$ o]? We propose the following answer. In Italian, the palatal [ $\lambda$ ] must not only be palatalized, but also be licensed to be palatal. The licensing condition is that a palatal [ $\lambda$ ] must precede a nucleus to which is associated the vowel /i/. To put it in the words of the labels in (18b), in order to be realized as palatal, /l/ must both share its position with a “palatalizer” /i/ and precede an associated “palatal licensor” /i/. As can be seen in (14) above, there is no palatal licensor in the masculine [lo ska:fo] ‘the hull’.<sup>10</sup>

The condition for licensing is made explicit in (19).

(19) Palatal Licensing

{i, l} must be licensed by a nucleus containing only /i/



<sup>10</sup>Our proposal fits the phonetic realization of [ $\lambda$ ], which always includes a palatal release. The transcriptional convention of using a single IPA symbol [pa $\lambda$ l $\lambda$ a] gives the impression of a direct C-V transition:  $\lambda > a$ , but it could equally be transcribed with the release [pa $\lambda$ l $\lambda^d$ a] (similarly, the burst of stops usually goes untranscribed [p], while its absence is noted by a diacritic [p̥]). Italian / $\lambda$ / is not a segment, it is the phonetic interpretation of a syllable structure complex: CVC $\dot{i}$  (note also the <i> in the orthography *paglia*).

We contend that this condition holds not only for [ʎ], but also for the two other palatalized consonants of Standard Italian, namely [ɲ] and [ʃ], as well as for the historically palatalized consonants [ts] and [dʒ].<sup>11</sup> The condition provides the explanation for the seemingly unconnected fact that [ʎ, ɲ, ʃ] can never occur in ‘coda’ position (internal or final), unlike their non-palatalized counterparts [l, n, s] (20). Thus, [sol] ‘sun’ and [bonton] ‘good manners’ are legitimate words of Italian, whereas \*[soʎ] and \*[boɲ] aren’t. In CVCV terms, the phonotactic could be stated as follows: [ʎ] cannot occur in a C slot before an empty nucleus. Our analysis provides a further step in the explanation: [ʎ] cannot appear before empty nuclei, because it needs to be palatal-licensed. Crucially, this restriction does not apply to the non-palatalized counterparts.

(20) Restriction of palatalized codas

[sol]	‘sun’	*[soʎ]
[bonton]	‘good manners’	*[bontɔɲ]
[gas]	‘gas’	*[gaʃ]
[kolto]	‘educated’	*[koʎto]
[punto]	‘point’	*[puɲto]
[kɔsta]	‘coast’	*[kɔʃta]

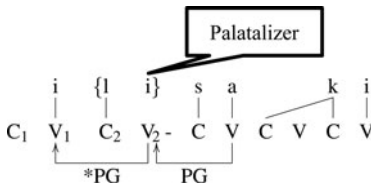
In the next section we show what happens when the palatal /l/ is created, but cannot be licensed.

4.2 The realization [i]

The realization [i] is the plural counterpart of singular [il], occurring before CV-initial bases; yet the disappearance of /l/ from this realization (cf. Old Italian *li*, Vanelli 1992) does not seem to be motivated phonologically. Del Gobbo (2001), who assumes two allomorphs /i/ and /ki/, has *i* winning over *gli* due to a specific constraint BREVITY, which favors the shorter allomorph. Conversely, and consistent with the previous subsections, we show that the surface form [i] follows from our analysis of palatal /ʎ/, and so once again there is no allomorphy to speak of.

In (21) below, we see the concatenation of the UR of the masculine plural article with a stem that has a filled first nucleus.

(21) Representations of [i sakki] ‘the bags’: there is a palatalizer, but no licenser

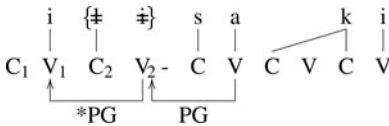


In this case, the V<sub>2</sub> of the article is governed by the first nucleus of the stem; consequently the /i/ above V<sub>2</sub> remains afloat. Because V<sub>2</sub> is governed, it cannot act as a governor for V<sub>1</sub>, and so the floating melody docks onto the ungoverned nucleus

<sup>11</sup>Both these groups pattern differently from palatal consonants like [tʃ] and [dʒ].

V<sub>1</sub>. This leaves the floating /i/ above V<sub>2</sub>. Like the floating /i/ of the representation in (18b) above, the unassociated /i/ forms a palatal complex with the adjacent /l/. However, as shown in (21), even though the {l, i} complex is formed, one condition from (19) is still not met: the palatal /k/ is not palatal-licensed by an associated ‘i’ nucleus. The palatal /k/ cannot be licensed. To be clear, while a palatal /k/ is generated by the conditions of association of floating melody, these conditions are not the same as those determining the *distribution* of the palatal /k/. In other words, the phonology creates a structure that is not actually in a position to be phonetically expressed. We submit that since these steps cannot be undone, or teleologically avoided ahead of time, the unlicensed structure is stray-erased. What remains in the phonetic output is only the portion of the morpheme that can be licensed (framed in 22). The laterality of the definite article never reaches the phonetic surface; only the preceding associated /i/ does, as shown in (22).

(22) Erasure of unlicensed material



Like the two realizations of the singular, [ki] and [i] can also be derived from the same underlying representation. There is therefore no real allomorphic relation between these two realizations.

### 4.3 The prevocalic realization [ki] ~ [k<sup>(j)</sup>]

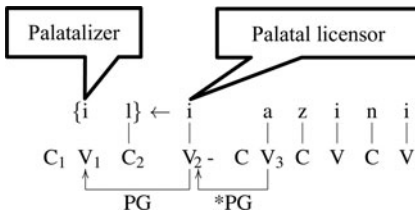
According to what we know so far, the definite article in front of V-initial words has the representation in (23a). We know that the realized form maintains both the palatalized [k] and the following vowel. It follows that the end point of the derivation must be represented as in (23b). We assume that the hiatus configuration in (23b) leads to the variation [ki] ~ [k<sup>(j)</sup>]: depending on speech rate, the vowel will be more or less fully realized (see Bertinetto and Loporcaro 2005, McCrary 2004 and references therein).

(23) Underlying representation for [ki] ~ [k<sup>(j)</sup>] + vowel initial stem

a. UR



b. Phonology

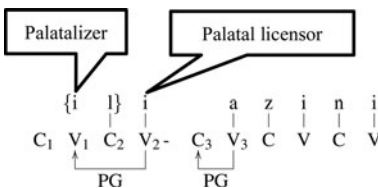


However, the representations in (23) raise two questions. V<sub>3</sub> is represented as not governing V<sub>2</sub> even though the conditions for government appear to be met. Indeed, as in [sakkì] in (21), the first nucleus of the stem is filled. So why don't we get \*[i<sup>(i)</sup>azini], just like [i sakkì]? Alternatively, we might expect \*[lazini]: we have seen that the floating /o/ of masculine /lo/ was truncated under contact with a vowel-initial stem (15 above), so why doesn't the V<sub>2</sub>C in (23b) undergo the same process?

The first problem – the apparent non-application of government – must follow from the emptiness of the intervening C-slot. Indeed, a condition has been independently motivated in French (Charette 1991, 2003) and Tigre (Faust 2014): empty onsets (parametrically) require government. If so, when a vowel is preceded by an empty onset, its government potential is spent on that onset. This absorption of government by an empty onset excludes the possibility of a preceding empty nucleus being governed.

This principle is proposed here for the first time for Italian. As shown in (24), it explains the non-government of V<sub>2</sub>: the empty onset C<sub>3</sub> receives the government, therefore preventing V<sub>2</sub> from being properly governed. Consequently, V<sub>2</sub> can govern V<sub>1</sub>, thereby keeping the V<sub>1</sub> /i/ afloat. The floating 'i' forms a complex with /l/: [ʎ]. The whole complex is able to surface because it is licensed by the 'i' associated to V<sub>2</sub>. This rules out \*[i<sup>(i)</sup>azini] (see [i sakkì]).

(24) [ʎi] ~ [ʎ<sup>(i)</sup>] azini



The representation in (24) also reveals why truncation of the V<sub>2</sub> /i/ (as in the singular [lazino]) is not an option in the plural: the /i/ that occupies the target of truncation is maintained because it licenses the palatal complex. In contrast, the /o/ of the singular does not interact with the definite /l/ in any way, and therefore it can be eliminated through truncation.

This concludes our account of the apparent allomorphy of Italian articles. We made language-specific phonological assumptions about the fate of any floating /i/s and about how the phonetics reads certain phonological structures. We proposed that in Italian, an unassociated floating /i/ forms a complex with an adjacent /l/: {i, l}.



This grouping effectively palatalizes the /l/; but in order to maintain the palatal complex, it must be palatal-licensed by a V position that links to an /i/. If the palatal complex cannot be licensed, it is erased as in [i sakki] ‘the bags’. The specificity of these requirements pays off in that a fully unified analysis emerges. In fact, there is no allomorphy: the different realizations follow from the assumptions described above in interaction with both the regular exponents of  $\phi$ -features and the principles of CVCV phonology.<sup>12</sup>

The next two sections explore the implications of the analysis.

## 5. THE INHERENT GEMINATE STATUS OF PALATALS

In the previous section, rather than assume a phonemically inspired segmental analysis of [ʎ], we proposed a structure for this palatal sound that requires two CVs. One CV provides the source of the palatalizing feature, and another CV hosts an /l/ and an /i/-nucleus that can license the palatal [ʎ].<sup>13</sup> This complex phonological representation allowed us to dispense with specific morphophonological rules or constraints. In this section, we present independent phonological evidence in favor of this representation of [ʎ].

In Italian, as is well known, length is contrastive for most consonants in intervocalic positions. However, the consonants [ɲ, ʎ, ʃ, ʦ, ʄ], commonly referred to as inherent geminates (Bertinetto and Loporcaro 2005 among many others), do not exhibit a length contrast in this position: they are always pronounced as long. In CVCV phonology, length is expressed by the association of a segment to two positions. Inherent geminates are thus to be represented as obligatorily involving two CV units, just like the [ʎ] of [ʎi]. We will now propose that our analysis of that sound should be extended to all inherent geminates: all of these sounds are complex phonological representations, involving the nonpalatal parallel sound flanked by two /i/’s.

To begin again with [ʎ], its representation in an intervocalic position is illustrated in (25). The palatal complex is preceded by an empty V<sub>2</sub>, and the empty C<sub>2</sub> position of that nucleus. This triggers gemination.<sup>14</sup>

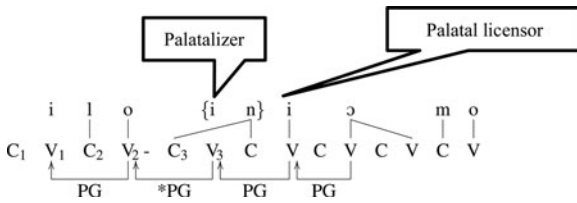
<sup>12</sup>An anonymous reviewer asks why this account is superior to the traditional ‘inherent geminate’ analysis. In section 5 we go into some detail comparing our analysis with that analysis. Here we add that, if one assumes an underlying /ʎ/ in the masculine plural article, it would be impossible to unify the plural and singular variants as we have done here. Consequently, the allomorphy could not be eliminated (or it would have to be done somehow through degemination and depalatalisation, which is unmotivated).

<sup>13</sup>Within the CVCV framework, we are aware of at least three other studies which have highlighted the need for palatal consonants to be represented with additional skeletal support: Bendjaballah (1999) for Somali and Lowenstamm (1996, 2000) for Chaha.

<sup>14</sup>This is the reason that lengthening of the vowel is impossible, even though the vowel is in a penultimate stressed position. Vowel length can never precede gemination in Italian, [pálla] \*[pá:lla] ‘ball’.



(27) [loŋŋo:mo] ‘the gnome’



In (27) we see that the presence of both a palatalizing feature *and* a palatal licenser leads to the geminated status of [ŋ].

### 6. BEYOND THE MASCULINE, BEYOND THE ARTICLE

In this section, we extend our analysis to two other morphological domains: feminine nouns and dative pronouns. In both cases, we observe only one realization. In the first subsection, we explain why the exponent /l/ exhibits no alternation in the feminine. In the second subsection, we motivate the distribution of dative clitic pronoun [ʎi].

#### 6.1 The feminine article

As mentioned in the introduction, the feminine article does not exhibit more than one realization. Some feminine nouns are shown again in (28):

(28) Feminine nouns:

	<i>singular</i>	<i>plural</i>	
a.	la rɔ:za	le rɔ:ze	‘rose’
	la pɪtsa	le pɪtsɛ	‘pizza’
b.	la skatola	le skatole	‘box’
	la stra:da	le stra:de	‘road’

The feminine article may be decomposed into two morphological pieces, neither of which is surprising. The definite article is expounded by /il/, as elsewhere; and the  $\varphi$ -features are realized by one vowel, [a] in the singular and [e] in the plural, again as elsewhere in the language.<sup>16</sup> Unlike its masculine counterpart, the feminine article is always of the form l+V, regardless of the shape of the following noun.

We submit that this difference between masculine /o/ and feminine /a/ is encoded in lexical association, as with the feminine, or the lack thereof, as with the masculine.<sup>17</sup> The masculine singular /o/ is lexically unassociated and may remain afloat

<sup>16</sup>Like the singular masculine, [la] is truncated before a vowel-initial word [lo:ra] ‘the hour’; the plural [le] does not undergo truncation [le o:re], \*[lo:re]. We do not at present have an explanation for the latter fact. See Del Gobbo (2001) for a morpheme-specific solution.

<sup>17</sup>Del Gobbo (2001:14) follows a similar path: “If we assume that /a/ in *la* is a fixed vowel, we obtain the expected result”. Our analysis differs from Del Gobbo’s in one crucial aspect: while her constraints regarding floatingness are ad hoc, in CVCV phonology floating segments are regulated by government, a central mechanism of the theory.

under government, as in (29a), whereas the feminine singular exponent /a/ is lexically associated to its V-slot (V<sub>2</sub> in 29b), and therefore it surfaces irrespective of government.

(29) Difference between masculine and feminine: floatingness

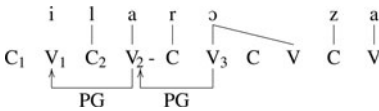
a. Masculine singular vs. b. Feminine singular

Definiteness			φ-features	Definiteness			φ-features
i	l		o	i	l		a
C <sub>1</sub>	V <sub>1</sub>	C <sub>2</sub>	V <sub>2</sub> -	C <sub>1</sub>	V <sub>1</sub>	C <sub>2</sub>	V <sub>2</sub> -
[lo] ~ [il] ~ [l]				[la]			

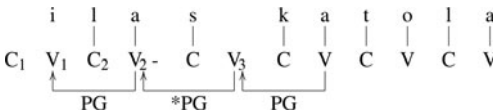
The fact that the feminine marker [a] is lexically associated to V<sub>2</sub> has two consequences. First, as shown in (30), the underlying /i/ of the definite marker never surfaces, because V<sub>1</sub> is always governed.

(30) The feminine definite article

a. [la rɔ:za] ‘the rose’



b. [la skatola] ‘the box’



The second consequence is found in the plural forms: no palatalization of /l/ ever occurs in this paradigm. We contend that this lack of palatalization results from the presence of /a/ in the representation of [e]. Following Passino (2009) and Lampitelli (2010), we assume that plural feminine [e] consists of two underlying markers: feminine singular /a/ and plural /i/.<sup>18</sup> The latter is underspecified for gender and thus appears in both the masculine and the feminine forms.

<sup>18</sup>Both Passino (2009) and Lampitelli (2010) decompose Italian vowels using Element Theory (Kaye et al. 1985). According to this theory, vowels result from the combination of two or more Elements: the vowel [e], for instance, results from the fusion of Element [A] with Element [I]. In the present article we abstract away from the details because these are not crucial for our argumentation. See Backley (2011) for the most recent introduction to Element Theory.

- (31) a<sub>FM</sub>+i<sub>PL</sub> = feminine plural [e], which does not trigger palatalization.

Definiteness		φ-features	
i	l	a	i
C <sub>1</sub>	V C <sub>2</sub>	V	-

[le] (1<sup>st</sup> V always governed)

One may ask why /l/ is not palatalized in (31), as the following realized nucleus does include /i/. Whatever the answer may be, this is a general fact of Italian: the feminine marker [e] *usually* blocks palatalization, not only in the definite article, but also in nouns and adjectives. In the latter two cases, one finds velars palatalizing in masculine plural forms, but never in feminine plural forms.<sup>19</sup>

If so, once again φ-features are realized on the article exactly like in the nominal system in general.

### 6.2 Dative pronouns

In normative Standard Italian, the dative pronoun paradigm includes two preverbal, unstressed clitic forms, both in the singular: [ki] in the masculine and [le] in the feminine. In the plural, the dative pronoun is realized as a postverbal, stressed form [ló:ro] which is unspecified for gender (see Serianni 1989: 210ff for a description of the clitic system and Cardinaletti 1991 for an analysis of the syntax of *loro*).

- (32) The dative pronouns of Standard Italian

<i>Masculine/Feminine singular:</i>		<i>plural:</i>	
ki/le spiffero	‘I whisper to him/her’	spiffero lo:ro	‘I whisper to them’
ki/le dɔ	‘I give to him/her’	dɔ lo:ro	‘I give to them’
ki/le a:pro	‘I open for him/her’	apro lo:ro	‘I open for them’

The pronoun [ki] ‘M.DAT’ is homophonous with plural article [ki]. As we saw, the definite article [ki] was not found before complex clusters, which instead triggered the [i] realization. In contrast, (32) shows that the masculine dative pronoun [ki] does appear in this environment. Indeed, the dative pronoun *does not exhibit any other realization*.<sup>20</sup> This cannot have to do with the φ-features expressed because in many varieties of Spoken Italian, [ki] may be invariably used for any gender and/or number (D’Achille 2016a,b, Russi 2008).<sup>21</sup> These facts raise the following

<sup>19</sup>Italian palatalization is a complex phenomenon, which cannot be addressed here in a satisfactory fashion. For the present purpose, it suffices to maintain that the feminine plural [e] never triggers velar palatalization in nouns and adjectives, whereas masculine plural [i] may trigger palatalization (although not always: see Giavazzi 2008, Krämer 2009 for recent analyses). For completeness, we note that velar palatalization also occurs in verbs, where its distribution is unlike in nouns and adjectives.

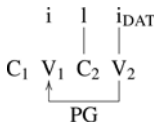
<sup>20</sup>We thank Joan Mascaró for bringing this issue to our attention.

<sup>21</sup>In Tuscan Italian, [le], rather than [ki], is generalized to both the masculine and feminine plural (see D’Achille 2016a, Berruto 2012).

question: given the homophony of plural and dative [ʎi], why is there a single, stable realization in the dative?

In the previous section, we saw that the stable realization of the feminine article was the result of the lexical association of the feminine exponent to its site in the template. The same can be proposed for the stable realization of the dative clitic [ʎi]: unlike in the masculine plural [ʎi], where the position of the vowel had to be ungoverned in order for it to associate and palatal-license the /ʎ/, in the dative one may simply assume that the palatal licenser is lexically associated to its slot (V<sub>2</sub>), as represented in (33). Note that this palatal licenser is the marker of dative case, not of plurality, and so there is no problem with endowing it with qualities different from those of the masculine plural.

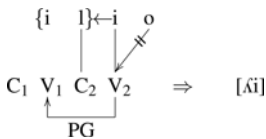
(33) Underlying form of dative marker



As in the case of the feminine article, the lexical specification of (non-)association underlies the existence or absence of more than one realization

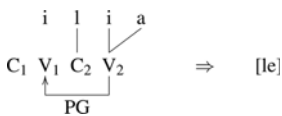
But if the [i] of dative [ʎi] is the dative marker, where are the φ-features? We propose that the masculine plural form contains, in addition to /i<sub>DAT</sub>/, an underlying /o<sub>MSC</sub>/. As we saw, /o<sub>MSC</sub>/ is floating and seeks to associate with V<sub>2</sub>. However, as shown in (34), this is not possible in the masculine plural because /o/ and /i/ cannot combine in Italian (Passino 2009, Lampitelli 2010). Consequently, /l/ will always surface as palatalized [ʎ] and the phonological context for another realization is simply never met. In other words, the non-combinability of floating masculine /o/ with dative /i/ leads to the effective absence of any overt φ-feature exponent on the dative masculine.

(34) Masculine singular [ʎi]: floating /o/ cannot combine with dative /i/



The feminine singular form, in turn, is characterized by a non-floating feminine /a/. As we saw for the feminine plural article, this vowel can combine with /l/, and when it does, it blocks palatalization. For the dative, we therefore expect [le], as in (35); indeed, this is the feminine singular dative in normative Standard Italian.

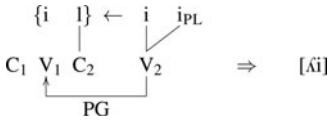
(35) Feminine singular [le]: non-floating feminine /a/ combines with dative /i/



In addition, our analysis can also account for the Standard Spoken Italian use of [ʎi] as a generalized plural dative pronoun. Consider the expected masculine plural

form. The floating plural /i/ would combine with the palatal licenser dative /i/ as in (36). The result is homophonous to the masculine singular [ʎi].

(36) Masculine plural [ʎi]: plural /i/ combines dative /i/, no surface difference



This homophony between masculine singular and masculine plural can easily be reanalyzed diachronically as the grammatical incompatibility of the dative clitic with any  $\phi$ -feature exponent. Consequently, the feminine form [le] would also be lost, and all forms reduced to [ʎi].

A central notion in the main analysis of this article was defective association: certain exponents were regarded as floating or unassociated, and this led to more than one realization. To bolster the idea of defective association, one must show that in some cases the association is not defective. In this section, we saw exactly that state of affairs: the feminine and dative markers were analyzed as lexically associated to their templatic site, a fact which resulted in a single, stable realization. The case of the stable dative marker [ʎi] was especially striking, since phonetically, it is homophonous with the masculine plural [ʎi]. The difference can be understood through the idea of defective association. In the last paragraph, we saw an interesting implication for language evolution: exponents with defective association are liable to disappear completely from some of the surface forms in a paradigm, a scenario which may then be reanalyzed as the *underlying* incompatibility with marking. This incompatibility may then spread to the entire paradigm.

With this final corroboration of our account we move to conclude.

### 7. CONCLUSION

We have demonstrated that the apparent allomorphy of Standard Italian articles is derived by the phonology from a single underlying form. An unprecedented, morphologically unified analysis emerges, in which Standard Italian articles are decomposed as shown in (37).

(37) Decomposition of definite article

a. Definiteness		b. $\phi$ -features	
	i l	/o/MSG, /i/MPL, /a/FSG, /e/FPL	
C <sub>1</sub>	V <sub>1</sub>	C <sub>2</sub>	V <sub>2</sub> -

The underlying representation shown in (37a) is crucially composed of two CV units. The vowels of the determiner expressing definiteness and  $\phi$ -features are not lexically associated to this template; they are floating. The surfacing of the floating material is contingent on the phonological shape of the following word.

The primary tool involved in generating the various forms of the article is Proper Government (PG). In each form, it is this phonological force that determines which of the two vowels is linked to a V-position and is therefore pronounced. Because PG operates according to universal principles, a key part of the ‘allomorphic’ variation follows directly from the phonology, computing the underlying form in the ordinary way. In fact, there is no allomorphy in Italian articles, only defective association.

In order to account for the surface differences between the plural allomorphs [i], [ki] and [kʲ], we proposed a novel representation of palatal [kʲ]. In particular, we hypothesized that [kʲ] results from an underlying palatal complex {i, l} that must be palatal-licensed by a V position associated with an /i/. The account was corroborated further by its successful extension to two other phenomena. First, the distributional restrictions on [ʃ, ʝ, tʃ, dʒ] are identical to those of [kʲ], and these realizations can also be understood as resulting from a Palatal Complex. Second, we showed that a small representational difference in the underlying form produces the difference in phonological behavior between the masculine definite article on the one hand, and the feminine definite articles and the dative clitic paradigm on the other.

We end with an additional extension, not previously discussed here, concerning the indefinite articles [un], [uno], [una]. The diagram in (38) shows how the present account easily extends to cover these forms as well: the stability of the first vowel is explained by lexical association, while the other aspects are identical to the corresponding forms of the definite article in (4) above.<sup>22</sup>

(38) Decomposition of indefinite articles

a. Indefinite	b. $\phi$ -features
u      n          C <sub>1</sub> V <sub>1</sub> C <sub>2</sub> V <sub>2</sub> -	/o/ <sub>MSG</sub> , /a/ <sub>FSG</sub>

Overall then, against all previous proposals, we have shown that there is no allomorphy in Italian definite articles. Rather, there is a single underlying form whose shape varies according to the principles of the Italian phonological grammar. Before one opts for the allomorphic view, it is important to consider sophisticated autosegmental representations and well-formedness conditions, rather than letter-based representations.

<sup>22</sup>Interestingly, the allomorphy of the singular indefinite in some varieties of Tuscan Italian is even closer to that of the definite singular: *un cane, un treno, no studente, no gnomo, n-animale* (‘dog, train, student, dwarf, animal’). In fact, the only difference between this variety and Standard Italian (in 38) is that in Tuscan, the /u/ floats. The allomorphy of the plural indefinites, including the indefinite plurals *dei, degli, delle* invites future work with an analysis along the lines of the one presented here.



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