

# The masculine singular definite article in Italian: The role of the syllable

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Data from Italian have played an important role in our understanding of syllables and in the formulation of syllable theory. In particular, the choice of the allomorph of the Italian masculine singular definite article – [l], [il], [lo] – has been argued to be sensitive to syllable structure, and has been used to support various models of the syllable. However, recent contributions to the study of Italian morpho-phonology have argued against the claim that the form of the masculine singular definite article in Italian is determined primarily by syllable considerations. In this article I argue in support of the role of the syllable in the determination of the masculine singular definite article allomorph, showing that the three forms of the article all derive from a single underlying form, /l/, and that the surface realizations are predictable on the basis of phonological information. This proposal is based on evidence from various sources: historical and synchronic morphological and phonological processes in Italian, as well as data from non-standard varieties of Italian and northern Italian dialects.

**KEYWORDS:** syllable, Italian, definite article, s-stop clusters, inherently long consonants.

## 1. Introduction

Data from Italian have played an important role in our understanding of syllables and in the formulation of syllable theory. In particular, the choice of the allomorph of the Italian masculine singular definite article has been argued to be sensitive to syllable structure, and has been used to support various models of the syllable (Davis 1990, Marotta 1993, McCrary 2004, Nikiema 2000, Tranel & Del Gobbo 2002, etc.).

Italian has three allomorphs of the masculine singular definite article – [l], [il], [lo] – and their distribution is largely predictable.<sup>1</sup>

- |                          |      |                        |                        |
|--------------------------|------|------------------------|------------------------|
| (1) (a) [l] <sup>2</sup> | (i)  | [l] <i>amico</i>       | ‘the friend (MS. SG.)’ |
|                          | (ii) | <i>mangio [l] pane</i> | ‘I eat the bread’      |
| (b) [il]                 | (i)  | [il] <i>bambino</i>    | ‘the baby (MS. SG.)’   |
|                          | (ii) | [il] <i>prato</i>      | ‘the lawn’             |
| (c) [lo]                 | (i)  | [lo] <i>specchio</i>   | ‘the mirror’           |
|                          | (ii) | [lo] <i>zio</i>        | ‘the uncle’            |

The form in (1a) appears mandatorily in prevocalic position where it forms the onset of a syllable, and optionally in post-vocalic position where it forms a coda.<sup>3</sup> The form in (1b) appears before any single consonant and certain clusters, particularly obstruent + liquid/glide (but not /s/ + consonant): the article *il* is syllabified separately from the following onset. The form in (1c) appears before an /s/ + consonant cluster, and it is also used before the consonants that are always long in intervocalic position ( $\sqrt{ts}/$ ,  $\sqrt{dz}/$ ,  $\sqrt{j}/$ ,  $\sqrt{n}/$ ,  $\sqrt{\lambda}/$ ). In the former case, the /s/ is syllabified as the coda of *lo*, and in the latter, the extra length of the consonant is realized as the coda of *lo*.<sup>4</sup>

Recent contributions to the study of Italian morpho-phonology have argued against the claim that the form of the masculine singular definite article in Italian is determined primarily by syllable considerations (Bertinetto 1999, Marotta 1993, McCrary 2004, Russi 2006). In this article I will argue in support of the role of the syllable in the determination of the masculine singular definite article allomorph, showing that the three forms of the masculine singular definite article all derive from a single underlying form, /l/, and that the surface realizations are predictable on the basis of phonological information. I will frame the arguments within the formalism of Optimality Theory (McCarthy & Prince 1993, Prince & Smolensky 1993); however, the generalizations are valid for other models and theories.

This article is organized as follows. I first outline the arguments in support of the role of the syllable in allomorph selection (§2), and I then address various arguments that challenge the role of the syllable in article selection (§3). Section 4 presents a synchronic analysis of the various forms of the masculine singular definite article – [l], [il], [lo] – as deriving from underlying /l/. This analysis of the definite article is supported by data from northern Italian dialects (§5). In §6 I conclude the paper.

## 2. The role of the syllable in allomorph selection

In this section we review the arguments that the form of the definite article is largely predictable based on syllable considerations. Article [l] is found if it can be adjoined as the onset of the following syllable or (optionally) as the coda of the preceding syllable.<sup>5</sup>

- (2) (a) ART *amico*            /la.mi.ko/            ‘the friend’  
 (b) *mangio* ART *pane*    /man.dʒol.pa.ne/    ‘I eat the bread’

The form [il] is found if the following word begins with a simple onset or a cluster consisting of an obstruent + approximant (3). In these cases, the article forms its own syllable, independent of the following onset.

- (3) (a) ART bambino /il.bam.bi.no/ 'the baby'  
 (b) ART prato /il.pra.to/ 'the field'

The article [lo] is used with words beginning with one of five consonants that are always long in intervocalic position: the palatal consonants /ʃ/, /ɲ/, /ʎ/, and the dental affricates /tʃ/, /dʒ/ (see Burzio 1989, Chierchia 1986, Davis 1990, Vanelli 1992).<sup>6</sup> Before we address article selection with words beginning with one of these consonants, we first address the nature of these segments, and I use the voiceless dental affricate as an example.

The 'inherently long' consonants are never realized as singletons intervocalically (\*[pi.tsa]), and are analyzed as lexically moraic: /tʃ<sub>μ</sub>/. In intervocalic position their moraic status can be realized, and they surface as geminates (4).

- (4) 'inherently long consonants'  
 /pits<sub>μ</sub>a/ > [pit.tsa] 'pizza'
- 

In absolute word-initial position, the dental affricate loses its mora since initial geminates are not allowed, and the affricate is realized as short: /tʃ<sub>μ</sub>io/ > [tsi.o] 'uncle'.

The article [lo] is used before a word beginning with one of these consonants: the mora associated with the consonant is assigned to the rhyme of the preceding article [lo], and the extra length of the initial consonant is realized as the coda of the article: /ART + tʃ<sub>μ</sub>io/ > [lot.tsi.o].

The choice of the [lo] allomorph with words beginning with /s/ + consonant clusters is usually attributed to the heterosyllabic nature of these clusters. Many argue that this sequence is universally heterosyllabic (Kaye 1992, etc.), and there is widespread agreement that Italian tends toward heterosyllabicity of /sC/ (Hermes *et al.* 2013, Krämer 2009, Loporcaro 1999, Marotta 1995, Morelli 1999, Nespor 1993, etc.). There is evidence from at least two sources that the /s/ of these clusters is not part of a complex onset. First, the stressed vowel before an /sC/ cluster is short ([V̆sCV]), as is the stressed vowel before heterosyllabic clusters like sonorant + obstruent sequences ([V̆SonObsV]), and unlike the long stressed vowel before an obstruent + approximant cluster ([V̆:ObsApproxV]). These facts are analyzed as evidence that the /s/ of /sC/ clusters is syllabified as the coda of the preceding syllable, as is the sonorant of a sonorant + obstruent sequence; however, an obstruent + approximant cluster is syllabified as a complex onset, allowing for the pre-

ceding stressed vowel to lengthen: [V̇s.CV]), [V̇Son.ObsV], [V̇:.ObsApproxV]. Second, in *raddoppiamento sintattico* contexts, in which the word-initial consonant following a word-final stressed vowel is lengthened (V̇ # C(C)V → V̇ # C:(C)V), the /s/ in /sC/ clusters is not lengthened. These facts have been analyzed as further evidence that the /s/ in /sC/ clusters is (re)syllabified as the coda of the preceding syllable. (See Bertinetto 2004 for an in-depth analysis of the syllabification of these clusters.)

The article [lo] is found if the following word begins with an /sC/ cluster, and the /s/ is resyllabified as the coda of the article [lo]: /ART + spekkjo/ > [los.pek.kjo] ‘the mirror’.

### 3. Arguments against the role of the syllable in allomorph selection

In this section I will provide arguments made against the role of the syllable in article selection. It is claimed, perhaps most thoroughly and clearly by Bertinetto (1999), that the relationship between article choice and syllable structure, although not arbitrary, reflects a situation that was valid in the past but is no longer true of the synchronic structure of Italian. The most serious challenges to the syllable’s role in the choice of article allomorph are found with word-initial ‘inherently long’ consonants (§3.1) and /sC/ clusters (§3.2).<sup>7</sup> In §3.3 I compare article *lo* and pronominal clitic *lo*.

#### 3.1. Article selection before ‘inherently long’ consonants

##### 3.1.1. Dental vs alveo-palatal affricates

Italian has four affricate consonants: a voiced and voiceless alveo-palatal affricate ([tʃ], [dʒ]) and a voiced and voiceless dental affricate ([ts], [dz]). The *il* allomorph is used with alveo-palatal affricates and the *lo* allomorph with the dental ones.

- (5) *lo zaino* ‘the backpack’ (<z> represents both voiced and voiceless dental affricates: [dz], [ts])  
*il ciocco* ‘the log’ (<ci> represents the voiceless alveo-palatal affricate: [tʃ])

The syllable-based explanation of this distribution has to do with the claim that dental affricates are always long in intervocalic position ([VttsV], \*[VtsV]), and the *lo* allomorph is used before these affricates so that they can be realized as heterosyllabic and long. Alveo-palatal affricates, on the other hand, can be either long or short intervocalically ([VtʃV], [Vtʃ̄V]), so the *il* allomorph is selected. (See note 6.)

Bertinetto (1999) points to a number of problems with this analysis. In many central varieties of Italian, alveo-palatal affricates are realized as long

in intervocalic position (6a); short alveo-palatal affricates are deaffricated in intervocalic position (6b). In other words, short intervocalic alveo-palatal affricates are not found (6c). In post-consonantal and word-initial position, the palatal affricate is realized as [tʃ]/[dʒ] (6d)-(6e).

- (6) central varieties
- (a) *leccio* [lettʃo] 'holm oak'
  - (b) *pece* [peʃe] 'pitch'
  - (c) \*[peʃe]
  - (d) *calcio* [kaltʃo] 'kick, soccer'
  - (e) *ciocco* [tʃɔkko] 'log'

Crucially, in those central varieties that allow only long alveo-palatal affricates in intervocalic position, the selection of the article allomorph is the same as in (5). We might expect to find *lo* with alveo-palatal affricates, as with the dental affricates, so as to allow the palatal affricate to be realized as long. However, we do not find *lo* before words beginning with an alveo-palatal affricate (7).

- (7) *il ciocco* 'the log'  
 \**lo ciocco*

Hence, Bertinetto (1999: 87) concludes that the selection of the article with words beginning an affricate cannot be explained on the basis of syllable structure.

While the comparison of the behavior of dental vs alveo-palatal affricates is compelling, there is another explanation for the article allomorph selection. Dental affricates have a different lexical representation than alveo-palatal affricates: the dental affricates (but not the alveo-palatal ones) are considered 'inherently long' or always associated with a mora (see §2). In intervocalic position their moraic status can be realized, and they surface as geminates. Alveo-palatal affricates are not among the 'inherently long consonants'. They are realized as long only when they are lexically specified as such. Otherwise, they are realized as short, and, in some varieties of Italian, short alveo-palatal affricates undergo a process of deaffrication intervocalically, whereby they are realized as fricatives.

In word-initial position, the mora associated with the dental affricate can be 'rescued' by the vowel of the preceding article *lo*: /ART + tʃ<sub>μ</sub>io/ > [lot.ʃi.o]. The alveo-palatal affricate, on the other hand, does not have an underlying mora (unless, in intervocalic position, it is lexically specified as such), so there is no mora to be 'rescued' and article *il* is found instead: /ART + tʃɔkko/ > /il.tʃɔk.ko/.<sup>8</sup>

3.1.2. ‘Spontaneous affrication’

Another issue to consider involves ‘spontaneous affrication’ in the context of a coronal sonorant + /s/ attested in central and southern varieties (Bertinetto 1999): *salsa* [saltsa]. Since dental affricates tend to be ambisyllabic, we would not expect dental affricates to be productively generated in this particular context where their ambisyllabicity cannot be realized. In [saltsa] the affricate must be syllabified as a simple onset.

While this is true, the structure resulting from ‘spontaneous affrication’ is different from a lexically specified dental affricate: the former is a sequence of sonorant + epenthetic /t/ + /s/, while the latter is an underlyingly moraic consonant. The epenthetic nature of the stop is suggested by Rohlfs (1966: 381) who calls the /t/ a “suono di transizione” (‘transition sound’). Hence, the arguments regarding the inherently long lexical affricate /t͡s<sub>μ</sub>/ do not apply to this [ts] sequence: lexical dental affricates are moraic, while [ts] sequences derived from epenthesis are not. (See Cardinaletti 1993 for syntactic constraints on ‘spontaneous affrication’, and Clements 1987 for an autosegmental analysis of ‘intrusive stops’.)<sup>9</sup>

3.1.3. Sonorant + dental affricate

Another problem with the syllable-based analysis of article selection with affricates has to do with the fact that dental affricates are permitted word-internally after a sonorant, and in particular after /l/ (Bertinetto 1999, Maiden 1995: 118): *alzare* [altsare] ‘to raise’. Since dental affricates are allowed word-internally after /l/, there is no reason to disallow the *il* allomorph before word-initial dental affricates. In other words, since we find *alzare*, why not \**il zaino* ‘the backpack’?

The answer to this question does not depend on phonotactic restrictions. Instead, the *il* allomorph is not selected in this context because the moraic specification of the dental affricate would not be faithfully realized in the output, while morpheme-internally, there is no preceding vowel for the mora to be associated with. Why do we not find \*[al<sub>μ</sub>t͡sare] with epenthesis (the epenthetic vowel is underlined), thereby allowing the affricate consonant to be realized as long? Optimality Theory helps us to formulate the answer. The constraint banning the insertion of an epenthetic vowel (DEP) must be ranked higher than the constraint banning deletion of a mora (MAX-μ). The portmanteau constraint σ-structure, specifying acceptable syllable structure, is ranked highest of all.<sup>10</sup> The tableau in (8) illustrates this ranking for the word *alzare*. (See (19) for the ranking of σ-structure >> DEP.)

(8)

/alts <sub>μ</sub> are/	σ-structure	DEP	MAX-μ
(a) [al. <u>tsa</u> .re] <sup>⊗</sup>			*
(b) [alt. <u>tsa</u> .re]	*! (/lt/ coda)		
(c) [a.lit. <u>tsa</u> .re]		*!	

The candidate in (8c) is not selected because an epenthetic vowel is inserted (violating the DEP constraint, although the mora is rescued), and candidate (8b) incurs a fatal violation of the syllable structure constraints because /lt/ is an unacceptable coda. Hence candidate (8a) is selected, even though it violates the MAX- $\mu$  constraint. (This same analysis holds for all of the ‘inherently long’ consonants.)

### 3.1.4. Article selection before palatal consonants

The article *lo* is also used before words beginning with an ‘inherently long’ palatal consonant ( $/\text{ɲ}_{\text{IP}}, \text{ʎ}_{\text{IP}}, \text{ʝ}_{\text{IP}}/\text{}$ ). As with the dental affricates discussed above (§3.1.3), we surprisingly find sonorant + palatal consonant sequences (Bertinetto 1999: 88). Such sequences are common at word boundaries (*co[n*  $\text{ʎ}$  *i amici* ‘with the friends’), between a host and a clitic (*fa[r*  $\text{ʎ}$  *i* ‘to do for him’), and word-internally (*bo[lʃ]evico* ‘Bolshevik’, *co[nʃ]o* ‘conscious’). These data show that palatal consonants can be realized in onset position following a sonorant consonant. Hence, the argument goes, there is no reason to rule out article *il* before a palatal consonant. In other words, why do we find, for example, *lo [ʃʃ]emo* ‘the fool’ instead of *\*i[l ʃʃ]emo*? Tableau (9) uses the same ranking as in tableau (8) to account for the choice of the definite article before a word beginning with a palatal consonant (*scemo*).

(9)

ART + $/\text{ʃ}_{\text{IP}}\text{emo}/$	$\sigma$ -structure	DEP	MAX- $\mu$
(a) [il.ʃʃe.mo]	*! ( $/\text{ʃʃ}/$ onset)		
(b) [il.ʃemo]			*!
(c) [i.liʃe.mo]		*!	
(d) [lo.ʃe.mo]			*!
(e) [loʃ.ʃemo] $\rightarrow$			

The article *il* cannot be used in this context because one of the three constraints is violated (9a-d). If *lo* is used and the palatal consonant is realized as long (9e), all three constraints are satisfied.<sup>11</sup>

### 3.2. Article selection before /s/ + consonant clusters

The choice of the *lo* allomorph with words beginning with /s/ + consonant clusters is usually attributed to the heterosyllabic nature of these clusters (see §2). However, some studies suggest that the treatment of /sC/ clusters is a sort of ‘grey zone’ in which syllabification is variable: they are sometimes treated like heterosyllabic clusters and sometimes like tautosyllabic clusters,

a reflection of the fact that their syllabification is changing with respect to old varieties of Italian (Bertinetto 1999; see also Bertinetto 2004, Marotta 1995, McCrary 2004).<sup>12</sup> Hence, if the choice of the article is based on syllable considerations, and if the syllabification of /sC/ clusters is variable, why, then, doesn't the choice of the article reflect that variability? In other words, why don't we find *lo* + /sC/ (with a heterosyllabic parse of /sC/), and *il* + /sC/ (with a tautosyllabic parse of /sC/)?<sup>13</sup> Bertinetto (1999: 24) suggests that "*lo* /sC/" is articulatorily less complex than "*il* /sC/", so there is no reason to use the latter.<sup>14</sup>

I suggest an alternative solution that builds on Bertinetto's observation that "*lo* /sC/" is simpler or less marked than "*il* /sC/", and involves "the emergence of the unmarked" (TETU). TETU effects are seen when a marked structure that is permitted in a language is banned in certain contexts, where instead the unmarked structure 'emerges'. In the case at hand, the unmarked structure is heterosyllabic /sC/ (argued by some to be universal, and by others to be preferred in Italian; see §2), and the marked structure is tautosyllabic /sC/ (shown by Bertinetto 1999, 2004 to be a variant in Italian). Hence, we would expect tautosyllabic /sC/ to be tolerated, but not to 'emerge' in specific contexts.

The solution to the puzzle of the form of the definite article before /sC/ clusters has to do with TETU and the underlying form of the definite article. So far, we have considered the input form of the definite article to be ART, or the list of allomorphs (see note 5). However, if we posit an input form /l/, with [il] and [lo] derived through epenthesis,<sup>15</sup> as will be proposed in §4, we have an alternative solution. We would not expect epenthesis to create a marked structure (*il* + tautosyllabic /sC/), but instead epenthesis should allow an unmarked structure to emerge (*lo* + heterosyllabic /sC/).<sup>16</sup>

### 3.3. Article vs pronoun *lo*

The 3<sup>rd</sup> person masculine singular accusative clitic pronoun *lo* is found in contexts in which the homophonous masculine singular definite article *lo* is not permitted.<sup>17</sup>

- (10) *lo* puniva 's/he punished him'  
\**lo* palo 'the pole'

This fact has been used to argue against the role of syllables in article selection (Bertinetto 1999). However, I claim that this difference in clitic pronoun vs definite article allomorphy has to do with the different lexical form of the two elements. Pronominal clitic *lo* is bimorphemic (/l + o/), so we would not expect to find pronominal clitic \**il*, and in fact we never do. The definite article, I will argue below (§4), is lexically represented as /l/, so



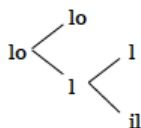
article /l/ can be realized as *lo* or *il*, with different epenthetic vowels inserted in different positions, and the choice between them depends on prosodic and morphological considerations.

In Section 3 I have outlined the arguments against the role of the syllable in the determination of the form of the masculine singular definite article, and I have shown how each of those arguments can be recast so as to advocate in favor of the role of the syllable. In the following paragraphs, I will argue for a particular lexical form of the definite article – namely, /l/ – using both historical evidence and synchronic processes attested in other parts of the grammar.

#### 4. Synchronic analysis: /l/ > [l], [il], [lo]

In this section, I will discuss the synchronic analysis of the Italian definite article. However, before delving into that, a few words on the history of the definite article are necessary. Latin did not have definite articles, but all Romance languages do. Most Romance definite articles derive from the Latin demonstrative pronoun *illu* (Classical *ille*), although in a few Romance varieties the definite article derives from Latin *ipse* (Sardinian, Old and Balearic Catalan). There are a number of proposals in the literature regarding the origin of the definite article in Italian, but the historical documentation and geographic distribution of the various allomorphs suggest that all three forms of the masculine singular definite article derive from *lo* (< Latin *illu*) (Ambrosini 1978, Renzi 1993, Vanelli 1992, and references therein). Vanelli (1992) proposes that, historically, /lo/ remained [lo] in some contexts and became [l] in others, which subsequently developed into [il] via epenthesis in yet other contexts. (See also Gröber 1877 who first suggested this analysis, and Ambrosini 1978 and Renzi 1993.)<sup>18</sup>

(11) diachronic:



Numerous proposals have been made regarding the synchronic underlying form of the definite article in Italian.<sup>19</sup> (See Dressler 1985 and Marotta 1993 for an analysis of the various proposals.) Some of these proposals are summarized in (12).<sup>20</sup>

(12) underlying form

- |                     |   |
|---------------------|---|
| (a) /l/             | Muljačić (1971, 1974)   |
| (b) /il/            | Romeo (1969), Stammerjohann (1973)  |
| (c) /lo/            | Burzio (1989), Nespó (1993)   |
| (d) /il/, /lo/      | Davis (1990), Marotta (1993), Morelli (1999), Krämer (2009) <sup>21</sup> |
| (e) /il/, /l/       | Vanelli (1992), Tranel & Del Gobbo (2002), Mascaró (1996b) <sup>22</sup>  |
| (f) /il/, /lo/, /l/ | Dressler (1985), McCrary (2004)   |

A version of the proposal illustrated in (12f) involves listed and ranked allomorphs (Bonet *et al.* 2007, Mascaró 1996a, 1996b, 2007), and has been adopted to account for phonologically conditioned allomorphy in definite article selection in Northwestern Catalan (Mascaró 2007), Jersey (McCarvel 2016), as well as Italian (Garrapa 2009, Mascaró 1996b), where the ordering proposed is /il/ > > /lo, l/.<sup>23</sup> While Lexicon Optimization supports this model because of the more harmonic mapping, the Minimal Redundancy Principle, which excludes information from the lexicon which is predictable from the grammar, would favor an approach in which the input has the least underlying material.<sup>24</sup> (Another argument against the listed allomorph approach can be found in §3.2.) For these reasons, I will pursue an approach using the simplest input, and argue, as does Muljačić (1971, 1974) (within a rule-based framework), that synchronically the underlying form of the article is /l/, and that the surface allomorphs, [l], [il] and [lo], all derive from /l/.<sup>25</sup> Support for this proposal comes from synchronic processes detailed in the following paragraphs.

4.1. /l/ > [l]

/l/ is faithfully realized if it can be incorporated into an adjacent syllable. In (13a) the /l/ can be adjoined as the onset of the following syllable, and in (13b) it can be (optionally) adjoined as the coda of the preceding syllable.<sup>26</sup>

(13) /l/ > [l]

- |  |                   |
|--|-------------------|
| (a) /l amiko/ > [la.mi.ko]             | ‘the friend’      |
| (b) /mandʒo l pane/ > [man.dʒol.pa.ne] | ‘I eat the bread’ |

This analysis is superior to others which derive [l] from /il/ or /lo/. Vanelli (1992) provides many convincing arguments against the derivation of [l] from /lo/, including the fact that the striking similarities between Italian and the dialects that she studied (which lack a *lo* allomorph) would be unexplainable. Renzi (1993: 221, fn. 17) argues that [l] cannot derive from /il/ via deletion of the vowel, because when two vowels are adjacent across a word boundary, the first vowel may optionally delete, but not the second one.

(14) *quando era venuto* ‘when he came...’

- |                                |
|--------------------------------|
| (a) <i>quand- era venuto</i>   |
| (b) * <i>quando -ra venuto</i> |

However, if the second word is the definite article [il], then the second vowel, and not the first, optionally deletes.<sup>27</sup>

(15) *quando il cane* ‘when the dog...’

- (a) \**quand- il cane*
- (b) *quando -l cane*

Renzi (1993) concludes that these patterns show that the allomorph [l] cannot derive from an underlying form /il/ or else the form in (15b) should be ungrammatical (compare with (14b)). Our analysis can also handle these facts: given an input *quando* /l/ *cane*, the form in (15b) represents the most faithful output: no epenthesis and no deletion are necessary.

In conclusion, the analysis of the [l] form of the definite article as derived from an input form /l/, is superior to other analyses which derive [l] from /il/ or /lo/.

#### 4.2. /l/ > [il]

What happens if the /l/ cannot be adjoined to an adjacent syllable (16a)? Epenthesis occurs in order to syllabify the /l/ (16b).

- (16) /l prato/ > (a) \*[l.pra.to]
- (b) [i.l.pra.to]

This analysis is supported by the historical record. Vanelli (1992) and Renzi (1993) show how [il] historically derives from /l/ by means of epenthesis. I claim that this well-documented historical process continues to be productive synchronically. Evidence in support of this approach comes from the fact that [i] is the epenthetic vowel in Italian, and its position is fully predictable.

Epenthetic [i] is attested both historically and synchronically (17). (See also Cardinaletti & Repetti 2007.)

(17) epenthetic [i]

- |  |                       |                            |                |
|--|-----------------------|----------------------------|----------------|
| (a) historical:  | <i>alisna</i> >       | les[i]na                   | ‘awl’          |
|  | <i>blas(phe)mat</i> > | bias[i]ma                  | ‘s/he blames’  |
| (b) fixed phrases:   | <i>per scritto</i>    | per [i]scritto             | ‘written’      |
|  | <i>per scherzo</i>    | per [i]scherzo             | ‘as a joke’    |
|  | <i>in scuola</i>      | in [i]scuola               | ‘in school’    |
| (c) spoken varieties of Italian:                                     | <i>atmosfera</i>      | at[i]mosfera               | ‘atmosphere’   |
| (d) spoken varieties of Italian:                                     | <i>pneumatico</i>     | p[i]neumatico              | ‘tire’         |
|  | <i>psicologo</i>      | p[i]sicologo               | ‘psychologist’ |
| (e) American varieties of Italian (medial epenthesis): <sup>28</sup> | <i>picnic</i>         | [pikɪnikko] (Seneca 1927)  |                |
|  | <i>business</i>       | [bisɪnisɪsɛ] (Danesi 1985) |                |
|  | <i>box</i>            | [bokɪʂa] (Di Vita 1931)    |                |


Regarding the position of the epenthetic vowel, with word-medial clusters it is placed between two adjacent consonants that violate phonotactic or syllable constraints. For example, in (17c) the /tm/ cluster cannot be syllabified tautosyllabically as an onset (because /tm/ is not an acceptable onset cluster) or heterosyllabically as a coda + onset sequence (because /t/ is not an acceptable coda). With word-initial clusters, the position of the epenthetic vowel varies depending on the nature of the cluster. In older varieties of Italian, an epenthetic [i] was inserted before initial /sC/ clusters when they were preceded by a consonant. We see this in the fixed phrases involving a final sonorant consonant followed by an initial /s/ + consonant cluster (17b). (This type of epenthesis is no longer productive, and most speakers now pronounce the phrases in (17b) without the [i].) With non-native initial clusters, such as /pn/ and /ps/, an epenthetic vowel may be inserted between the consonants of the cluster (but not before them) in some spoken varieties of Italian (17d).<sup>29</sup>

Why does the position of the epenthetic vowel differ in (17b) and (17d)? The position of the inserted vowel in biconsonantal onsets (VCC or CVC) has recently been studied in detail by Broselow (2015), who notes that cross-linguistically the former is most frequent with /s/ + stop clusters and the latter with other clusters. The different epenthetic vowel position is accounted for using perceptual distance constraints. (See Broselow 2015 and references therein for more details.) Given this information, we might expect /l prato/ to be realized as \*[li.pra.to] rather than [il.pra.to] (16). In order to account for this, an alignment constraint is needed. I follow Bonet & Lloret (2005) who use Align(clitic-verb) to account for the position of pronominal clitics relative to the verb, as well as the ‘peripherality of epenthesis’ in Catalan, and formulate the relevant alignment constraint as Align(article-noun) (where ‘noun’ stands for any element in the noun phrase that immediately follows the definite article).

(18) Align(article-noun): align the right edge of the definite article to the left edge of the noun

This constraint allows us to account for the position of the article (before the noun), as well as the ‘peripherality of epenthesis’ or the fact that epenthesis does not separate the article from the following element. Crucially, this constraint is ranked below  $\sigma$ -structure and DEP.

(19)

/l prato/	$\sigma$ -structure	DEP	Align(art-noun)
(a) [lpra.to]	*! (/lpr/ onset)		
(b) [li.pra.to]		*	*!
(c) [il.pra.to] 		*	

The analysis presented here, namely, /l/ > [il], is superior to the others suggested in (12) for the following reasons. First, the claim that [il] derives from underlying /lo/ requires both vowel deletion as well as epenthesis, unnecessarily complicating the analysis (Vanelli 1992). Second, while many researchers have argued that /il/ is the underlying form of the article which surfaces faithfully as [il] in certain contexts, this analysis requires additional underlying forms and/or more complex derivations to account for the other forms of the article.<sup>30</sup>

### 4.3. /l/ > [lo]

The third form of the Italian definite article is [lo]. I will show that [lo] is another realization of /l/ which has undergone epenthesis.

- (20) /l/ > /lo/      (a) /l studente/ > [los.tu.den.te]/[lo.stu.den.te]      ‘the student’  
                              (b) /l t̄s<sub>i</sub>.io/ > [lot.fsi.o]                                      ‘the uncle’

Both Vanelli (1992) and Tranel & Del Gobbo (2002) conclude that [lo] derives from /l/. Regarding the quality of inserted vowel /o/, Vanelli (1992) suggests that it is morphologically determined, and Tranel & Del Gobbo (2002) propose two possible analyses: either it is “not a full-fledged lexical segment, but rather a floating segment”, or it is “a full epenthetic vowel whose quality is morphologically determined” (Tranel & Del Gobbo 2002: 198). Either way, they argue, its presence violates a special constraint, Dep(o).

Two questions immediately arise. Why do we find two different positions for the epenthetic vowel: sometimes before /l/ as in [il], and sometimes after /l/ as in [lo]? Why do the epenthetic vowels have different qualities: [i] in [il], and [o] in [lo]? I will address these questions in order.

First, the placement of the epenthetic vowel is determined by constraints on syllable structure: the position of the vowel (before or after /l/) results in optimal syllable structure in different contexts. As discussed above, in standard Italian, [lo] is used before words beginning with /s/ + consonant clusters and ‘inherently long’ consonants because the presence of [lo] satisfies certain prosodic constraints better than [il], and [il] is used in other contexts because it satisfies alignment constraints which [lo] violates.

How can we account for the different quality of the epenthetic vowel in Italian? If [i] is the epenthetic vowel, as illustrated in (17), why do we not have \*[l̄i studente] and \*[l̄i t̄sio]? (Note that the forms \*[l̄i studente] and \*[l̄i t̄sio] satisfy the same prosodic constraints as [lo studente] and [lo t̄sio].)

In Italian we find [lo] and not \*[li] because of morphological considerations (as suggested by Vanelli 1992 and Tranel & Del Gobbo 2002). We find the phonological default vowel ([i]) in morphologically non-salient positions (i. e., non-final), while at the end of a morpheme in the nominal

domain we find the morphological default vowel [o]. In other words, when epenthesis is necessary for phonological reasons, the quality of the epenthetic vowel may be influenced by the morphological structure of the word. For example, if a vowel is needed at the end of a morpheme in the nominal domain, an [o] is utilized since [o] is the morphologically neutral final vowel in nominals (Ferrari 2005).<sup>31</sup>

Summing up, given inputs /l + studente/ and /l + ts<sub>u</sub>io/, output forms with article [l] or [il] are ruled out because they violate high-ranking syllable structure constraints. We do not find a form with article \*[li] because the epenthetic vowel [i] is in a morphologically salient position which requires a morphologically neutral vowel. The output form with article [lo] does not violate any high-ranking phonological constraints, and it satisfies the requirement on epenthetic vowel quality in certain morphological contexts, although it does violate Align(article-noun).

This analysis is superior to one in which [lo] derives from /il/ (because both epenthesis and deletion are not necessary), one in which there are multiple inputs (because of the Minimal Redundancy Principle), and one involving ordered allomorphs (because we can account for the fact that an unmarked structure – a heterosyllabic parse of /sC/ – can ‘emerge’).

In conclusion, we have seen that the underlying form of the masculine singular definite article in Italian is /l/. The three allomorphs – [l], [il], [lo] – are derived from /l/ through phonological and morphological considerations. The analysis has a historical basis (see Vanelli 1992), and it finds independent support in various parts of the grammar. In the following section we will examine data from some northern Italian dialects that further support the analysis presented here.

##### *5. The masculine singular definite article in some northern Italian dialects*

In most northern Italian dialects<sup>32</sup> with masculine singular definite articles containing a consonant (some dialects only have vocalic articles), the prevocalic form of the article is [l] (although we also find other consonants, for example, [r]), and the preconsonantal form varies – [al], [el], [il], [əl] – depending on the quality of the epenthetic vowel in that particular dialect – [a], [e], [i], [ə], respectively.<sup>33</sup> Note that the quality of the epenthetic vowel is the same as the quality of the initial vowel of the definite article. This striking correlation between the quality of the epenthetic vowel and the form of the definite article lends support to the analysis presented above in §4.2.

While most northern Italian dialects have two forms of the masculine singular definite article (prevocalic [l] and preconsonantal [Vl]), some dia-

lects have three forms ([l], [Vl], [lV]), including dialects of Emilia-Romagna, Piedmont, and the Lunigiana area. (See Butler 1972, Clivio 1971, Repetti 1995, and Telmon 1975 for a discussion of the three forms of the masculine singular definite article in Piedmontese, Maffei Bellucci 1977: 104-105 for Lunigiana, and Repetti 1995, 1997 for Emilia-Romagna.)<sup>34</sup> For example, in the dialect of Donceto (province of Piacenza), as in standard Italian, the masculine singular definite article is pronounced [l] if adjacent to a vowel (21a), and the variant found before single consonants and acceptable onset clusters is [əl] (21b). Crucially, [ə] is the epenthetic vowel in this dialect (Repetti 1997). Nouns beginning with ‘unacceptable’ onset clusters employ the article [lə] with the epenthetic schwa positioned after the /l/ (21c), thereby satisfying the  $\sigma$ -structure constraint at the expense of the Alignment constraint.

(21)	Donceto			
(a)	/l ɔm/	>	[l ɔm]	‘the man’
(b)	/l gat/	>	[əl gat]	‘the cat’
	/l gras/	>	[əl gras]	‘the fat’
(c)	/l spet̪/	>	[lə spet̪]	‘the mirror’
	/l mlon̪/	>	[lə mlon̪]	‘the melon’

The analysis suggested above in §4 for the forms of the article in Italian applies (in part) to these languages as well. The position of the epenthetic vowel is fully predictable based on syllable considerations. In fact, Loporcaro (1996: 142-143, fn. 42) predicts the exact patterns in (21), and in particular (21c), when he says that in Emilian and Romagnol dialects we should not expect the definite article [al] with nouns beginning with /sC/ and other word-initial clusters that are argued to have an ‘extrasyllabic’ word-initial consonant, but instead we should expect a form with an epenthetic vowel before the /sC/. This is precisely what we find. One difference between Italian and these dialects is that the quality of the epenthetic vowel is affected by morphological considerations in Italian, but not in the dialect of Donceto. This might be due to the fact that the morphological structure of nouns in Donceto and some other northern Italian dialects is quite different from nouns in Italian.

## 6. Conclusions

Many recent contributions to the literature on the morpho-phonology of Italian, and specifically on the masculine singular definite article, have argued against the active role of the syllable in the determination of the definite article allomorph. I have shown how the facts used in those arguments are, in fact, consistent with a syllable-based analysis. Furthermore, I have

argued that synchronically the lexical form of the definite article is /l/, and the allomorphs – [l], [il], [lo] – all derive from /l/. This proposal is based on evidence from various sources: historical and synchronic morphological and phonological processes in Italian, as well as data from non-standard varieties of Italian and northern Italian dialects.

While Bertinetto (1999) correctly reminds us to keep diachronic regularities distinct from productive synchronic processes, we see that the role of the syllable continues to be productive synchronically in at least this corner of Italian morpho-phonology.

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### Notes

<sup>1</sup> The frequency of occurrence of the three allomorphs reported in Garrapa (2009: 218-219), based on Cresti & Moneglia (2005), is as follows: *il* 63%, *lo* 7%, prevocalic *l'* (as in (1ai)) 30%. She does not report the frequency of post-vocalic *l* (as in (1aii)). For more on the distribution of the masculine singular indefinite article, see Garrapa (2009), Marotta (1993), and references therein.

<sup>2</sup> The form [l] is also found in the 'inflected prepositions' *al* (< *a* 'to' + 'the'), *dal* (< *da* 'from' + 'the'), *sul* (< *su* 'on' + 'the'). Other 'inflected prepositions' exhibit other changes: *nel* (< *in* 'in' + 'the'), *del* (< *di* 'of' + 'the').

<sup>3</sup> The latter form is optionally found in casual speech. The optionality of post-vocalic [l] (1aii) vs the obligatory realization of prevocalic [l] (1ai) is explained in Renzi (1993: 221) as follows: postvocalic [l] is prosodically associated with the preceding element, but is grammatically more closely associated with the word that follows; this type of imperfect alignment of prosodic and morphological categories, although possible, is not optimal. For more on the distribution of this allomorph, see Agostiniani (1989), Garrapa (2009: 217), Maiden (1995: 118).

<sup>4</sup> Article selection before glides exhibits great variability, and there is also variation in allomorph selection with words beginning with non-native clusters (Bertinetto 1999, Davis 1990, Klajn 1972, Marotta 1993, McCrary 2004, etc.).

<sup>5</sup> I will discuss the input form of the article below in Section 4. For now, I will represent the input form of the article as ART, which includes the list of allomorphs.

<sup>6</sup> See Krämer 2009, McCrary 2004, etc. for evidence that the dental affricates are always long intervocalically (in word-medial and word-initial position) and preceded by a short stressed vowel (unstressed vowels are always short), while the palatal affricates can be either long or short intervocalically (in word-medial position) and



preceded by either a short or long stressed vowel, respectively.

<sup>7</sup> An additional argument against a phonological explanation of definite article selection involves the use of [il] before r-initial words, such as *il ramo* 'the branch'. Since /r/ sequences are avoided word-internally, it is difficult to motivate selection of an article that would result in that sequence. However, Maiden (1995: 118) suggests that "the sequence [lr] may be a pronunciation based on orthography, since in many areas of Tuscany [lr] is regularly assimilated to [rr] across word boundaries, as in *ir re il re* 'the king'." Furthermore, in some varieties, such as that spoken in Elba, the article /lo/ is, in fact, used with r-initial nouns (Giannelli 1976: 73).

<sup>8</sup> McCrary (2004: 108) provides a similar argument against the syllable-based analysis. In some central and southern Italian varieties, /m/ is always long in pretonic prevocalic position, suggesting that it, too, is an "inherently long" segment. "If *lo* is required before inherently long consonants, because they are underlyingly heterosyllabic, then *lo* should also be required before pre-vocalic pre-tonic /m/ in order to permit resyllabification of the long consonant: e.g. *lo mόνte* /lom.mόνte/ instead of the actual *il monte* 'the large hill'. Indeed, there are no such dialects." However, this fact does not argue against the analysis presented here because /m/ clearly differs from the other 'inherently long' consonants in a crucial way: it is always long in pretonic position only, and therefore its length in this particular context must be due to other, perhaps purely phonetic, reasons.

<sup>9</sup> We find another similar process in many of the same varieties: nasal + /f, v/ > nasal + /p, b/ + /f, v/. For example, *inferno* 'hell' may be pronounced i[mpf]erno in many central and southern dialects and regional varieties of Italian (Camilli 1971, Canepari 1980, Muljačić 1976). The stop in these cases also seems to be an epenthetic element or the result of coarticulation rather than the result of a phonological process of 'affrication' since [pf] and [bv] are not phonemic affricates in these varieties. Camilli (1971: 87) suggests that this process serves to avoid "la leggera nasalizzazione della vocale precedente" ('the light nasalization of the preceding vowel').

<sup>10</sup> This portmanteau constraint includes a series of constraints that ban unacceptable structures in Italian. For example, it allows only vocalic nuclei, onset clusters consisting of certain obstruent + liquid/glide combinations, a coda consisting of a sonorant, /s/, or the first half of a geminate, etc. In the tableaux I identify the specific structure incurring the violation of this constraint.

<sup>11</sup> Bertinetto (1999: 88, fn. 24) refers to variation in outputs such as *nel scegliere* and *nello scegliere* 'in choosing', and the use of both *il* and *lo* with words beginning with a palatal nasal. This type of variation is beyond the scope of this paper, but see Russi (2006) for a usage-based account of inter- and intra-individual variation in article selection.

<sup>12</sup> Davis (1992) shows that /sC/ clusters in English sometimes behave tautosyllabically and sometimes heterosyllabically: while a closed penultimate syllable attracts stress and an open penultimate syllable does not attract stress, a penultimate vowel followed by an /sC/ cluster may or may not attract stress (suggesting that its syllabification varies). Davis concludes that in these cases the height of the vowel determines whether or not it will be stressed: a high penultimate vowel + /sC/ does not attract stress, while a non-high penultimate vowel + /sC/ does.

<sup>13</sup> There is variability in article selection in some contexts, such as with non-native clusters, for example, /pn/: *lo pneuma/il pneumatico* 'the spirit'/'the tire' (Bertinetto 1999). Perhaps in these cases the variability in article selection reflects the fact that no matter how these clusters are syllabified, they always violate a  $\sigma$ -structure constraint. If the *pn* cluster is syllabified heterosyllabically ([lop.ne...]/[ilp.ne...]), the output forms contain an unacceptable coda; if the cluster is syllabified as a complex onset ([lo.pne...]/[il.pne...]), the resulting forms contain an unacceptable onset.

Furthermore, it is possible that there is a lexical effect in the choice of the article reflecting extra-linguistic considerations such as formality level. See also note 4.

<sup>14</sup> How is the articulatorily complex sequence /lsC/ syllabified in word-internal position (as in *solstizio* ‘solstice’)? A tautosyllabic parse of /sC/ results in *solstizio*, while heterosyllabic /sC/ is found in *solstizio*. Since there is no evidence of *ls* codas in Italian, and there is evidence of /sC/ onsets, we can conclude that the optimal output is *solstizio*. This analysis is supported by findings reported in Bertinetto (2004: 368, fn. 7): in a syllabification experiment, speakers invariably syllabified /CsC/ clusters as /C.sC/.

<sup>15</sup> I use the term epenthesis to refer to segment insertion in general. More specific terminology includes *pro(s)thesis* (insertion of a segment in word-initial position), *anaptyxis* (insertion word-medially), *paragoge* and *epithesis* (insertion in word-final position).

<sup>16</sup> These points can also be used to argue against a model in which the input includes the list of possible allomorphs. See §4.

<sup>17</sup> For a discussion of the similarities between the masculine singular accusative clitic pronoun and the masculine singular definite article in the Neapolitan dialect, see Bafle (2008).

<sup>18</sup> *lo > l > el* is also the historical evolution of the article in Catalan (Bonet & Lloret 2005, Colomina 2002, Wheeler 2005). Thanks to a reviewer for bringing this to my attention.

<sup>19</sup> This paper deals with the masculine singular definite article only. The feminine singular definite article is bimorphemic /l/ + /a/, and therefore subject to different morpho-phonological processes.

<sup>20</sup> In a number of cases I have translated the authors’ original proposals into different terms. For example, the authors may not explicitly call a particular form the ‘underlying form’ or ‘input form’ of the definite article, but I believe that their proposals can be reinterpreted as such. Other approaches can be found in Faust *et al.* 2018, Larsen 1998, Radzinski 1987, etc.

<sup>21</sup> Krämer (2009: 147-148) posits /il/ and /lo/ as input forms, but notes problems with this analysis and concludes that Italian article selection might just be “a quirky offshoot of prescriptivism, and therefore outside the realm of grammatical analysis.”

<sup>22</sup> Mascaró (1996b) posits /l/ and /il/ as separate lexical items, but he does not address [lo]. His claim is that the case of [l]~[il] is one of phonologically controlled external allomorphy, discussed below.

<sup>23</sup> Russi (2006) also argues that *il* is the ‘core’ allomorph because of its higher frequency.

<sup>24</sup> Thanks to a reviewer for pointing this out.

<sup>25</sup> One reviewer points out that this analysis “does not mirror the competence of the native speaker”. This is exactly right: the input form is not used as a mirror of the native speaker’s competence, but as a component in a theory that explains the native speaker’s competence. Discussion of the theory of underlying representations in phonology is beyond the scope of this article (see Cole & Hualde 2011, Hyman 2018, etc.).

<sup>26</sup> A reviewer points out that the orthographic representation of this form of article (*l*) suggests that speakers perceive it as derived from *il* through apheresis.

<sup>27</sup> The examples in (14) and (15) are from Renzi (1993: 221, fn. 17). A reviewer points out problems with his data, namely that the initial vowel of *era* in (14) is stressed, and that the form in (15a) is indeed grammatical for him/her in certain contexts. For a thorough description of vowel elision in Italian, see Garrapa (2009).

<sup>28</sup> The quality of the final vowel in these borrowed nouns is determined, in part, morphologically, and is not discussed in this paper. See Cardinaletti & Repetti (2007), Repetti (2003, 2006, 2012), and Thornton (2001).

<sup>29</sup> In different varieties of Italian, nouns beginning with non-native clusters such as /pn/ and /ps/ can be pronounced in various ways: *il piscicologo* (with epenthesis), *il sicologo* (with deletion), *il psicologo*, *lo psicologo*. The choice between the first two forms (with epenthesis vs deletion) is made on the basis of the relative ranking of the DEP vs MAX constraint. The choice between the last two forms is made on the basis of the relative ranking of subcomponents of the  $\sigma$ -structure constraint. The form *il psicologo* contains either an illegal onset cluster (*il.psi-*) or an illegal coda cluster (*ilp.si-*), while the form *lo psicologo* contains either an illegal onset cluster (*lo.psi-*) or an illegal coda (*lo.p.si-*). One reviewer also accepts *uno piscicologo*.

<sup>30</sup> One piece of evidence that Dressler (1985) uses to support the claim that /il/ is the underlying form of the article is that this is also the citation form of the article. However, the fact that [il] is the citation form does not imply that /il/ must also be the underlying form. We would not expect [l] to be the citation form of the article since it is unpronounceable. We would not expect \*[li] with epenthesis after the /l/ since this is not an actual output form of the article in any context, and since /l/ is not an optimal onset (low sonority onsets are preferred) (Vennemann 1987). Since [lo] is the least frequently occurring form of the article, we would not expect it to be the citation form. That leaves [il] as the best option.

<sup>31</sup> The claim is not that every case of [o] at the end of an element in the nominal domain is epenthetic; for example, the final [o] of *ragazzo* is a morpheme, not an epenthetic vowel. Instead, if a vowel is needed in that context for phonological reasons, the morphologically 'neutral' vowel is selected. For more details on this proposal, see Artés 2013, Cardinaletti & Repetti 2007, Moradi, Aronoff & Repetti 2018, Repetti 2012. One reviewer asks if the [a] of the feminine singular definite article (*la*) is epenthetic. That article is bimorphemic /l/ + /a/, so the final [a] is a morpheme, not an epenthetic vowel. See note 19.

<sup>32</sup> See Vanelli (1992) for a study of the history of the definite article in northern Italian dialects.

<sup>33</sup> [ol] is also found. Formentin (2000: 194, note 51), Renzi (1993: 223, note 22), and Vanelli (1996: 374) claim that [o] is a velarized epenthetic vowel, while Bertoletti (2004: 19) argues that /ol/ derives from the two allomorphs, *o* + (*e*)*l*.

<sup>34</sup> The Maltese definite article system is also similar to the system employed by standard Italian and those northern Italian dialects with three article allomorphs: the definite article is realized as [l] before vowels, [li] before /s/ + consonant clusters, [il] before non-coronal consonants. Crucially, [i] is the epenthetic vowel in Maltese. Maltese additionally employs a fourth allomorph: [i] + word-initial gemination of coronal consonants (Robert Hoberman, personal communication).

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