

1 THE “UNTAMED” /s/ OF ITALIAN DIALECTS

An overview of the singular behaviour
of Italo-Romance sibilants

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2 *To Giorgio, my permanent master!*

3 1. *The wildness of /s/ in Italo-Romance*

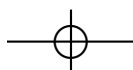
4 1.1. Sibilants within the syllable and beyond

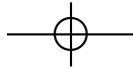
5 There is abundant evidence to suggest that the phonologically “wildest” segments
6 in the inventory of a language are the coronal fricatives, namely the *sibilants*.¹
7 Among sibilants we can distinguish various segments: from a phonetic point of
8 view we can talk about at least ten different realisations in languages, as Ladefoged
9 & Maddieson (1996: 164) do.² These types of sibilants in some languages may
10 assume a phonemic role, while in others they can appear as allophones of other
11 sibilants. In certain languages, like many Italian dialects (including its relevant
12 substandard regional varieties), several of these sounds may appear as allophones
13 of one single phoneme, /s/.³ In this paper, eight sibilants will be discussed which
14 phonologically are in complementary distribution and therefore will be classified
15 as allophones of /s/: two alveolars: [s, z], two prepalatals: [ʃ, ʒ], and other near-
16 homorganic variants, such as alveo-palatal [ç, ʒ] and retroflex [ʂ, ʐ].

¹ In this paper, the coronal place of articulation will refer to the use of the tip of the tongue.

² Ladefoged & Maddieson (1996: 138, 145) mention as the most important articulatory gesture of sibilants the turbulent airstream generated by a very narrow constriction, “when the jet of air created by the dental or alveolar constriction strikes the teeth”. Dental and alveolar places of articulation will be represented in this paper by the [coronal] phonological feature.

³ The slashes // will express phonemic role, while square brackets [] will be used to refer to surface form variants.





17 Sibilants are “special” for further phonetic, phonological and typological rea-
 18 sons as well. Sibilants are generally more common in languages than other frica-
 19 tives (except for /h/,⁴ cf. the UPSID database),⁵ even if fricativity is the only
 20 manner of articulation which has possible phonemic segments in each place of
 21 articulation (cf. the IPA chart of pulmonic consonants).⁶ Moreover, /s/ is much
 22 more likely to occur in extrasyllabic position than other fricatives (Baroni 2014a).
 23 Plenty of phonological studies deal with the unpredictable behaviour of /s/, espe-
 24 cially before a consonant.⁷ Several arguments have been raised in connection with
 25 the syllabification of /sC/ clusters, both for and against their heterosyllabicity, or
 26 the extrasyllabicity of /s/ (cf. Kaye 1992; Treiman, Gross & Cwikiel-Glavin 1992;
 27 Marotta 1995; Lowenstamm 1996; Morelli 1999; Bertinetto 1999, 2004; Vaux &
 28 Wolfe 2009; Cser 2012; Baroni 2014a, 2014b; Huszthy 2016; etc.).

29 The issue of preconsonantal /s/ is particularly popular in Romance linguistics,
 30 which is diachronically motivated by the various outcomes of /sC/ clusters in
 31 Romance languages. For instance, initial /sC/ clusters in Ibero-Romance were
 32 subject to vowel prothesis – for example in (Spanish) *escuela* ‘school’ (← Lat.
 33 *scola*) and (Portuguese, Catalan) *escola* –, as well as in several Central-Italian
 34 dialects – such as in (Fiorentino) *iscuola* ‘school’. On the other hand, in French,
 35 /s/ was entirely deleted before a consonant, subsequently to the similar vowel
 36 prothesis, such as in *école* ‘school’. Hypothetically, these processes are arguments
 37 for the fact that /sC/ was diachronically parsed as heterosyllabic in Romance.

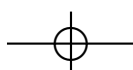
38 The status of preconsonantal /s/ was ambiguous even in the phonology of Latin:
 39 in fact, the issue is known as “*s impurum*” in this field. Cser (2012) points out that
 40 in the metre of Classical Latin poetry, /sC/ clusters appeared mainly as hetero-
 41 syllabic, but in absence of space they certainly were extrasyllabic. From another
 42 perspective, /sC/ clusters could belong to both one and more syllables in a well-
 43 formed verse, which can be verified through the scansion of metric forms such as
 44 hexameters or pentameters. Consequently, the singular phonological behaviour
 45 of preconsonantal /s/ can already be documented in Latin as well. However, the
 46 phonological peculiarities regarding the sibilants are not confined only to syllable
 47 structure. As mentioned above, in the dialects of Italy several sibilant variants
 48 may occur in preconsonantal, postconsonantal and even intervocalic position,

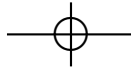
⁴ However, from a phonetic point of view /h/ can also be considered a voiceless vowel, rather than a consonant (cf. Balogné Bérces & Huber 2010).

⁵ http://web.phonetik.uni-frankfurt.de/upsid_info.html

⁶ <http://www.internationalphoneticalphabet.org/ipa-sounds/ipa-chart-with-sounds/>

⁷ /s/ plus consonant clusters will be referred as “/sC/”.





49 which often are in complementary distribution with /s/ (cf. section 2; and see
 50 Rohlfs 1966: 281–285, 379–381). Furthermore, there are also various phonological
 51 processes which are limited to the sibilants: like s-deletion in certain consonant
 52 clusters (cf. section 4.1), or the fact that a prosodic word in Italian may end in
 53 sibilants without schwa insertion (in this case /s/ behaves as a sonorant),⁸ and
 54 finally, regressive voice assimilation which concerns only /sC/ clusters in Italian,
 55 and it is absent in the pronunciation of loanwords which contain other kinds of
 56 obstruent clusters (cf. section 4.2).⁹

57 1.2. Some variants of /s/ in Italian dialects

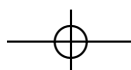
58 Phonetically there are almost innumerable possible surface realisations of coronal
 59 fricatives (cf. Ladefoged & Maddieson 1996: 138–139, 145–146). Italian coronal
 60 fricatives will be formally categorised here in four groups according to their places
 61 of the articulation: alveolar [s], alveo-palatal [ç], prepalatal [ʃ] and retroflex [ʂ].¹⁰

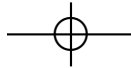
62 From an articulatory point of view, there are several differences between the
 63 typical pronunciations of /s/, in concordance with the dialectal regions of Italy (cf.
 64 Rohlfs 1966; Maiden & Parry 1997; Maturi 2002; De Blasi 2009; Loporcaro 2009).
 65 At least four patterns can be distinguished: a northern-like, a central, a central-
 66 southern and an extremely southern type of palatalisation. The most frequent
 67 types of sibilants often have a “nickname” as well in colloquial Italian: for in-
 68 stance “Venetian s” [ç] (an alveo-palatal realisation, used among others in Veneto

⁸ A prosodic word in Italian may end only in vowels or sonorants, and consequently, loanwords which contain a final obstruent are adopted by adding a final vowel (mostly schwa; cf. Domokos 2001). At the same time, /s/ does not behave as an obstruent in this case, because loanwords with a final /s/ usually are pronounced by Italians without a schwa at the end (cf. Nespor 1993: 178–179); that is, phonologically /s/ shows sonorant-like behaviour as well (cf. Baroni 2014a, 2014b; Huszthy 2016).

⁹ In native Italian vocabulary the only kind of obstruent cluster is /sC/ since other clusters were simplified in the history of Italian through deletion or place assimilation, e.g., the Latin word *abstractus* ‘abstract’ in Italian became *astratto*, where the first obstruent cluster were dissolved by deletion, while the second one by regressive place assimilation (cf. Rohlfs 1966: 338).

¹⁰ The place of articulation of [ʃ, ʂ] is also called postalveolar according to the IPA; however, the category “prepalatal” (which refers to a place of articulation which can be both coronal and palatal, i.e., the tip of the tongue approaches the palate) is used here for a reason: the process turning /s/ into [ʃ] will be called “palatalisation”, just like in the literature on Italian phonology, and phonological theory in general (cf. Rohlfs 1966; Repetti 2000; etc.).





69 and Emilia-Romagna);¹¹ “Tuscan *s*” [s] (the “regular” alveolar pronunciation, as
 70 in the greater part of Tuscany, Umbria and Marche, and theoretically even in
 71 Standard Italian);¹² the so-called “Neapolitan *s*” [ʃ] (a prepalatal version which
 72 appears before certain consonants, popular mostly in Campania, Southern Lazio
 73 and Abruzzo); or the “Sicilian *s*” [ʂ] (a retroflex pronunciation, common in Sicily
 74 and in some other, extremely southern varieties).

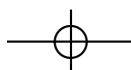
75 It should be noted that prepalatal /ʃ/ is also present in Standard Italian (and
 76 in most of the dialects) as a phoneme, but its distribution is different from the
 77 “Neapolitan *s*” (which is an allophone of /s/, and in fact it is present only in
 78 preconsonantal position, even if phonetically it is also pronounced as [ʃ]). First
 79 of all, the Italian /ʃ/ phoneme appears almost exclusively in intervocalic position
 80 and it is usually geminated (except in some north-eastern varieties), e.g., *capi*[ʃ:]*i*
 81 ‘to understand, S2’, *pe*[ʃ:]*e* ‘fish’, [ʃ:]*opero* ‘strike’, etc. On the other hand, the Ital-
 82 ian /ʃ/ phoneme is diachronically the result of the Latin [sk] plus palatal vowel
 83 cluster, while the dialectal distribution of preconsonantal [ʃ] is the same as the
 84 distribution of /s/ (cf. Krämer 2009: 49).

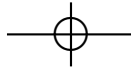
85 2. *The case study of the “Neapolitan *s*”*

86 In the Neapolitan dialect (as well as in most of the Campanian varieties), the /s/
 87 phoneme may appear in six sound variants, depending on its phonetic environ-
 88 ment. In intervocalic position it is usually pronounced as an alveolar voiceless [s]
 89 (which is the main variant, as in Tuscany). In /sC/ clusters, before the alveolar
 90 voiceless plosive [t], it is pronounced the same way, but if the second member of
 91 the cluster is a voiced alveolar consonant (such as [d, n, l, r]), the sibilant also
 92 becomes a voiced [z] by voice assimilation (or *s*-voicing, cf. section 4.2). When
 93 preceding a labial or a velar consonant, the sibilant gets palatalised to [ʃ] before
 94 voiceless segments, and to [ʒ] before voiced ones. And finally, if the /s/ follows an

¹¹ Otherwise, in Northern Italian varieties near-alveo-palatal pronunciations are widespread (even in the north-west, such as in Piedmont and Liguria), which will be discussed in detail in section 3.

¹² The adjective “theoretically” is important here, because Standard Italian does not have a unified pronunciation norm (cf. Beccaria 1988: 109; Krämer 2009: 22), and so regional pronunciation models dominate even the substandard varieties: in this manner regional articulation gestures of sibilants are transferred to Standard Italian as well.





95 alveolar sonorant (like [n, l, r]), it usually gets affricated to [tʃs], and additionally,
 96 it may undergo partial or total voicing, turning into a [dʒ] (cf. Huszthy 2012).¹³

97 I claim that the six variants mentioned above ([s, z, ʃ, ʒ, tʃs, dʒ]) are all
 98 allophones of the /s/ phoneme in Neapolitan (and in most of the Campanian
 99 dialects). These sounds even in the regional Italian (substandard) varieties of
 100 Campania are in free variation with the alveolar [s] (or [z] if the segment is affected
 101 by voicing), which highlights the fact that they are allophones from a synchronic
 102 point of view, too.

103 In the following parts of section 2, I will aim to develop the distributional
 104 conditions of these allophones one by one, according to various descriptions of
 105 the Campanian dialects (Radtke 1997; De Blasi & Imperatore 2000; Iandolo 2001;
 106 Maturi 2002; De Blasi 2009; Ledgeway 2009) and to my personal investigations
 107 carried out in Naples, based on approximately 30 hours of speech recordings,
 108 made with more than 50 Campanian informants (cf. Huszthy 2012).¹⁴

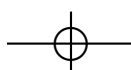
109 2.1. Intervocalic position

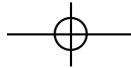
110 The most common positional appearance of /s/ is intervocalic. In this position
 111 it appears almost exclusively as voiceless [s] in Neapolitan, similarly to the other
 112 Southern Italian dialects, which are generally characterised by the voicelessness of
 113 intervocalic sibilants (cf. Loporcaro 2009). On the other hand, in Northern Italian
 114 varieties intervocalic sibilants are broadly voiced, due to lenition (cf. Savoia 1997;
 115 Loporcaro 2009).

116 For the same reason, the voicing contrast between [s] and [z] is practically
 117 neutralised in almost all Italian varieties (except some Tuscan dialects); therefore,
 118 generally [z] is not considered a phoneme in Italian phonology (cf. Krämer 2009:
 119 48). However, Maturi (2002) and Ledgeway (2009) claim that the voiced coun-
 120 terpart of [s] begins to gain ground even in the south, owing to the impact of the
 121 mass media and the prestige of Standard Italian, which is severely influenced by
 122 the northern accents. All the same, in the strict Neapolitan dialect intervocalic /s/
 123 still appears predominantly as a voiceless [s] (cf. Ledgeway 2009: 99), e.g., (Neap.)
 124 *rosa* [ˈrɔːsə] ‘rose’, *musico* [ˈmuːsəkə] ‘musician’, *cerasa* [tʃəˈraːsə] ‘cherry’, etc.

¹³ These occurrences cover the entire distribution of /s/ in the Neapolitan dialect since by phono-
 tactic reasons it can only follow alveolar sonorants (cf. Ledgeway 2009: 99).

¹⁴ Given the theoretical purposes of this paper, the corpus and the experimental methods are not
 described here, for details consult Huszthy (2012).





125 As it is testified by the corpus, among the informants of this research some
 126 speakers are not even capable of pronouncing a voiced [z] in this position, which
 127 is evidenced by certain metalinguistic utterances: for instance, a young male
 128 speaker from Naples city centre once tried to impersonate northern speakers,
 129 but he still pronounced voiceless intervocalic sibilants.¹⁵

130 A weak tendency of voicing in intervocalic position characterises mostly the re-
 131 gional Italian varieties spoken in Campania, but it may occur even on the dialectal
 132 level (Maturi 2002: 83; Radtke 1997: 75). In Neapolitan, partially or fully voiced
 133 intervocalic sibilants tend to appear mostly in stressed syllables, e.g., (Neap.)
 134 *Vesuvio* [və'zu:vjə] 'Vesuvius', *rusario* [ru'za:rjə] 'rosary', *petrusino* [pətru'zi:nə]
 135 'parsley', *spusà* [ʃpu'za:] 'to marry' (vs. *sposo* [ʃpɔ:sə] 'groom'), etc.; but all of
 136 these examples are more commonly pronounced with voiceless sibilants.¹⁶ Albeit,
 137 in unstressed syllables, particularly if the word stress is farther than the adjacent
 138 syllable, the /s/ remains always voiceless, e.g., (Neap.) *brinnese* ['brinnəsə] 'toast',
 139 *mesuratore* [məsurə'dɔ:rə] 'worker who reads the meter', *pusetivamente* [pusəɖi-
 140 va'mentə] 'positively', etc.¹⁷

141 2.2. Postconsonantal sibilants (affrication)

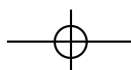
142 If /s/ becomes the member of a consonant cluster, it has other realisations: if it is
 143 the first member of the cluster, it may be palatalised, if it is the final member, it
 144 may be affricated. Let us first consider the latter case.

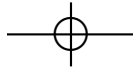
145 According to the phonotactics of Neapolitan, /s/ can follow only the coronal
 146 sibilants [n, l, r]; in other cases the members of the cluster normally get sep-
 147 arated by a schwa epenthesis, e.g., (Neap.) *clacson* ['klakkəsɔn] 'horn', *ippsilon*
 148 [ippəsi'lɔnnə] 'upsilon', *Hamšik* [ammə'sikkə] 'Slovak football player of the S.S.C.
 149 *Napoli*', etc.

¹⁵ A relevant sentence pronounced by the speaker was: "Noi diciamo *chie[s]a*, *-[s]a*, *-[s]a*! Non come lo dicono gli altri che dicono *chie[s]a*." 'We say *church*, *church*, *church*! Not like others, who say *church*.' As it is obvious, the speaker pronounced the word *chiesa* 'church' with a voiceless intervocalic [s] even when he aimed to pronounce it with a voiced [z], by imitation of the Northern Italian accent.

¹⁶ Maturi (2002: 84) also reports hypercorrections arising from the *s*-voicing tendency in stressed syllables in the regional Italian varieties of Campania, e.g., *buona* ['ze:]*ra* 'good evening' (vs. It. *buona* [s]era), *venti*['ze]tte 'twenty-seven' (vs. It. *venti*[s]ette).

¹⁷ The small bottom circle in the transcription (like [ɖ]) marks here a partially voiced realisation of intervocalic obstruents.





150 When /s/ follows a coronal sibilant, it usually gets affricated to [tʃ] (as well
 151 as in the Campanian regional varieties of Italian). The affrication process is even
 152 lexicalised in the spelling of many words (where the letter *z* stands for the affricate
 153 sibilants), e.g., (Neap.) *penzo* [ˈpɛntʃɔ] ‘to think, SI’ (← Lat. *pensare*), *’nzomma*
 154 [nˈtʃommə] ‘so’ (← Lat. *in somma*), *perzona* [pɛrˈtʃoːnə] ‘person’ (← Lat. *per-*
 155 *sona*), *perzeca* [ˈpɛrtʃɛkə] ‘peach’ (← Lat. *persica*), etc.

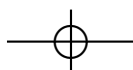
156 In the dialectal data, the appearance of /s/ after /l/ is not attested, because
 157 the /l/ was vocalised in preconsonantal position. However, diachronically it is
 158 well traceable that the /l/ was vocalised only at a later stage after it had caused
 159 affrication to the /s/, and a counterbleeding order can be discovered between the
 160 two processes, e.g., (Lat.) *falsus* → **fal*[tʃ]o → (Neap.) *fauzo* [ˈfawtʃɔ] ‘fake’, (Lat.)
 161 *celsa* → **cel*[tʃ]a → (Neap.) *ceuzza* [ˈtʃɛwtʃɔ] ‘mulberry’, **salsa* → **sal*[tʃ]a →
 162 (Neap.) *sauza* [ˈsawtʃɔ] ‘sauce’, etc.¹⁸

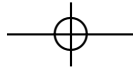
163 The voiced counterpart of the affricate sibilant may appear as a result of a
 164 further phonological step, an inclination to voicing if the /s/ is preceded by the [n],
 165 probably by a progressive voicing provoked by the nasal stop (which is a frequent
 166 phonological process in Southern Italian dialects, and otherwise in several other
 167 languages as well), e.g., (Neap.) *penziero* [pɛnˈdʒjɛ:rɔ] ‘thought’, *a panza mia*
 168 [a.pandʒaˈmiːjə] ‘my stomach; but partial voicing of the affricate may occur even
 169 after the other sibilants as well, e.g., *fuorse* [fwordʒə] ‘maybe’, etc. (cf. Ledgeway
 170 2009: 99).¹⁹

171 As a concluding remark, the affricational tendency of postsonorant /s/ turns
 172 out to be very productive in Neapolitan (and in the regional Italian varieties as
 173 well), it also appears in sandhi position, and it can be documented in loanwords
 174 as well, e.g., (Neap.) *i’ nun sapevo* [inundʒaˈbɛ:və] ‘I didn’t know’, (Reg. It.) *nel*
 175 *senso* [nɛlˈtsɛntʃɔ] ‘in that sense’, *il Signore* [iltsinjˈnoːrɛ] ‘the Lord’, *per sempre*

¹⁸ The evolution of the /l/ plus consonant clusters also has a recent fourth step in Modern Neapolitan: the “reconsonantalisation” of the formerly vocalised /l/ in /v/, as in the vacillating pronunciation variants of the three words mentioned above: *fauzo* → *favezo* [ˈfɑ:vɛtʃɔ], *ceuzza* → *ceveza* [ˈtʃɛ:vɛtʃɔ], *sauza* → *saveza* [ˈsɑ:vɛtʃɔ]; and furthermore in other /lC/ clusters as well, e.g., (Lat.) *altus* → (Neap.) *auto* [ˈawtə] → *àvuto* [ˈa:vətə] ‘tall’, (Lat.) *caldus* → (Neap.) *caudo* [ˈkawrə] → *cavero* [ˈka:vərə] ‘hot’, etc.

¹⁹ The voicing of [tʃ] after the nasal stop occurs only word-internally, and almost never before the word-final schwa; cf. *penzo* [ˈpɛntʃɔ] ‘to think, SI’ vs. *penzammo* [pɛnˈdʒammə] ‘to think, PI’. A similar kind of final obstruent devoicing (even before an epithetic schwa) is generally present in the synchronic phonology of Neapolitan, e.g., *maggio* [ˈmattʃ(ə)] ‘may’, *luglio* [ˈlucc(ə)] ‘July’, etc. (cf. Huszthy 2012).





176 [per'tsɛmbɾe] 'forever'; *jeans* ['dʒint͡sə], *Gonzalo* [gon'dza:lo] 'first name of the
177 Argentinian football player, Higuain', etc.²⁰

178 2.3. Preconsonantal sibilants (palatalisation)

179 There are four possible sibilant variants in Neapolitan which may appear before a
180 consonant: [s, z, ʃ, ʒ] (cf. Ledgeway 2009: 99). The segment considered the main
181 allophone is still [s], but it appears only before the voiceless alveolar [t], like in
182 the following examples: (Neap.) *stazione* [stat͡ts'jo:nə] 'station', *strunz* ['strunt͡s]
183 'idiot', *past* ['pa:st(ə)] 'sweets', etc.²¹

184 In front of voiced alveolar consonants (both obstruents and sibilants: /d, n, l,
185 r/), sibilants preserve their alveolar place of articulation, but undergo voicing, e.g.,
186 *sdamma* ['zdammə] 'dame', *sdizza* ['zditt͡sə] 'anger', *sninfia* ['zninjfjə] 'nymph',
187 *slavato* [zla'va:tə] 'washed out', (Reg. It.) *srotolare* [zrodo'la:re] 'unroll', etc.²²

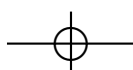
188 When /s/ occurs next to a non-coronal consonant, it gets palatalised to [ʃ] or
189 [ʒ], depending on the voice value of the following segment. The palatalisation
190 of /s/ before a consonant is a general tendency in the central-southern dialects of
191 Italy, in certain areas it happens even before coronal consonants, e.g., in Abruzzo,
192 Molise, South-Eastern Lazio and certain internal territories of Campania (cf.
193 Maturi 2002; Loporcaro 2009; Lorenzetti 2015). It seems that in Neapolitan, the
194 absence of palatalisation before coronal consonants is exceptional, due to the
195 preservation of the place feature. The process may be easily described in the
196 framework of classical SPE phonology (Chomsky & Halle 1968) by the following
197 rewrite rule: (Neap.) /s/ → [ʃ] / — C[−coronal],²³ i.e., underlying /s/ appears

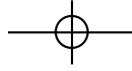
²⁰ However, the affrication process seems to be generally inactive in loanwords if the /s/ follows an /r/, e.g., *piercing* [pir'siŋgə], *New Jersey* [nu'ddʒɛrsi], etc.

²¹ The last two examples are lexicalised in Neapolitan without a final schwa, which slightly contradicts a basic phonotactic restriction of Neapolitan (viz., consonant ending words are not allowed), but there are a few similar lexicalised examples which end mostly in sibilants (first of all invariable insults), e.g., *focess!* [fo'fɛss] 'shut up!', *si' scarz* [si'ʃkarts] 'you're weak', *pisciazz* [pi'ʃat͡s] 'urine', etc. (This fact is in compliance with an initial statement of the paper about sibilant-ending words, that is, sibilants may appear in the function of sonorants, cf. footnote 9.)

²² Clusters like /s/ plus /r/ are non-existent in Neapolitan vocabulary, but the informants pronounced with s-voicing the Italian word *srotolare*.

²³ The signs used in the rewrite rule are as follows: the brackets / / and [] are still referred to the underlying and the surface forms; the arrow → alludes to the transformation among the two levels; the slash / indicates the phonetic environment in which the process takes place; while the underscore — represents the position of the affected segment (cf. Chomsky & Halle 1968).





198 on the surface as [ʃ] before consonants, except before coronals (these phenomena
 199 will be analysed in OT in section 3, while other /s/-allophones will be represented
 200 with rewrite rules in section 2.4). In this approach, the prospective voicing of the
 201 sibilant before voiced consonants is a separate step, due to s-voicing or regressive
 202 voice assimilation (cf. section 4.2).

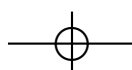
203 As a result, before bilabial, labiodental and velar voiceless consonants, sibilants
 204 appear as a prepalatal [ʃ] in Neapolitan (in both word-initial and word-internal
 205 position), e.g., (Neap.) *Spaccanapule* [ʃpakka'na:pələ] ‘a famous street in cen-
 206 tral Naples’, *aspettà* [a:ʃpət'ta:] ‘to wait’, *sfastidio* [ʃfas'ti:rjə] ‘boredom’, *asfardo*
 207 [a'ʃardə] ‘asphalt’, *scarrafone* [ʃkarra'fo:nə] ‘cockroach’, *Pasquale* [pa'ʃkwɑ:lə]
 208 ‘Pascal, a frequent given name’, etc. Moreover, /sC/ clusters vacillate between
 209 prepalatal and alveolar pronunciations in the regional accents of Standard Italian,
 210 e.g., (reg. It.) *ospedale* [o:s/ʃ] ‘hospital’, *soddi* [s/ʃ] *fatto* ‘satisfied’, *fa* [s/ʃ] *chifo* ‘disgust-
 211 ing’, etc.

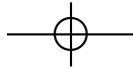
212 On the other hand, /s/ before voiced non-coronal consonants appears as a [ʒ]
 213 in Neapolitan, e.g., (Neap.) *sbirro* [ʒbirrə] ‘policeman’, *svacantato* [ʒvakan'da:tə]
 214 ‘empty’, *Osvaldo* [o'ʒvaldə] ‘given name’, *sgarro* [ʒgarrə] ‘mistake’, etc.; as well
 215 as before the bilabial sonorant, e.g., *smorfia* [ʒmɔrfjə] ‘smirk’, *asma* [ʒa:zmə]
 216 ‘asthma’, etc. A vacillation similar to the one noticed in the previous paragraph
 217 characterises the regional Italian varieties, e.g., (reg. It.) [z/ʒ] *brigati!* ‘hurry up!’,
 218 [z/ʒ] *viluppo* ‘development’, [z/ʒ] *gabello* ‘footstool’, *tra*[z/ʒ] *mettere* ‘broadcast’, etc.

219 The palatalisation process appears to be very productive in the synchronic
 220 phonology of Neapolitan. Several innovative examples can be found among the
 221 recordings of the corpus, mostly in the “Neapolitanised” pronunciation of foreign
 222 proper names or recent loans, e.g., *whi*[ʃ] *ky*, *icecream* [a:ʃkrimmə], *Swarovski*
 223 [ʒba'roʃk(i)], *Era*[ʒ] *mus*, (*Vittorio*) *Ga*[ʒ] *mann*, *pacemaker* [pe'ʒme:ker], *baseball*
 224 [be'ʒbollə], *facebook* [fe'ʒbukə], *spiderman* [ʃpaɪdər'mennə], *password* [pa'ʒ-
 225 wordə] (even before the bilabial approximant), *La*[ʒ] *Vegas*, etc.

226 The corpus also reveals a few exceptional cases, however, in which a pre-
 227 consonantal /s/ does not regularly get palatalised in Neapolitan because of dis-
 228 similation. If a word contains an underlying prepalatal sibilant, the palatalisa-
 229 tion in /sC/ clusters is usually blocked, e.g., *pescespada* [pe:ʃʃe'spa:də] (or rarely
 230 [pe:ʃʃe'ʃpa:də]) ‘sword fish’, *communi*[ʒm] *e fa*[ʃʃ] *i*[zm] *o* ‘communism and fas-
 231 cism’, *scisma* [ʃʃizmə] ‘schism’ (vs. *sisma* [ʃizmə] ‘seism’), etc.

232 It seems that the blocking of palatalisation is word-internal only, in sandhi
 233 position more prepalatal sibilants are allowed in adjacent syllables, e.g., *mo*[ʃk] *e*
 234 [ʃp] *orche* ‘damned flies’, etc. This word-internal dissimilation process can result
 235 in interesting vacillating forms as well, like the possible Neapolitan pronun-
 236





236 ations of the word *spasmo* ‘spasm’: among the corpus recordings three typical
 237 realisations appear: [ˈʃpaʒmə], [ˈspaʒmə] and [ˈʃpaʒmə]; but the last one is the
 238 least frequent.²⁴

239 2.4. A rule-based approach

240 The phonological distribution of the six variants of /s/ in Neapolitan can be well
 241 represented in the classical rule-based framework of *SPE* (Chomsky & Halle
 242 1968). The phonological environments in which the allophones are generated
 243 may be expressed by four rewrite rules (1).

244 (1) Rewrite rules affecting the distribution of /s/ in Neapolitan²⁵

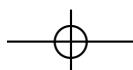
- 245 a. /s/ → [ts] / C__
 246 b. %C[-son] → [+voi] / [+son]C__
 247 c. /s/ → [ʃ] / C__C[-cor]
 248 d. C[-son] → [+voi] / C__C[+voi]

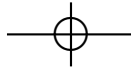
249 The distribution of the main variant [s] can be described in this framework eas-
 250 ily as “[s]/V__V”; that is, [s] occurs in intervocalic position.²⁶ Rule (1a) repre-
 251 sents the affrication process described in section 2.2. The environment of the
 252 rule is postconsonantal, where C is not specified for phonotactic reasons since
 253 in Neapolitan /s/ can be preceded only by alveolar sonorants /l, n, r/ (cf. section
 254 2.2). The related rule, responsible for the voiced counterpart of the affricate sibi-
 255 lant is in (1b), which facultatively affects the sibilant by voicing if it stands after
 256 sonorants (especially after /n/). This process is optional which is expressed by the
 257 percent sign at the beginning of the rule. Rule (1b) is also simplified here because

²⁴ The double palatalisation in [ˈʃpaʒmə] is probably a careful realisation, due to sociolinguistic factors as well: the Neapolitan dialect has a very high prestige in Campania, and the palatalisation process in /sC/ clusters is also a prestigious attribute of Neapolitan, so certain Neapolitans use palatalisation even when it is phonetically uncomfortable.

²⁵ The structure of the rewrite rules is explained in footnote 24. The rules are reported from Huszthy (2012: 106).

²⁶ The possible voicing of intervocalic /s/ is not considered here phonologically, it is handled as a phonetic fact.





258 in Neapolitan other non sibilant consonants may get voiced after sonorants too
259 (cf. Ledgeway 2009: 99).²⁷

260 Rule (1c) has already been cited before in section 2.3. The rule summarises the
261 palatalisation processes in Neapolitan, that is, /s/ regularly obtains a prepalatal
262 articulation (becoming [ʃ]) before non-coronal consonants (even sonorants). Fi-
263 nally, rule (1d) is responsible for the voicing process of sibilants before voiced
264 consonants (obstruents and sonorants equally). This rule can be seen as a variant
265 of regressive voice assimilation (cf. section 4.2), as long as it requires voicing of
266 obstruents prior to voiced consonants. However, contrarily to regular voice as-
267 similation, this process is unbalanced since it implies only voicing, and it does not
268 imply devoicing. In fact, in Italian only sibilants undergo voicing before voiced
269 consonantal segments, and since /z/ is not a phoneme in Italian (except in some
270 Tuscan varieties; cf. Krämer 2009: 48), the process includes only the spreading of
271 the positive voice feature, and not vice versa.

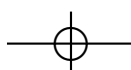
272 The distribution of the *s*-allophones will be analysed shortly from another
273 perspective as well, in a non-rule-based approach. In this section, indeed, the
274 phenomena were presented only in a rather descriptive way while in the next
275 one, I will attempt to carry out a more formal analysis, in order to gain possible
276 answers to the origin and phonological motivations of the processes.

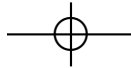
277 3. *Why Italians tend to palatalise /s/ before consonant?*

278 Similarly to the case of Neapolitan, as it was described in the previous sections,
279 other Italian dialects may also have palatalisation in /sC/ clusters. The term
280 “palatalisation” will be used in this section for the cases of all retracted articu-
281 lations of /s/, even if the result is not a prepalatal [ʃ], but an alveo-palatal [ç] or
282 a retroflex [ʂ], or some in-between realization. In fact, palatalisation processes
283 of /s/ (intended as tongue retraction) affect almost every dialect of Italy (and
284 the respective regional accents of Italian),²⁸ but the phonological reasons which

²⁷ For instance, postnasal voicing often involves obstruents both in Neapolitan and in the Regional Italian of Campania, like in *muntagna* [mun'daɲɲə] ‘mountain’, *tranquillo* [tran'gwillə] ‘calm’, etc. (cf. Ledgeway 2009: 103).

²⁸ The palatalisation of /sC/ clusters is absent in the major dialects of Tuscany, this is also the reason for which the process is not present (at least theoretically) in Standard Italian. But it is also true that Standard Italian does not have a spoken norm (cf. footnote 13), and therefore, many of its spoken varieties (especially the northern ones) include palatalised sibilants (cf. section 4.3).





285 cause them, are not always the same, at least from the point of view suggested
286 in this paper.

287 3.1. A dialectal typology of /sC/ clusters

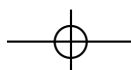
288 In the dialects of Central-Southern Italy, the palatalisation patterns articu-
289 rily are the same as in Neapolitan, i.e., the place of articulation of /s/ becomes
290 prepalatal, that is, [ʃ]. There are only distributional differences among these di-
291 alects as far as the process is concerned, i.e., the /s/ before coronal consonants
292 resists palatalisation in certain dialects, such as Neapolitan, while in others it does
293 not, e.g., in South-Eastern Lazio, and in others the /s/ undergoes palatalisation
294 only before coronals, e.g., mainly in Abruzzo and in Molise.

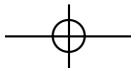
295 Rohlfs (1966) reports palatalisation processes from other dialectal regions as
296 well, e.g., from the north (Lombardy, Piedmont, Trentino, Ticino, Romagna) and
297 from the extreme south (Sicily and Salento). But in these cases the articulatory
298 patterns of the process are more or less different since the results are other kinds
299 of “palatalised” sibilants: the northern dialects generally have alveo-palatal seg-
300 ments in this context (which is acoustically closer to [ç] than to [ʃ]), while the
301 extremely southern dialects have a more retroflex type of sibilant. (In addition to
302 the relevant literature, I will also use the *Vivaldi* database as a referential corpus
303 in order to verify the sibilant patterns of Italian dialects.)²⁹

304 At the same time, we can still generalise this phonetically multi-coloured land-
305 scape from the same phonological point of view: in all of the mentioned dialectal
306 areas, preconsonantal sibilants undergo palatalisation processes (as far as the
307 retraction of the tongue is concerned), even if with slightly different phonetic
308 results.

309 Lorenzetti (2015) establishes a typology of /sC/ clusters, on the basis of Rohlfs
310 (1966), as shown in (2). In (2), the ticks mark the tendency of /s/ to palatalise
311 before a consonant, while the **X** signals the general absence of palatalisation in
312 the given phonetic context. Based on the the table in (2), we can distinguish four
313 general patterns in Italian dialectology: in the dialects of (2a) palatalisation never
314 occurs, while in (2b), it characterises all occurrences of the /sC/ clusters. On the
315 other hand, in the dialects of (2c) the process does not affect the alveolar sibilants,

²⁹ The *Vivaldi* (*Vivaio Acustico delle Lingue e dei Dialetti d'Italia*) online database is available at: <https://www2.hu-berlin.de/vivaldi/>.





316 as we have seen it in detail for the case of Neapolitan, and finally, in (2d) only the
 317 alveolars cause palatalisation of /s/.

318 (2) Typology of /sC/ palatalisation in the dialects of Italy (Lorenzetti 2015)

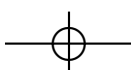
319

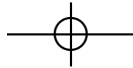
	Dialectal area	/s/[p]	/s/[k]	/s/[t]
a.	Lucania	✓	✓	✓
	Calabria	✓	✓	✓
b.	Ticino, Lombardy, Emilia-Romagna	✗	✗	✗
	Southern Lazio	✗	✗	✗
	Sicily	✗	✗	✗
c.	Piedmont, Trentino	✗	✗	✓
	Campania	✗	✗	✓
d.	Abruzzo, Molise	✓	✓	✗
	Salento	✓	✓	✗

320 With the aid of the recordings of the *Vivaldi* database, I tried to verify the con-
 321 tents of the table in (2), and I found minor differences compared to the results of
 322 Rohlfs (1966: 379–380) and Lorenzetti (2015).³⁰ The typology in (2) is generalised,
 323 of course, both Rohlfs and Lorenzetti note that there are varieties which may
 324 contradict the results, e.g., several dialects of Abruzzo belong to (2b), while in
 325 Sicily there is an ongoing recession of palatalisation by younger speakers, and
 326 anyhow, usually less than half of the population uses palatalisation in this dialect
 327 (D’Agostino 1998: 211). On the other hand, the palatalisation patterns are partic-
 328 ularly different in Campania compared to the other regions, in effect, the process
 329 seems to be exclusive in this dialect, and it is very frequent in the regional Italian
 330 as well (cf. Maturi 2002).

331 In addition, the northern varieties seem to share a very similar behaviour re-
 332 garding palatalisation: according to the *Vivaldi* database, there is no significant
 333 phonological difference between Piedmont, Trentino (2c) on the one hand, and
 334 Ticino, Lombardy, Romagna (2b) on the other. It seems that Northern Italian
 335 dialects keep palatalising sibilants in every phonetic context: both in consonant
 336 clusters and in intervocalic position. In this case, the results of the palatalisation
 337 process, regarding the place of articulation, do not generally reach the prepalatal

³⁰ The differences are probably due to interim diachronic developments of the dialectal areas (e.g., owing to the influence of standard varieties or the synchronic levelling of the dialects) since Lorenzetti (2015) also uses Rohlfs’s data.





338 position as in Neapolitan, the output is more or less an alveo-palatal realisation
 339 such as [ç] (except for some Northern-Piedmontese dialects which may have
 340 prepalatal [ʃ] as well).

341 As a final addition to the table in (2), in the recordings of the *Vivaldi* database,
 342 palatalisation of /s/ before /t/ barely occurs in the dialects of Salento. This does
 343 not mean that the process is not present in some form of the dialect, but it may
 344 be gradually decreasing, similarly to Sicily.

345 In any case, clearly there are four dialectal patterns in Italo-Romance, as far as
 346 preconsonantal sibilant palatalisation is concerned. On the basis of the *Vivaldi*
 347 database, (2a) may also subsume other areas, like Tuscany, Northern Umbria and
 348 Northern-Central Marche; whereas Veneto, Friuli and Liguria may be added to
 349 the group in (2b), as well as Piedmont, Trentino and Sardinia, several dialects of
 350 which show palatalisation even before /t/.

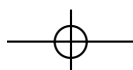
351 Consequently, the four patterns can be “regeneralised” as follows: firstly, we
 352 may have a “Tuscan-type” of /sC/-distribution, which lacks palatalisation; sec-
 353 ondly, we may have a “Northern-type”, where palatalisation is exclusive (be-
 354 fore all consonants, and even in intervocalic position);³¹ thirdly, we may have
 355 a Neapolitan-type of palatalisation, which spares /st/ clusters; and finally, we may
 356 have an Abruzzese-type, which applies palatalisation before /st/ only.

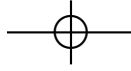
357 In conclusion, the phonetically almost uncountable realisations of Italian sibi-
 358 lants can be simplified from the point of view of phonology and seen as the
 359 various outcomes of the same phonological process: palatalisation. Among the
 360 dialects of Italy, we can make difference between four major types according to
 361 the circumstances and the results of palatalisation, these four types are the focus
 362 of the analysis next.

363 3.2. An OT-account of /sC/-palatalisation in Italian dialects

364 A similar typology offers a great opportunity to be analysed in the framework
 365 of classical Optimality Theory, hereafter OT (Prince & Smolensky 2004). OT
 366 was developed precisely to handle conflicts between simultaneous phonological
 367 forces, expressed as constraints rather than rules. The possibilities within OT

³¹ Contradictorily, Sicily and Southern Lazio phonologically also belong to this group, even if their phonetic patterns are slightly different since they avoid intervocalic palatalisation, which will be specified in the OT-analysis later.





368 make it a highly suitable system to capture linguistic variation such as the case
369 of /sC/-palatalisation in Italian dialects.

370 Obviously, in this approach we have to treat palatalisation as phonologically
371 uniform in the different dialectal areas, despite the small articulatory differences
372 between the results of the process, i.e., as it was mentioned in the previous section,
373 palatalisation will concern every pronunciation of /s/ with a retracted tongue tip.

374 In the following part of this section, I will attempt to reanalyse the phenomena
375 of /sC/-palatalisation (described in sections 2 and 3.1) according to the principles
376 of OT. First, I will use the following four constraints (3) which have already been
377 used in the phonological literature, in this or in a slightly different form, for the
378 analysis of other languages.

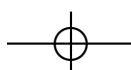
379 (3) Constraint list of Italo-Romance preconsonantal /s/-palatalisation

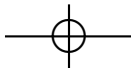
- 380 a. PALATALISATION-/sC/ (PAL-/sC/): Preconsonantal sibilants are articu-
381 lated with a retracted tongue tip (violated: *[sp]).
- 382 b. IDENT-C: The quality of the input consonants is identical to the quality
383 of the output consonants (violated: /sp/ → *[fp]).
- 384 c. OCP[COR]: Adjacent coronal obstruents are prohibited (violated: *[st]).
- 385 d. AGREE[PLACE]: Adjacent obstruents must share their [place] feature (vi-
386 olated: *[ft]).

387 According to my proposal, with the aid of the four constraints in (3), we are able
388 to analyse all possible types of preconsonantal /s/ palatalisation in Italian dialects.
389 However, only one constraint is responsible for the gesture of tongue retraction
390 (that is, for the processes of palatalisation), which is (3a). The PALATALISATION
391 markedness constraint family is due to Rubach (2000a), who establishes various
392 PAL constraints with the purpose of analyse consonant palatalisation processes in
393 Russian. In (3a), we find a subconstraint of the family, applied for the phenomena
394 of /sC/-palatalisation in Italian dialects.

395 Constraint (3b) is a traditional faithfulness constraint which aims to preserve
396 consonant qualities through input and output, as opposed to the PALATALISATION-
397 /sC/ constraint (see Rubach 2000b, and many others).

398 Exponent (3c) is a subconstraint of the OCP family (Obligatory Contour Prin-
399 ciple). In short, OCP refers to a compulsory modification of some identical char-
400 acteristics or features among strictly adjacent segments (cf. Durand & Siptár 1997:
401 132). In OT, this principle can be expressed through one or more markedness





402 constraints, like the one in (3c). OCP[*COR*] was used before by McCarthy & Prince
 403 (1995) and also Anttila (2008), as a prohibition for the co-occurrence of coronals
 404 in successive syllables, or simply for bounding adjacent coronal segments.

405 The last constraint in (3) comes from Alderete et al. (1999). It expresses a type
 406 of assimilation which requires adjacent segments to have the same specification
 407 for place, and it will gain importance in the analysis of the Neapolitan-type of
 408 /s*C*/-palatalisation, where the lack of palatalisation in homorganic /st/ clusters
 409 may have an explanation through the effects of this constraint.

410 After having introduced the most important constraints which will be used, let
 411 us present a few analyses as well. I claim that the four major phonological types of
 412 /s*C*/-palatalisation in Italian dialects are well analysable with the different order-
 413 ing of the constraints in (3). In Tableau 1 (see (4) below), I propose an analysis of
 414 the Abruzzese-type of palatalisation. However, different constraint rankings can
 415 result other dialectal types of /s*C*/ palatalisation, as it will be shown in (5) and
 416 analysed in further tableaux.

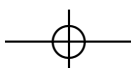
417 (4) Tableau 1: constraint configuration for the Abruzzese-type of palatalisation

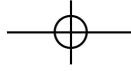
	/sp/ – /st/ – /sk/	OCP [COR]	AGREE[PL]	IDENT-C	PAL-/s <i>C</i> /
a.	[sp] – [st] – [sk]	*!	**		***
b.	[ʃp] – [ʃt] – [ʃk]		***	**!*	
c.	[ʃp] – [st] – [ʃk]	*!	**	**	*
d.	[sp] – [ʃt] – [sk]		***	*	**

418

419 The four candidates in Tableau 1 (a–d) correspond to the four groups of /s*C*/
 420 palatalisation processes catalogued in (2). The first column of the table sum-
 421 marises the three possible occurrences of /s*C*/ clusters in the dialects, that is,
 422 sibilants before /p/, before /k/ and before /t/ (where the obstruents indicate places
 423 of articulation as well).³² In the analysis of Tableau 1, I present a synthetic analysis
 424 of these three occurrences, or rather, the three possible places of articulation of

³² The places of articulation of the postsibilant consonants are important because a correlation is found between obstruents and sonorants: sibilants before homorganic obstruents and sonorants typically show the same phonological behaviour in the palatalisation processes, e.g., as we have seen in the case of Neapolitan, /s/ before /t, d/ or /n, l, r/ does not get palatalised (section 2.3); and similarly in the case of the other dialectal groups as well.





425 the postsibilant consonant (bilabial, alveolar and velar). The three potential /sC/
 426 clusters are put together in the analysis, and therefore, more possibilities arise to
 427 violate the single constraints (such as it occurs twice in the case of the AGREE[PL]
 428 constraint, or once in the case of IDENT-C and in that of PAL-/sC/).

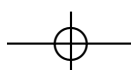
429 In the Abruzzese-type of palatalisation (which is probably the most curious
 430 among the palatalisation types in Italian dialects), the winning candidate in Tab-
 431 leau 1 is (d), in the case of which only the alveolar consonants may cause palatal-
 432 isation to the sibilants. In fact, according to this analysis, I claim that the Abruz-
 433 zese-type of palatalisation process is due to the first ranked OCP[*COR*] constraint,
 434 and not to the PAL-/sC/; and that is also the reason why this type is so different
 435 from the other patterns. In the dialects of this group, the palatalisation tendency
 436 of preconsonantal /s/ is not usually present, but the OCP[*COR*] constraint requires
 437 homorganic [st] (or /s/ plus alveolar) clusters to dissimilate for the place of artic-
 438 ulation, which results the palatalisation of prealveolar /s/.

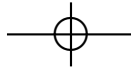
439 In (5), I list the other possible constraint rankings, with the help of which we
 440 can analyse the other three Italo-Romance patterns of /sC/-palatalisation as well.

441 (5) Constraint rankings for the four types of palatalisation in Italian dialects

- 442 a. Tuscan-type (group (2a)):
 443 IDENT-C, AGREE [PL] \gg OCP[*COR*] \gg PAL-/sC/
 444 b. Northern-type (group (2b)):
 445 PAL-/sC/, OCP[*COR*] \gg AGREE [PL] , IDENT-C
 446 c. Neapolitan-type (group (2c)):
 447 AGREE [PL] \gg PAL-/sC/, OCP[*COR*] \gg IDENT-C
 448 d. Abruzzese-type (group (2d)):
 449 OCP[*COR*] \gg AGREE [PL] , IDENT-C \gg PAL-/sC/

450 If the faithfulness constraint IDENT-C is first in the ranking, the other constraints
 451 do not have other possible inputs anymore, as it is assumed for the Tuscan-type of
 452 dialects, which are characterised by the general absence of sibilant palatalisation.
 453 On the other hand, the process in northern varieties and in Sicilian can be anal-
 454 ysed through the high ranking of the PAL-/sC/ and the OCP[*COR*] constraints
 455 which require palatalisation to all preconsonantal sonorants. However, in the
 456 Neapolitan variant of the phenomena the OCP[*COR*] is only ranked as second
 457 while the AGREE[PL] comes first, and for this reason, the palatalisation of /s/ is





458 blocked before alveolar consonants. In summary, I presume that the palatalisa-
 459 tion processes in Italian dialects are generally caused by the PAL-/sC/ constraint,
 460 except for the Abruzzese variant.

461 The four main phonological types of Italian dialectal /sC/-palatalisation can be
 462 therefore analysed as in Tableau 1 or as constraint lists specified in (3). Neverthe-
 463 less, other variables also arise which may complicate the picture of palatalisation,
 464 such as the typical lenition of intervocalic sibilants in northern Italian dialects (cf.
 465 Krämer 2009: 207), as well as the northern-like sibilant palatalisation in intervoc-
 466 alic position (cf. section 3.1). In (6), I assume two further constraints which are
 467 relevant for these two processes:

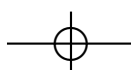
468 (6) Additional constraints for Italo-Romance preconsonantal /s/-palatalisation

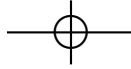
- 469 a. LENITION[SIBILANT](LEN[SIB]): Intervocalic sibilants get voiced (vio-
 470 lated: [*VsV]).
- 471 b. PALATALISATION[SIBILANT](PAL[SIB]): All sibilants are articulated with
 472 a retracted tongue tip (violated: *[VsV]).

473 In northern Italian dialects, voiceless intervocalic obstruents – especially the
 474 sibilants – are typically exposed to lenition (which is manifested in voicing)
 475 (cf. Loporcaro 2009: 83). In fact, constraint (6a) is a specification of this leni-
 476 tion process for sibilants. LENITION as an OT-constraint was previously used by
 477 Kennedy (2008) for the prohibition of voiceless intervocalic obstruents, while
 478 Krämer (2003; 2005; 2009) uses almost the same constraint I defined in (6a),
 479 with the name *VsV. The more generalised form of the constraint is important
 480 here, because not only [s] undergoes lenition in this phonetic environment but its
 481 palatalised variants too (which are not relevant in Krämer's analyses, unlike here).

482 Constraint (6b) is another subconstraint of the PALATALISATION family (seen
 483 formerly in the present section, see also Rubach 2000a) which is restricted here to
 484 all sibilants, or more precisely, to /s/ which has to be palatalised in any phonetic
 485 environment.

486 In tableaux 2 and 3, I reanalyse Italian dialectal /sC/-palatalisation, now with
 487 the two new constraints included. The tableaux exhibit the analyses of the typical
 488 northern and Neapolitan pronunciations of the words *sposa* 'bride' and *sposo*
 489 'groom' (see the *Vivaldi* database).





490 (7) Tableau 2: northern type of palatalisation in the word *sposan* ‘bride’

/sposa/	LEN [SIB]	PAL-/SC/	AGREE [PL]	IDENT-C	PAL [SIB]
a. [ˈspo:sa]	*!	*	*		*
b. [ˈspo:za]		*!	*	*	*
c. [ˈɛpo:sa]	*!		*	*	*
d. [ˈɛpo:za]			*	**	*!
e. [ˈɛpo:za]			*	**	

491

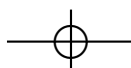
492 The most common northern Italian accented pronunciation of *sposa* ‘bride’ is
 493 [ˈɛpo:za], with two slightly palatalised sibilants (transcribed here as alveopalatals).
 494 This output coincides with the winning candidate of Tableau 2, in which the
 495 two newly introduced constraints, PAL[SIB] and LEN[SIB] are responsible for
 496 the palatalisation and the voicing of /s/ in intervocalic position. (The OCP[*COR*]
 497 constraint is not relevant in Tableau 2, therefore it is absent here.)

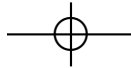
498 We must admit at this point that the Sicilian type of the phenomena is ac-
 499 tually different from the northern type, even if usually all kinds of sibilants get
 500 palatalised before a consonant in Sicilian as well. All the same, intervocalic sibi-
 501 lants in Sicilian (as well as in Southern Lazio) do not obey the PAL[SIB] constraint
 502 since in these varieties LEN[SIB] is lower ranked than IDENT-C, and in this way,
 503 candidates with intervocalic palatalisation or intervocalic voicing are eliminated.
 504 The situation is similar in the Neapolitan system as well:

505 (8) Tableau 3: Neapolitan-type of palatalisation in the word *sposo* ‘groom’

/sposo/	AGREE [PL]	PAL-/SC/	IDENT-C	LEN [SIB]	PAL [SIB]
a. [ˈspo:sə]	*	*!		*	*
b. [ˈspo:zə]	*	*!	*		*
c. [ˈʃpo:sə]	*		*	*	*
d. [ˈʃpo:zə]	*		**!		*
e. [ˈʃpo:ʒə]	*		**!		

506





507 The usual Neapolitan (and Campanian) dialectal pronunciation of *sposo* ‘groom’
 508 is [ʃpoːsə],³³ as it was also mentioned in section 2.1, and the pronunciation pat-
 509 terns of the word are similar in Sicily and in Southern Lazio as well (with some
 510 differences in the vowel system, and in the exact place of articulation of the con-
 511 sonants; and of course, in the ranking of the constraints of (3). In the case of
 512 Southern Italian dialects, the LEN[SIB] constraint is obviously lower ranked (since
 513 intervocalic lenition influences the northern dialects, not the southern ones, cf.
 514 Loporcaro 2009), similarly to the PAL[SIB] (since in southern dialects intervocalic
 515 /s/ does not get palatalised).³⁴

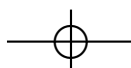
516 To conclude, Optimality Theory may offer an advantageous method to dis-
 517 tinguish phonologically the four palatalisation patterns of /sC/ clusters in Italian
 518 dialects. From the point of view of the four basic constraints listed in (3), there are
 519 no relevant phonological differences between the dialects listed in (2) (northern
 520 and Sardinian dialects, Sicilian and the dialects of Southern Lazio); but as we have
 521 seen in Tableaux 2 and 3, even some phonological differences may be noticed in
 522 addition to the phonetic ones. However, the two extra constraints introduced
 523 in (6) do not change the general typology of preconsonantal sibilant palatalisa-
 524 tion, which can be classified according to four different phonological patterns
 525 in Italian.

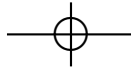
526 4. *Conclusions about the singular behaviour of Italo-Romance sibilants*

527 Aside from /sC/-palatalisation, described and analysed in sections 2 and 3, there
 528 are plenty of other singular phonological phenomena related to the sibilants in
 529 the dialects of Italy. I aim to mention here two further processes, without any
 530 analysis, however: the deletion of /s/ from consonant clusters and preconsonan-
 531 tal s-voicing, an unusual kind of regressive voice assimilation in which only the
 532 sibilants participate.

³³ Other dialectal phonetic characteristics, like the final schwa, are used here without a detailed explanation (for further reading, see Maturi 2002 and Ledgeway 2009).

³⁴ Otherwise, the potential tendency of intervocalic s-voicing in stressed syllable in southern varieties (which was mentioned earlier with reference to Neapolitan, like in *spu*[za:] ‘to marry’, as attested in section 2.1) may be expressed through a higher ranked subconstraint of LEN[SIB], specified for [stress].





533 4.1. Sibilant deletion

534 The presumably extrasyllabic status of /s/ in consonant clusters (cf. Bertinetto
535 1999, 2004; Baroni 2014a) is confirmed by the fact that synchronically, the sibi-
536 lants are the only kind of segments in Italian which can be easily deleted from a
537 cluster, especially in postconsonantal position and at morpheme boundaries.

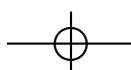
538 The synchronic phonology of Italian (and its dialects) is characterised by a very
539 strong conservative tendency: input segments tend to be severely preserved in
540 output forms (cf. Huszthy 2015). This fact can be seen in loanword phonology,
541 which chiefly prefers epenthetic processes rather than deletion in Italian, with the
542 purpose of the preservation of any input element, e.g., the words *pingpong*, *softball*
543 and *fastfood* are lexicalised in Italian with schwa insertions rather than deletion
544 in the marked consonant clusters: [pɪŋgə'pɔŋgə], [softə'ballə] and [fastə'fuddə].

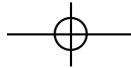
545 However, in a similar kind of consonant cluster, sibilants may also be deleted
546 (unlike any other type of consonant): as the results of a recent loanword experi-
547 ment showed, 11 Italian dialectophone informants (from different parts of Italy)
548 tended to delete only /s/ from a consonant cluster when it occurred in the middle
549 of a three-member (or even more complex) cluster, or in postconsonantal word-
550 final position, e.g., *Bildung*⟨s⟩*roman*, *style*⟨s⟩*drawer*, *back*⟨s⟩*lash*, *question*⟨s⟩, etc.
551 (for details of the investigation, see Huszthy 2016).

552 The deletion of /s/ was vacillating in the various pronunciations of the speakers
553 (including both interspeaker and intraspeaker variations), which most probably
554 means that the /s/ is still present in the underlying representation, and the dele-
555 tion is due to a phonological process.³⁵ This process is certainly linked to the
556 extrasyllabicity of /s/ in consonant clusters, whereas the status of the sibilant may
557 be expressed by its complete deletion in the surface form.

558 The same phenomenon can be even lexicalised in Italian, as in a few of more
559 frequently used foreign proper names or brand names, especially word-finally,
560 e.g., *McDonald*'⟨s⟩, *Google map*⟨s⟩, *Uncle Ben*'⟨s⟩, *dart*⟨s⟩, *Champion*⟨s⟩ (*League*),
561 etc. These examples are all arguments for the singular behaviour of sibilants since
562 the synchronic phonology of Italian usually tends to avoid deletion processes,
563 unless the segment in question is a sibilant.

³⁵ On the other hand, the informants never pronounced [h] in loanwords, which means that the glottal fricative is not present in the underlying form: so the lack of [h] (such as in ⟨h⟩*otel*, ⟨h⟩*ostess*, ⟨h⟩*umour*, *apart*⟨h⟩*eid* etc.) is not due to deletion but it is a fundamental absence.





564 4.2. Voice assimilation or s-voicing?

565 Phonologists who deal with Italian argue that regressive voice assimilation (RVA)
 566 in Italian concerns only the /s/ phoneme (cf. Nespor 1993; Schmid 1999; Bertinetto
 567 & Loporcaro 2005; Krämer 2009; etc.). This fact is easily understandable since all
 568 the other kinds of obstruent clusters were simplified during the history of Italian,
 569 mostly through deletion or place assimilation (cf. Rohlfs 1966).³⁶

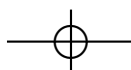
570 However, in recent loanwords, plenty of other obstruent clusters appear which
 571 do not undergo either deletion or place assimilation, and what is the most surpris-
 572 ing fact of all, neither do they undergo RVA: adjacent obstruents aim to preserve
 573 their voice value, even strictly next to each other, e.g., *vo*[dk]a, *M*[ekd]onald's,
 574 *gan*[gs]ter, *u*[pg]rade, *a*[bs]ide 'apse', *a*[fg]ano 'Afghan', *e*[kdz]ema 'eczema', etc.
 575 The preservation of the voice values is probably due to the above mentioned
 576 phonological conservativity of Italian (cf. Huszthy 2015), which is confirmed
 577 by the frequent appearance of schwa epenthesis in the above loanwords, e.g.,
 578 *vod*[ə]ka, *gang*[ə]ster, etc., that is, Italians more readily choose insertion processes
 579 than deletion, possibly in order to preserve all input segments, or (in the absence
 580 of schwa-insertion) features of the input segments, like the voice value.

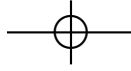
581 Nevertheless, RVA still seems to affect /sC/ clusters in some recent loanwords of
 582 Italian, e.g., *fri*[z]bee, [z]mog, [z]lide, [z]nake, *kala*[z]nikov, etc. The data show that
 583 the voicing of /s/ affects prepalatal sibilants as well, but the process is not exclu-
 584 sive, the output of the process may vacillate between voiced and voiceless realisa-
 585 tions (or partial voicing), e.g., *back*[s/z]lash (when /s/ is not deleted), *i*[s/z]berg,
 586 *kri*[s/z]na, *establi*[f/z]ment, etc.

587 Consequently, we can regard RVA as a defective postlexical process in the
 588 phonology of Italian, which holds only for sibilants; or we can also consider it an-
 589 other, completely different lexical phenomenon, called preconsonantal s-voicing,
 590 which is verified, among others, by its optional nature in recent loanwords (cf.
 591 Huszthy 2016).

592 For now, we conclude that the possible voicing of /s/ before voiced consonants
 593 (either RVA or s-voicing) is due to the fact that sibilants have a singular phono-
 594 logical status in Italo-Romance. Sibilants are definitely present in the underlying
 595 representations in Italian (unlike the glottal fricative [h]), and they may undergo
 596 specific processes reserved only for sibilants during the generative transforma-

³⁶ It can be surprising that diachronically only /s/ was able to remain in obstruent clusters, but synchronically /s/ is the only obstruent which tends to be deleted from consonant clusters. It is a "further miracle" of the singular phonological behaviour of sibilants in Italian.





597 tional phase in the mental representations of the speakers, after which the seg-
598 ments appear on the surface.

599 4.3. Outlook

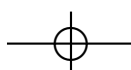
600 In this paper, I have discussed some unique phonological phenomena of Italian
601 dialects in the handling of /sC/ clusters and also sibilants in general. The main
602 aim of the paper was to analyse /sC/-palatalisation processes in a phonologically
603 uniform way, and to set up a phonological typology of the phenomena. Given
604 the synoptical nature of the paper, some points were not explained in detail, only
605 mentioned.

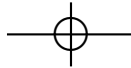
606 The palatalisation of preconsontal /s/ is a very common process in Italian
607 dialectology, but the phonetic and phonological treatment of /sC/-palatalisation
608 should be distinguished. In northern dialects we can encounter mostly a pho-
609 netically based palatalisation, while in the centre and in the south of Italy the
610 process is phonologically motivated.³⁷ This claim is supported even by substan-
611 dard spoken Italian, in fact, spoken regional varieties of Standard Italian include
612 /s/-palatalisation only when it is not the result of a phonological process, but it is
613 only an inherent phonetic property of sibilants (like in the majority of the north-
614 ern varieties). However, in southern and central-southern varieties, the use of
615 /s/-palatalisation before a consonant is stigmatised in Standard Italian, therefore
616 speakers try to avoid it.

617 *References*

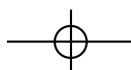
- 618 Alderete, J., J. Beckman, L. Benua, A. Gnanadesikan, J. J. McCarthy & S. Urbanczyk (1999): Redu-
619 plication with fixed segmentism. *Linguistic Inquiry* 30: 327–364.
- 620 Anttila, A. (2008): Gradient phonotactics and the Complexity Hypothesis. *Natural Language and*
621 *Linguistic Theory* 26: 695–729.
- 622 Balogné Bérces, K. & D. Huber (2010): [voice] and/versus [spread glottis] in the modified Leiden
623 model. *Acta Linguistica Hungarica* 57: 444–457.

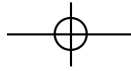
³⁷ Phonologically motivated here means environmentally conditioned, that is, central-southern and southern dialects use palatalisation of /s/ only before consonants while northern dialects in any phonetic environment.



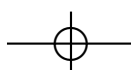


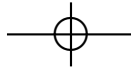
- 624 Baroni, A. (2014a): Element Theory and the magic of /s/. In: E. Cyran & J. Szpyra Kozłowska
 625 (eds.): *Crossing phonetics–phonology lines*. Newcastle upon Tyne: Cambridge Scholars Publish-
 626 ing. 3–30.
- 627 Baroni, A. (2014b): Strength-based faithfulness and the sibilant /s/ in Italian. *Yearbook of the Poznań*
 628 *Linguistic Meeting 1*. Berlin: Mouton De Gruyter. 29–53.
- 629 Beccaria, G. L. (1988): *Italiano antico e nuovo* [Old and Modern Italian]. Milan: Garzanti.
- 630 Bertinetto, P. M. (1999): La sillabazione dei nessi /sC/ in italiano: un'eccezione alla tendenza “uni-
 631 versale”? [Syllabification of /sC/ clusters in Italian: An exception to the universal tendency?].
 632 In: P. Benincà, A. Mioni & L. Vanelli (eds.): *Fonologia e morfologia dell'italiano e dei dialetti*
 633 *d'Italia* [Phonology and morphology of Italian and the dialects of Italy]. Rome: Bulzoni. 71–96.
- 634 Bertinetto, P. M. (2004): On the undecidable syllabification of /sC/ clusters in Italian: Converging
 635 experimental evidence. *Italian Journal of Linguistics* 16: 349–372.
- 636 Bertinetto, P.M. & M. Loporcaro (2005): The sound pattern of Standard Italian, as compared
 637 with the varieties spoken in Florence, Milan and Rome. *Journal of the International Phonetic*
 638 *Association* 35: 131–151.
- 639 Chomsky, N. & M. Halle (1968): *The sound pattern of English*. New York: Harper & Row.
- 640 Cyran, E. (2014): *Between phonology and phonetics: Polish voicing*. Berlin & New York: De Gruyter
 641 Mouton.
- 642 Cser, A. (2012): Resyllabification and metre: The issue of *s impurum* revisited. *Acta Antiqua* 52:
 643 363–373.
- 644 D'Agostino, M. (1998): Nuovi percorsi di una linguistica socio-spaziale [New ways in socio-spacial
 645 linguistics]. In: G. Ruffino (ed.), *Atti del XXI Congresso Internazionale di Linguistica e Filologia*
 646 *Romanza* [Proceedings of the 21th International Congress of Romance Linguistics and Philol-
 647 ogy]. Tübingen: Max Niemeyer. 199–216.
- 648 De Blasi, N. L. & Imperatore (2000): *Il napoletano parlato e scritto* [Spoken and Written Neapolitan].
 649 Naples: Dante & Descartes.
- 650 De Blasi, N. (2009): *Profilo linguistico della Campania* [A linguistic Outline of Campania]. Milan:
 651 Laterza.
- 652 Domokos, Gy. (2001): Anglicismi nella lingua italiana [Anglicisms in Italian]. *Verbum Analecta*
 653 *Neolatina* 2: 295–305.
- 654 Durand, J. & P. Siptár (1997): *Bevezetés a fonológiába* [An introduction to phonology]. Budapest:
 655 Osiris.
- 656 Huszthy, B. (2012): A nápolyi /s/ hat változata [The six variants of Neapolitan /s/]. In: K. É. Kiss & A.
 657 Hegedűs (eds.): *Nyelvelmélet és dialektológia 2* [Language theory and dialectology 2]. Piliscsaba:
 658 PCPU. 95–109.
- 659 Huszthy, B. (2015): Conservatività come caratteristica fonologica in sincronia: Geminazione pre-
 660 consonantica in italiano meridionale [Conservativity as a phonological property in synchrony:
 661 Preconsonantal gemination in Southern Italian]. *Verbum Analecta Neolatina* 16: 243–262.
- 662 Huszthy, B. (2016): Arguments against the heterosyllabicity of /sC/ clusters in Italian phonology.
 663 In: L. Veselovská, J. Parrott & M. Janebová (eds.): *Proceedings of the CECIL'S*. Olomouc: Palacký
 664 University. 74–85.





- 665 Iandolo, A. (2001): *Parlare e scrivere in dialetto napoletano [To speak and to write the Neapolitan*
 666 *dialect]*. Naples: Tempolungo.
- 667 Kager, R. (1999): *Optimality Theory*. Cambridge: Cambridge University Press.
- 668 Kaye, J. (1992): Do you believe in magic? The story of s+C sequences. *SOAS Working Papers in*
 669 *Linguistics and Phonetics* 2: 293–313.
- 670 Kennedy, R. (2008): Evidence for Morphoprosodic Alignment in Reduplication. *Linguistic Inquiry*
 671 39: 589–614.
- 672 Krämer, M. (2003): Intervocalic s-voicing, geminates and the Richness of the Base in Veneto Italian.
 673 *Rivista di Grammatica Generativa* 28: 71–85.
- 674 Krämer, M. (2005): Contiguity and non-derived environment blocking of s-voicing in Lombardian
 675 and Tuscan Italian. *Probus* 17: 227–251.
- 676 Krämer, M. (2009): *The phonology of Italian*. Oxford: Oxford University Press.
- 677 Krämer, M. (2012): *Underlying representations*. Cambridge: Cambridge University Press.
- 678 Ladefoged, P. & I. Maddieson (1996): *The sounds of the world's languages*. Cambridge, MA & Oxford:
 679 Blackwell.
- 680 Ledgeway, A. (2009): *Grammatica diacronica del napoletano [A diachronic grammar of Neapolitan]*.
 681 Tübingen: Max Niemeyer.
- 682 Loporcaro, M. (2009): *Profilo linguistico dei dialetti italiani [A linguistic outline of Italian dialects]*.
 683 Milan: Laterza.
- 684 Loporcaro, M. (2011a): Syllable, segment and prosody. In: Maiden et al. (2011: 50–108).
- 685 Loporcaro, M. (2011b): Phonological processes. In: Maiden et al. (2011: 109–154).
- 686 Lorenzetti, L. (2015): Sulla palatalizzazione di /sC/ nei dialetti del centro e sud d'Italia [About the
 687 palatalisation of /sC/ in the central and southern dialects of Italy]. Paper presented at the Italian
 688 Dialect Meeting, Leiden, 2015.
- 689 Lowenstamm, J. (1996): CV as the only syllable type. In: J. Durand & B. Laks (eds.): *Current trends*
 690 *in phonology: models and methods*. Salford: European Studies Research Institute, University of
 691 Salford Publications. 419–441.
- 692 Maiden, M. & M. Parry (eds.) (1997): *The dialects of Italy*. London & New York: Routledge.
- 693 Maiden, M., J. C. Smith & A. Ledgeway, A. (eds.) (2011): *The Cambridge history of the Romance*
 694 *languages: Structures*. Cambridge: Cambridge University Press.
- 695 Marotta, G. (1995): La sibilante preconsonantica in italiano: questioni teoriche ed analisi sperimentale
 696 [The preconsonantal sibilant in Italian: Theoretical questions and an experimental analysis].
 697 In: R. Ajello & S. Sani (eds.): *Scritti linguistici e filologici in onore di Tristano Bolelli [Linguistic*
 698 *and philological papers in honour of Tristano Bolelli]*. Pisa: Pacini. 393–436.
- 699 Maturi, P. (2002): *Dialetti e substandardizzazione nel Sannio Beneventano [Dialects and substan-*
 700 *dardisation in the Sannio of Benevento]*. Frankfurt am Main: Peter Lang.
- 701 McCarthy, J. J. & A. Prince (1995): Faithfulness and reduplicative identity. In: J. Beckman, L. Walsh
 702 Dickey & S. Urbanczyk (eds.): *Papers in Optimality Theory. University of Massachusetts Occa-*
 703 *sional Papers* 18. Amherst: Graduate Linguistic Student Association. 249–384.
- 704 Morelli, F. (1999): The phonotactics and phonology of obstruent clusters in Optimality Theory.
 705 Doctroal dissertation. University of Maryland at College Park.





- 706 Nespó, M. (1993): *Fonologia* [Phonology]. Bologna: Il Mulino.
- 707 Prince, A. & P. Smolensky (2004): *Optimality Theory: Constraint interaction in Generative Gram-*
708 *mar*. Malden, MA & Oxford: Blackwell.
- 709 Radtke, E. (1997): *I dialetti della Campania* [The Dialects of Campania]. Rome: Il Calamo.
- 710 Repetti, L. (ed.) (2000): *Phonological theory and the dialects of Italy*. Amsterdam & Philadelphia:
711 John Benjamins.
- 712 Rohlfs, G. (1966): *Grammatica storica della lingua italiana e dei suoi dialetti: Fonologia* [A historioic
713 *grammar of Italian and its dialects: Phonology*]. Turin: Einaudi.
- 714 Rubach, J. (2000a): Glide and glottal stop insertion in Slavic languages: A DOT analysis. *Linguistic*
715 *Inquiry* 31: 271-3-17.
- 716 Rubach, J. (2000b): Backness switch in Russian. *Phonology* 17: 39-64.
- 717 Savoia, L. (1997): The geographical distribution of the dialects. In: Maiden & Parry (1997: 225-236).
- 718 Schmid, S. (1999): *Fonetica e fonologia dell'italiano* [Phonetics and phonology of Italian]. Turin:
719 Paravia.
- 720 Treiman, R., J. Gross & A. Cwikiel-Glavin (1992): The syllabification of /s/ clusters in English.
721 *Journal of Phonetics* 20: 383-402.
- 722 Vaux, B. & A. Wolfe (2009): The appendix. In: E. Raimy & C. Cairns (eds.): *Contemporary views*
723 *on architecture and representations in phonology*. Cambridge, MA: MIT Press. 101-143.

724 *Online sources*

- 725 IPA: <http://www.internationalphoneticalphabet.org/ipa-sounds/ipa-chart-with-sounds/>
- 726 UPSID database: http://web.phonetik.uni-frankfurt.de/upsid_info.html
- 727 Vivaldi database: <https://www2.hu-berlin.de/vivaldi/>

