THE "UNTAMED" /s/ OF ITALIAN DIALECTS

An overview of the singular behaviour of Italo-Romance sibilants

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To Giorgio, my permanent master!

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

1.1. Sibilants within the syllable and beyond

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

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

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

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

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

1.2. Some variants of /s/ in Italian dialects

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

From an articulatory point of view, there are several differences between the typical pronunciations of /s/, in concordance with the dialectal regions of Italy (cf. Rohlfs 1966; Maiden & Parry 1997; Maturi 2002; De Blasi 2009; Loporcaro 2009). At least four patterns can be distinguished: a northern-like, a central, a central-southern and an extremely southern type of palatalisation. The most frequent types of sibilants often have a "nickname" as well in colloquial Italian: for instance "Venetian *s*" [ɕ] (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, ʒ] 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.).

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

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

2. *The case study of the "Neapolitan* s*"*

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

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

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

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

2.1. Intervocalic position

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

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

[13] These occurrences cover the entire distribution of /s/ in the Neapolitan dialect since by phonotactic 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).

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

A weak tendency of voicing in intervocalic position characterises mostly the regional Italian varieties spoken in Campania, but it may occur even on the dialectal level (Maturi 2002: 83; Radtke 1997: 75). In Neapolitan, partially or fully voiced intervocalic sibilants tend to appear mostly in stressed syllables, e.g., (Neap.) ***Vesuvio*** [vəˈzuːvjə] 'Vesuvius', ***rusario*** [ruˈzaːɾjə] 'rosary', ***petrusino*** [pətruˈziːnə] 'parsley', ***spusà*** [ʃpuˈzaː] 'to marry' (vs. ***sposo*** [ˈʃpoːsə] 'groom'), etc.; but all of these examples are more commonly pronounced with voiceless sibilants.[16] Albeit, in unstressed syllables, particularly if the word stress is farther than the adjacent syllable, the /s/ remains always voiceless, e.g., (Neap.) ***brinnese*** [ˈbrinnəsə] 'toast', ***mesuratore*** [məsuraˈd̥oːrə] 'worker who reads the meter', ***pusetivamente*** [pusəd̥ivaˈmentə] 'positively', etc.[17]

2.2. Postconsonantal sibilants (affrication)

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

According to the phonotactics of Neapolitan, /s/ can follow only the coronal sibilants [n, l, r]; in other cases the members of the cluster normally get separated by a schwa epenthesis, e.g., (Neap.) ***clacson*** [ˈklakkəson] 'horn', ***ipsilon*** [ippəsiˈlɔnnə] 'upsilon', ***Hamšik*** [ammәˈsikkə] 'Slovak football player of the *S.S.C. 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*** [ˈzeː]***ra*** 'good evening' (vs. It. ***buona*** [s]***era***), ***venti***[ˈzɛ]***tte*** 'twenty-seven' (vs. It. ***venti***[s]***ette***).

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

When /s/ follows a coronal sibilant, it usually gets affricated to [t͡s] (as well as in the Campanian regional varieties of Italian). The affrication process is even lexicalised in the spelling of many words (where the letter *z* stands for the affricate sibilants), e.g., (Neap.) *penzo* [ˈpɛnt͡sə] 'to think, SI' (← Lat. *pensare*), *'nzomma* [nˌˈt͡sommə] 'so' (← Lat. *in somma*), *perzona* [pərˈt͡soːnə] 'person' (← Lat. *persona*), *perzeca* [ˈpɛrt͡səkə] 'peach' (← Lat. *persica*), etc.

In the dialectal data, the appearance of /s/ after /l/ is not attested, because the /l/ was vocalised in preconsonantal position. However, diachronically it is well traceable that the /l/ was vocalised only at a later stage after it had caused affrication to the /s/, and a counterbleeding order can be discovered between the two processes, e.g., (Lat.) *falsus* → **fal*[t͡s]*o* → (Neap.) *fauzo* [ˈfawt͡sə] 'fake', (Lat.) *celsa* → **cel*[t͡s]*a* → (Neap.) *ceuza* [ˈt͡ʃɛwt͡sə] 'mulberry', **salsa* → **sal*[t͡s]*a* → (Neap.) *sauza* [ˈsawt͡sə] 'sauce', etc.[18]

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

As a concluding remark, the affricational tendency of postsonorant /s/ turns out to be very productive in Neapolitan (and in the regional Italian varieties as well), it also appears in sandhi position, and it can be documented in loanwords as well, e.g., (Neap.) *i' nun sapevo* [inund͡zaˈp̪eːvə] 'I didn't know', (Reg. It.) *nel senso* [nelˈt͡sɛnt͡so] 'in that sense', *il Signore* [ilt͡siɲˈɲoːɾe] '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* [ˈfaːvət͡sə], *ceuza* → *ceveza* [ˈt͡ʃɛːvət͡sə], *sauza* → *saveza* [ˈsaːvət͡sə]; and furthermore in other /lC/ clusters as well, e.g., (Lat.) *altus* → (Neap.) *auto* [ˈawtə] → *àvuto* [ˈaːvətə] 'tall', (Lat.) *caldus* → (Neap.) *caudo* [ˈkawɾə] → *cavero* [ˈkaːvərə] 'hot', etc.

[19] The voicing of [t͡s] after the nasal stop occurs only word-internally, and almost never before the word-final schwa; cf. *penzo* [ˈpɛnt͡sə] 'to think, SI' vs. *penzammo* [pənˈd͡zammə] '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* [ˈmatt͡ʃ(ə)] 'may', *luglio* [ˈlucc(ə)] 'July', etc. (cf. Huszthy 2012).

[per'ʦɛmb̥re] 'forever'; ***jeans*** ['ʤintʦə], ***Gonzalo*** [gon'ʤa:lo] 'first name of the Argentinian football player, Higuain', etc.[20]

2.3. Preconsonantal sibilants (palatalisation)

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

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

When /s/ occurs next to a non-coronal consonant, it gets palatalised to [ʃ] or [ʒ], depending on the voice value of the following segment. The palatalisation of /s/ before a consonant is a general tendency in the central-southern dialects of Italy, in certain areas it happens even before coronal consonants, e.g., in Abruzzo, Molise, South-Eastern Lazio and certain internal territories of Campania (cf. Maturi 2002; Loporcaro 2009; Lorenzetti 2015). It seems that in Neapolitan, the absence of palatalisation before coronal consonants is exceptional, due to the preservation of the place feature. The process may be easily described in the framework of classical *SPE* phonology (Chomsky & Halle 1968) by the following 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'ʃɛss] 'shut up!', ***si' scarz*'** [si'ʃkarʦ] 'you're weak', ***pisciazz*'** [piʃ'ʃatʦ] '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).

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

As a result, before bilabial, labiodental and velar voiceless consonants, sibilants appear as a prepalatal [ʃ] in Neapolitan (in both word-initial and word-internal position), e.g., (Neap.) ***Spaccanapule*** [ʃpakkaˈnaːpələ] 'a famous street in central Naples', ***aspettà*** [aʃpətˈtaː] 'to wait'; ***sfastidio*** [ʃfasˈtiːɾjə] 'boredom', ***asfardo*** [aˈʃardə] 'asphalt'; ***scarrafone*** [ʃkarraˈfoːnə] 'cockroach', ***Pasquale*** [paˈʃkwɑːlə] 'Pascal, a frequent given name', etc. Moreover, /sC/ clusters vacillate between prepalatal and alveolar pronunciations in the regional accents of Standard Italian, e.g., (reg. It.) *o*[s/ʃ]***pedale*** 'hospital', ***soddi***[s/ʃ]***fatto*** 'satisfied', ***fa*** [s/ʃ]***chifo*** 'disgusting', etc.

On the other hand, /s/ before voiced non-coronal consonants appears as a [ʒ] in Neapolitan, e.g., (Neap.) ***sbirro*** [ˈʒbirrə] 'policeman', ***svacantato*** [ʒvakanˈd̥aːtə] 'empty', ***Osvaldo*** [oˈʒvaldə] 'given name', ***sgarro*** [ˈʒgarrə] 'mistake', etc.; as well as before the bilabial sonorant, e.g., ***smorfia*** [ˈʒmɔɾfjə] 'smirk', ***asma*** [ˈaːʒmə] 'asthma', etc. A vacillation similar to the one noticed in the previous paragraph characterises the regional Italian varieties, e.g., (reg. It.) [z/ʒ]***brìgati!*** 'hurry up!', [z/ʒ]***viluppo*** 'development', [z/ʒ]***gabello*** 'footstool', ***tra***[z/ʒ]***mettere*** 'broadcast', etc.

The palatalisation process appears to be very productive in the synchronic phonology of Neapolitan. Several innovative examples can be found among the recordings of the corpus, mostly in the "Neapolitanised" pronunciation of foreign proper names or recent loans, e.g., ***whi***[ʃ]***ky***, ***icecream*** [ajˈʃkrimmə], ***Swarovski*** [ʒbaˈɾoʃk(i)], ***Era***[ʒ]***mus***, ***(Vittorio) Ga***[ʒ]***mann***, ***pacemaker*** [peˈʒmeːker], ***baseball*** [beˈʒbollə], ***facebook*** [feˈʒbukkə], ***spiderman*** [ˌʃpajderˈmɛnnə], ***password*** [paˈʒwordə] (even before the bilabial approximant), ***La***[ʒ] ***Vegas***, etc.

The corpus also reveals a few exceptional cases, however, in which a preconsonantal /s/ does not regularly get palatalised in Neapolitan because of dissimilation. If a word contains an underlying prepalatal sibilant, the palatalisation in /sC/ clusters is usually blocked, e.g., ***pescespada*** [peʃʃeˈspaːdə] (or rarely [peʃʃeˈʃpaːdə]) 'sword fish', ***communi***[ʒm]***o e fa***[ʃʃ]***i***[zm]***o*** 'communism and fascism', ***scisma*** [ˈʃʃizmə] 'schism' (vs. ***sisma*** [ˈsiʒmə] 'seism'), etc.

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

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

2.4. A rule-based approach

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

(1) Rewrite rules affecting the distribution of /s/ in Neapolitan[25]

a. /s/ → [ts] / C__

b. %C[−son] → [+voi] / [+son]C__

c. /s/ → [ʃ] / C__C[−cor]

d. C[−son] → [+voi] / C__C[+voi]

The distribution of the main variant [s] can be described in this framework easily as "[s]/V__V"; that is, [s] occurs in intervocalic position.[26] Rule (1a) represents the affrication process described in section 2.2. The environment of the rule is postconsonantal, where C is not specified for phonotactic reasons since in Neapolitan /s/ can be preceded only by alveolar sonorants /l, n, r/ (cf. section 2.2). The related rule, responsible for the voiced counterpart of the affricate sibilant is in (1b), which facultatively affects the sibilant by voicing if it stands after sonorants (especially after /n/). This process is optional which is expressed by the 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.

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

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

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

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

Similarly to the case of Neapolitan, as it was described in the previous sections, other Italian dialects may also have palatalisation in /sC/ clusters. The term "palatalisation" will be used in this section for the cases of all retracted articulations of /s/, even if the result is not a prepalatal [ʃ], but an alveo-palatal [ɕ] or a retroflex [ʂ], or some in-between realization. In fact, palatalisation processes of /s/ (intended as tongue retraction) affect almost every dialect of Italy (and 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'daŋɲə] 'mountain', ***tranquillo*** [traŋ'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 wich 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).

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

3.1. A dialectal typology of /sC/ clusters

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

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

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

Lorenzetti (2015) establishes a typology of /sC/ clusters, on the basis of Rohlfs (1966), as shown in (2). In (2), the ticks mark the tendency of /s/ to palatalise before a consonant, while the ✗ signals the general absence of palatalisation in the given phonetic context. Based on the the table in (2), we can distinguish four general patterns in Italian dialectology: in the dialects of (2a) palatalisation never occurs, while in (2b), it characterises all occurrences of the /sC/ clusters. On the 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/.

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

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

	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	✓	✓	✗

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

In addition, the northern varieties seem to share a very similar behaviour regarding palatalisation: according to the *Vivaldi* database, there is no significant phonological difference between Piedmont, Trentino (2c) on the one hand, and Ticino, Lombardy, Romagna (2b) on the other. It seems that Northern Italian dialects keep palatalising sibilants in every phonetic context: both in consonant clusters and in intervocalic position. In this case, the results of the palatalisation 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.

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

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

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

Consequently, the four patterns can be "regeneralised" as follows: firstly, we may have a "Tuscan-type" of /sC/-distribution, which lacks palatalisation; secondly, we may have a "Northern-type", where palatalisation is exclusive (before all consonants, and even in intervocalic position);[31] thirdly, we may have a Neapolitan-type of palatalisation, which spares /st/ clusters; and finally, we may have an Abruzzese-type, which applies palatalisation before /st/ only.

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

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

A similar typology offers a great opportunity to be analysed in the framework of classical Optimality Theory, hereafter OT (Prince & Smolensky 2004). OT was developed precisely to handle conflicts between simultaneous phonological 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.

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

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

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

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

a. PALATALISATION-/sC/ (PAL-/sC/): Preconsonantal sibilants are articulated with a retracted tongue tip (violated: *[sp]).

b. IDENT-C: The quality of the input consonants is identical to the quality of the output consonants (violated: /sp/ → *[ʃp]).

c. OCP[COR]: Adjacent coronal obstruents are prohibited (violated: *[st]).

d. AGREE[PLACE]: Adjacent obstruents must share their [place] feature (violated: *[ʃt]).

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

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

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

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

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

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

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

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

The four candidates in Tableau 1 (a–d) correspond to the four groups of /sC/ palatalisation processes catalogued in (2). The first column of the table summarises the three possible occurrences of /sC/ clusters in the dialects, that is, sibilants before /p/, before /k/ and before /t/ (where the obstruents indicate places of articulation as well).[32] In the analysis of Tableau 1, I present a synthetic analysis 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.

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

In the Abruzzese-type of palatalisation (which is probably the most curious among the palatalisation types in Italian dialects), the winning candidate in Tableau 1 is (d), in the case of which only the alveolar consonants may cause palatalisation to the sibilants. In fact, according to this analysis, I claim that the Abruzzese-type of palatalisation process is due to the first ranked OCP[COR] constraint, and not to the PAL-/sC/; and that is also the reason why this type is so different from the other patterns. In the dialects of this group, the palatalisation tendency of preconsonantal /s/ is not usually present, but the OCP[COR] constraint requires homorganic [st] (or /s/ plus alveolar) clusters to dissimilate for the place of articulation, which results the palatalisation of prealveolar /s/.

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

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

a. Tuscan-type (group (2a)):
IDENT-C, AGREE [PL] ≫ OCP[COR] ≫ PAL-/sC/

b. Northern-type (group (2b)):
PAL-/sC/, OCP[COR] ≫ AGREE [PL] , IDENT-C

c. Neapolitan-type (group (2c)):
AGREE [PL] ≫ PAL-/sC/, OCP[COR] ≫ IDENT-C

d. Abruzzese-type (group (2d)):
OCP[COR] ≫ AGREE [PL] , IDENT-C ≫ PAL-/sC/

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

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

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

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

a. LENITION[SIBILANT](LEN[SIB]): Intervocalic sibilants get voiced (violated: [*VsV]).

b. PALATALISATION[SIBILANT] (PAL[SIB]): All sibilants are articulated with a retracted tongue tip (violated: *[VsV]).

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

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

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

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

/sposa/	LEN [SIB]	PAL-/SC/	AGREE [PL]	IDENT-C	PAL [SIB]
a. [ˈspoːsa]	*!	*	*		*
b. [ˈspoːza]		*!	*	*	*
c. [ˈɕpoːsa]	*!		*	*	*
d. [ˈɕpoːza]			*	**	*!
☞ e. [ˈɕpoːʑa]			*	**	

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

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

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

/sposo/	AGREE [PL]	PAL-/SC/	IDENT-C	LEN [SIB]	PAL [SIB]
a. [ˈspoːsə]	*	*!		*	*
b. [ˈspoːzə]	*	*!	*		*
☞ c. [ˈʃpoːsə]	*		*	*	*
d. [ˈʃpoːzə]	*		**!		*
e. [ˈʃpoːʒə]	*		**!		

The usual Neapolitan (and Campanian) dialectal pronunciation of *sposo* 'groom' is [ˈʃpoːsə],[33] as it was also mentioned in section 2.1, and the pronunciation patterns of the word are similar in Sicily and in Southern Lazio as well (with some differences in the vowel system, and in the exact place of articulation of the consonants; and of course, in the ranking of the constraints of (3). In the case of Southern Italian dialects, the LEN[SIB] constraint is obviously lower ranked (since intervocalic lenition influences the northern dialects, not the southern ones, cf. Loporcaro 2009), similarly to the PAL[SIB] (since in southern dialects intervocalic /s/ does not get palatalised).[34]

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

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

Aside from /sC/-palatalisation, described and analysed in sections 2 and 3, there are plenty of other singular phonological phenomena related to the sibilants in the dialects of Italy. I aim to mention here two further processes, without any analysis, however: the deletion of /s/ from consonant clusters and preconsonantal *s*-voicing, an unusual kind of regressive voice assimilation in which only the 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*[ˈzaː] 'to marry', as attested in section 2.1) may be expressed through a higher ranked subconstraint of LEN[SIB], specified for [stress].

4.1. Sibilant deletion

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

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

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

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

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

4.2. Voice assimilation or *s*-voicing?

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

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

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

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

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

[36] It can be surprising that diacronically 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.

tional phase in the mental representations of the speakers, after which the segments appear on the surface.

4.3. Outlook

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

The palatalisation of preconsonantal /s/ is a very common process in Italian dialectology, but the phonetic and phonological treatment of /sC/-palatalisation should be distinguished. In northern dialects we can encounter mostly a phonetically based palatalisation, while in the centre and in the south of Italy the process is phonologically motivated.[37] This claim is supported even by substandard spoken Italian, in fact, spoken regional varieties of Standard Italian include /s/-palatalisation only when it is not the result of a phonological process, but it is only an inherent phonetic property of sibilants (like in the majority of the northern varieties). However, in southern and central-southern varieties, the use of /s/-palatalisation before a consonant is stigmatised in Standard Italian, therefore speakers try to avoid it.

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[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.

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