Gianni Schicchi: A "diction map" for Japanese singers of Italian

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In Japanese faculties of music singers are required to learn Italian from the first academic year, when they start mastering the fundamentals of their area of expertise, which largely relates to ancient Italian arias. In this article I sketch a "map" of Italian speech sounds that Japanese singers find difficult to articulate, based on the data I collected in a class focused on the study of an operatic libretto: Puccini's *Gianni Schicchi*. I wish this contribution could turn into a useful point of reference for instructors teaching Italian diction to Japanese opera singers.

日本の音楽学部では、声楽専攻の学生にとってイタリア語は一年生のときから必修科目である。同時に彼らは声楽の基礎をイタリアのアリアに基づいて学び始める。本稿では日本人声楽家が難しく感じるイタリア語の発音をまとめる。本稿はオペラ「ジャンニ・スキッキ」の歌詞を教材として利用した授業から収集した資料に基づいている。本稿が日本人声楽家にイタリア語を教える教員の役に立つことを望む。

In a previous study (Zamborlin 2008) based on data collected during a one-semester class in Italian lyric diction, I discussed some of the main issues involved in the creation of a syllabus of Italian for Japanese graduate students majoring in opera. In particular, I pointed out that in this venture, two objectives have to be pursued: the development of students' *microlinguistic competence*, and the enhancement of their *contrastive-phonetic awareness*.

I defined "microlinguistic competence" as the indispensable linguistic knowledge a singer is required to possess in order to understand the meaning of the lyrics in their repertoire (Zamborlin 2008). In this respect, it should be mentioned that the language of Italian *melodramma* differs remarkably from modern standard Italian. In fact, it is probably more accurate to regard it as a *microlingua* (Mezzadri 2003: 250)—that is to say, a sort of technical language used exclusively by specialists and characterized by a distinctive

lexicon and style. In order to develop this microlinguistic competence, learners need to focus on lexical, grammatical, and stylistic features which are peculiar to that particular code of expression and which recur across different lyrical texts, from the ancient arias of the 17th century to 19th century opera (Dardi & Soldà 2006, 2007).

As for "contrastive-phonetic awareness," I defined it as the ability to distinguish differences in speech sounds, associating each sound to a phonetic symbol and reproducing each of them through conscious reflection and kinesthesia (Zamborlin 2008, and under review). While microlinguistic competence is crucial to understanding the semantics of any operatic text, the enhancement of *contrastive-phonetic awareness* constitutes the ideal point of departure for the study of pronunciation.

Although microlinguistic competence and contrastive-phonetic awareness represent two faces of the same coin, in this paper I am only going to focus on the latter aspect; that is, the phonological feature. The purpose of this study is, in fact, to sketch a "map" of Italian speech sounds that Japanese native speakers find difficult to articulate correctly (see the Appendix for a comprehensive outline). Considering that in Japan, opera majors represent a conspicuous group among learners of Italian (Zamborlin 2006), I hope this contribution could turn into a useful point of reference for instructors of Italian working with Japanese opera singers. This paper does not discuss class activities aimed at redressing students' incorrect productions. Here, as a matter of fact, I would like to focus only on a contrastive description of the syllabic/phonological structures of Italian and Japanese. Examples of exercises, however, are described in Zamborlin (2008).

My discussion will be organized along the following lines. I will first examine the most prominent phonological differences between *neutral Italian* and *neutral Japanese*, focusing on the syllabic structure of the two languages. With Canepari (2005, 2006), by "neutral Italian" I refer to the pronunciation of *modern standard* Italian (not of the *traditional standard* Italian modeled on the 19th century Florentine dialect). By "neutral Japanese" I refer to the pronunciation of standard Japanese based on the Tokyo dialect (Canepari 2007: 275-394). Consequently I will highlight the characteristics of neutral Italian vowels and consonants from the Japanese native singer's standpoint.

The *Gianni Schicchi* class

The present analysis draws on examples I have collected during a special class of three lectures (90 minutes each) attended by a group of fourth-year students majoring in opera who, during their last academic year, were preparing to stage *Gianni Schicchi,* an opera in one act from Giacomo Puccini's *Trittico* (1918) as a project for graduation.

From the linguistic point of view, the language of Gianni Schicchi's libretto distinguishes itself for a lively flow of *parlante* and *recitativo* in the regional Italian of Tuscany, interrupted by very short episodes in a Bolognese-like dialect and Medieval Latin. When the truly lyrical moments emerge, such as in the famous arias of Rinuccio and Lauretta, the language is highly poetic, full of artificial constructions which are typical of literary Italian. As for the plot, the opera tells the story of an amazing fraud accomplished in 13th century Florence by Gianni Schicchi, an enterprising cheater.

All students attending the class had previously taken three semesters of Italian and their proficiency was at a "basic user level" (levels A1/A2 consistent with the Common European Framework of Reference for the Language Portfolio). By the time students attended my class, they had already studied parts of *Gianni Schicchi*'s vocal score under the supervision of an opera specialist, a Japanese professor who was in charge of the entire project. My class was adjoined to the project toward the end of the first semester, and its purpose was restricted to a small but crucial area: raising students' awareness of the phonetic differences between Japanese and Italian by reading a selection of passages from *Gianni Schicchi*'s libretto. My role was to serve as a purely linguistic advisor. The director of the opera (a native Italian who was also a theatrical diction coach) carried out reinforcement activities during the rehearsals. As for vocal practice, the responsibility was left exclusively to students' vocal trainers.

While in Zamborlin (2008) I analyzed productions observed in a class where students were actually singing Italian arias with an accompanist playing the piano, the examples discussed here include only utterances performed by students whose task was to read aloud some sections of the libretto. The approach was strictly *phonetic* (Canepari 2007: 18-19): namely, the attention was converged on *phones*, that is to say, practical (although generalized) productions of speech sounds. Students were recommended to bring an IC recorder with them to class. They were required to record both false and correct productions (supplied by the teacher) and to compare them through accurate listening at home. I provided IPA transcriptions of both false and correct productions and I also found it helpful to rely on the power of images by showing students Canepari's (2005) orograms. Orograms are diagrams downloadable at Canepari's website (*canIPA Natural Phonetics: http://venus.unive.it/canipa/*) which reproduce the position of the speech organs during the articulation of consonants. The orograms I used for this class are those representing the Italian and the Japanese consonants contrastively analyzed in this paper.

Syllabification

An effective point of departure for the study of pronunciation appears to be a cross-linguistic analysis of the rules governing the syllabic structure of the two languages in examination.

Italian

Italian words may consist of one or more syllables. In standard Italian, words always end with a vowel, with the exception of loanwords (*sport*), or Latinisms (*lapis*, "pencil"). It is true that some forms of the article (*il*), prepositions (*per*) and negative particles (*non*) end with a consonant, but the rules of standard Italian syntax do not allow them to appear in sentence-final position. The same rule, however, does not hold true for the language of *melodramma* in which elision of end-vowels (1) occurs with a high frequency, even at the end of an utterance (2). Notice that all the examples quoted henceforth are taken from *Gianni Schicchi*'s vocal score (VS, Puccini 2006) in which syllable boundaries are marked by a hyphen:

(1) Non ci po-trem(o) spo-sa-re.
Now we can't be married. (VS 318-319)

(2) Vien(i), vien(i), vien(i)!
Come, come, come! (VS 223)

Italian words may begin with a consonant, a cluster of consonants, a vowel, or a cluster of vowels. Clusters of two consonants, either at the beginning or within a word, are limited to the occurrences outlined below (see Vincent 1990: 286):

(3) a. /p b t d k g f/+/r/
b. /p b k g f/+/l/
c. /s/+/p b t d k g tʃ dʒ f v l r m n/

In particular, as will become clear in the following sections, Japanese native speakers find it difficult to pronounce Italian words formed by a two-consonant initial cluster (*Schicchi* [ˈskikki]) or containing a two-consonant cluster. Three-consonant clusters are also feasible in Italian, either at the beginning of a word such as in example (4), or within a word, and equally problematic for Japanese singers:

(4) In-si-no in-fon-do si de-ve strug-ge-re!
[ˈstruʤʤere]
He shall have candles burned in his memory. (VS 278)

Three-consonant clusters can only consist of /s/ followed by any of the clusters under (3a) or (3b). As will become understandable below, another problem Japanese singers face concerns the pronunciation of a non final syllable ending in /l, r, s/ or a nasal:

(5) Si cor-re dal[a)] no-ta-io. a) /l/
Mess-er[b)] no-ta-io pres-to! b) /r/
Por-ta-te su con[c)] voi le per-ga-me-ne. c) /n/
Go quickly for the lawyer.
Please Master lawyer!
And don't forget to bring the legal papers. (VS 344-345)

Students usually do not show difficulty with the articulation of intervocalic clusters consisting of a geminate consonant, which always has a syllable boundary between the two: *cad-de* "he fell", *bel-lo* "beautiful." In this regard, it must be pointed out that in Italian, unlike Japanese, length only concerns consonants, which can be geminated, but never vowels. In fact, as the following examples shows, in Italian consonant length is *distinctive*, that is, it can affect the meaning of words, determining the production of a word with a complete different meaning (6a), or the creation of a meaningless word (6b):

(6) a. camino [kaˈmi:no] "chimney" vs. cammino [kam ˈmi:no] "way"
b. sole [ˈso:le] "sun" vs. *solle [ˈsolle] (no meaning)

Conversely, vowel length does not imply any semantic alteration in Italian (Canepari et al. 2001: 11-12). In Japanese, on the other hand, vowels can be short or long distinctively. Namely, in Japanese long vowels represent both phonemic sequences and phonetic geminations:

(7) a. /o.ba.san/ "aunt"
b. /o.ba-a.san/ "grandmother"

In spoken Italian, for instance, vowel lengthening may occur, but only for pragmatic reasons, for example in order to express emphasis, irony, or anger. In the Italian of the opera, moreover, vowel extension is an ordinary occurrence determined by musical factors, and with no phonemic alteration:

(8) E vo ran-da-a-a-a-gio co-me un Ghi-bel-li-no.
Then into exile, never more to see you. (VS 384)

Sequences of vowels belonging to the same syllable always conform to the pattern of a nuclear-vowel followed, or preceded, or both, by [j] or [w]: pia-no [ˈpjaːno] "slowly," cuo-re [ˈkwɔːre] "hearth."

Japanese

A feature peculiar to the phonology of Japanese, and of which Japanese singers need to be made aware, concerns the distinction between syllables and *morae*. A "mora" can be defined as the shortest time in which a syllable can be pronounced (Nagano-Madsen 1992: 17). In this respect it is interesting to notice that the rhythm in traditional Japanese poetry (i.e., *haiku, tanka*) counts the number of morae in each line, not of syllables as occurs in Italian poetry and *melodramma*.

As for the writing system, the two syllabic alphabets used in Japanese, namely *hiragana* and *katakana*, are mora-based systems in which each letter corresponds to a mora. The only exception to this rule concerns morae involving a consonant-glide sequence in the onset position, such as in "Tokyo," which is represented with two letters, one of which is a subscript: /to-o.kʲo-o/ (Kubozono 2002: 61).

As Nagano-Madsen (1992: 24) explains, some morae cannot occur independently and in standard Japanese they cannot allow pitch accent either. These morae are always preceded by independent ones. Following Kubozono (1989) the two different types of morae can be defined as "syllabic morae" (9a) and "non syllabic morae" (9b) respectively.

Notice that the traditional phonemic transcription known as *kunreishiki* is used in the examples in (9) (*ti* instead of the Hepburn system's *chi*). Also notice that in the examples relating to Japanese mora boundaries are marked by hyphens, whereas syllables boundaries are marked by dots. It is also important to make clear that in Japanese syllable boundaries are mora boundaries too, although not vice versa (Kubozono 2002: 31):

(9) a. V /o/ "tail"
CV /ki/ "tree" Syllabic morae
CjV / tɕa/ "tea"
b. VH /o.ka-a.sa-n/ "mother"
N /ki-n/ "gold" Non syllabic morae
Q /ha-p.pa/ "leave"

As for non syllabic morae, the latter part of a long vowel, such as in /o.ka-a.san/ (9b) in phonology is usually represented as /H/. This is to show that there is no morpheme boundary between /V-H/. Non syllabic morae are also the moraic /N/ (ン), such as in /ki-n/, and the first part of any geminated consonant, represented by the voiceless obstruent /Q/ (ッ), which can occur only medially (Nagano-Madsen 1992: 24).

Negative transfers from L1 syllabic structure into Italian

As Kubozono (1989, 1995) pointed out, morae can be regarded as perceptual or as psychological units. For this reason, Japanese native speakers segment auditory stimuli mora by mora. That is to say, they make a CV-based (i.e., mora-based) segmentation when they hear words. As a result, they tend to insert a vowel (i.e., epenthetic vowel) wherever they feel it necessary when hearing/uttering words in a foreign language with a more complex syllable structure, such as English, German, French, or Italian.

This explains the difficulties mentioned above with regard to the articulation of Italian words beginning with, or containing, two (10a, 10c) or three (10b) consonant clusters, apocopated words (10c), and words ending in /l, r, s/ (10d) or a nasal (especially when followed by a consonant) (10e):

(10) a. Schicchi /ˈskikki/

b. struggere /'struʤʤere/ "to melt"

c. potrem /poˈtrem/ "we will be able to"

d. Messer /mesˈsɛr/ (notaio) "Mr. lawyer"

e. Piangerem /piandʒeˈrem/ (tutta la vita) "We will cry forever"

Japanese speakers usually utter the examples listed in (10) as follows:

(11) a. /ˈsukikki/

b. /sutoˈrudʒdʒere/

c. /potuˈremu/

d. /mesˈsɛru/

e. /piandʒeˈremu/

Katakana

One of the major problems Japanese students of lyric diction face concerns the fact that traditionally textbooks for singers containing lyric transcriptions tend to rely on *katakana* in order to give hints on how to pronounce words in the target language. *Katakana* is a system Japanese employs for rendering what is supposed to be the "original" articulation of foreign words. The serious problem with this system is that it is grounded on rules of syllabification peculiar to the Japanese language. Therefore, as Shibatani (1990: 862) stressed, when a word from a foreign language is rendered in *katakana* "the original pronunciation is most often grossly altered" (see also Ghizzoni 2005). As a matter of fact katakana can only suggest a vague equivalence of sounds, which by no means can be intended as a correspondence of 1:1. As an example, let us consider an excerpt from Rinuccio's aria (Schicchi's description). If the text in (12a) is rendered in *katakana*, its codification into phonetic symbols would result in something like (12b):

(12) a. Gli o-cchi fur-bi gli illu-mi-nan di ri-so lo str-ano vi-so

b. ɹi͜ˈɔkki ˈɸɯɯɹɯßi ɹi͜ɹˈɹɯmineŋ̍ di͜ˈɹiizɔ ɹɔ͜sɯ tɔˈɹaanɔ ˈßiizɔ

When his eyes are illuminated like a cat's in a gloomy corner (VS 304)

However (12b) differs remarkably from the way (12a) would be read in neutral Italian, which would be:

(13) ʎ͜ˈɔkki ˈfurbi ʎʎ͜ilˈluminan di͜ˈɾi:zo lo͜ˈstra:no ˈvi:zo

It follows that if a singer relies on *katakana* subscripts, her or his enunciation will be altered beyond repair, with tremendously cacophonic effects. Students therefore should be advised that *katakana* cannot provide a criterion for distinction between different sounds. And therefore, in a lyric diction class it would be better to avoid it.

From mora-segmentation to IPA

Ironically, students majoring in opera appear to be seriously concerned with this problem and are willing to acquire a more reliable system of transcription/decoding capable of linking as much as possible *one sound* to *one symbol*.

The phonetic symbols I inputted in material prepared for the class are those of the Official International Phonetic Alphabet (^{off}IPA, to use Canepari's acronym, see Canepari 2007). However, as Canepari (2007: 19-20) explains, ^{off}IPA is often inaccurate and should be considered more as a *phonemic* rather than a *phonetic* alphabet. For that reason, I use to integrate ^{off}IPA transcriptions with symbols from Canepari's phonetic alphabet (^{can}IPA). Nonetheless, I would like to make clear that here I do not pretend to have carried out a precise phonetic analysis. My objective is simply to offer a description of phonetic phenomena based on a transcription system which, although generalized, can be regarded as more accurate than katakana.

Below I will present a comparative description of the phonological systems of Italian and Japanese, based on both the productions I observed in the teaching experience under analysis and data discussed in Zamborlin (2008).

Vowels contrastively viewed

The same as in Italian, Japanese has five vowels: /a, e, i, o, u/. The five vowels of neutral Italian are represented by the graphemes a, e, i, o, u, and can be articulated as the following seven phones [a, ɛ, e, i, ɔ, o, u] according to the ^{off}IPA, and as the following nine phones [a, ɛ, ɛ, e, i, ɔ, ʊ, o, u] according to the ^{can}IPA. As for neutral Japanese, /a, e, i, o, u/ can be articulated as the following five phones [a, e, i, o, ɯ] in line with the ^{off}IPA (Okada 2007), and as the following five phones [ɐ, ɛ, i, ʊ, ɯ] consistent with the ^{can}IPA. A problem—actually more in terms of vocal technique than in terms of phonetics—concerns the fact that in Japanese initial vowels are usually preceded by a sort of glottal stop [ʔ] (Canepari 2006: 288). Accordingly, vocal trainers stress the fact that Japanese students' vowels tend to be too "backward." Bertagnolio (2007), for example, suggests that in order to sing correctly a Japanese opera singer needs to develop the ability of "seeing the vowels coming out from the eyes." In this regard, Dardi and Soldà (2006: 93) propose a technique for forwarding Japanese singers vowels, which consists in having students pronounce vowels aloud while throwing a ball.

As Canepari (2006: 288) explains, Japanese native speakers(/singers) also tend to produce [ˈVV] (i.e., a long vowel) instead of [ˈV:] (i.e., a vowel in a stressed open syllable, perceived as long) such as in (14c) instead of (14b).

(14) a. O mi-o bab-bi-no ca-ro!

b. ˈɔ ˈmi:o babʲˈbi:no ˈka:ɾo

c. ˈʊ ˈmiiʊ bɐbʲˈbiinʊ ˈkaaɾʊ

Oh my beloved daddy! (VS 325)

Comparing how the five vowels are articulated in the two languages, starting with the lowest one, Canepari (2007: 374) pointed out that in Japanese /a/ is pronounced as [ɐ], namely, as a less open vowel compared to Italian [a].

As for /e/ and /o/, in neutral Italian the two phonemes can basically be articulated as open, [ɛ]/[ɔ] and closed [e]/[o]. [ɛ]/[σ], half-open and half-closed, are also feasible (Canepari 1999). In neutral Japanese, on the other hand, [ɛ] and [σ] (half-open and half-closed) are the two only ways in which /e/ and /o/ can be pronounced (Canepari 2006, 2007). Notice that the ^{off}IPA ignores the symbols [ɛ] and [σ]. In the ^{off}IPA chart of Japanese vowels (Okada 2007: 117) however, /e/ and /o/ are represented in a middle position (i.e., neither open nor closed).

The fact that in neutral Japanese there is no distinction between [ɛ]/[e] and [ɔ]/[o] is pertinent to lyric articulation. In fact sometimes I observed that students may tend to open in excess the two vowels under analysis, producing occurrences such as (15c), instead of (15b):

(15) a. Fi-ren-ze è co-me un al-be-ro fio-ri-to…

b. fiˈrentse ˈɛ ˈkoːme unˌ ˈalbeɾo fjoˈɾiːto

c. ɸɯiˈɾɛntsɛ ˈɛɛ ˈkσσmɛ unˌ ˈaɭɯbɛɾσ ɸɯiσˈɾiitσσ

Our Florence is a proud and ancient city … (VS 305)

As for the articulation of /i/, apparently the high vowel does not seem to be problematic, at least in contrastive-phonetic terms. In the two languages, in fact, /i/ is represented with the same phonetic symbol [i].

The most macroscopic difference, both from the vocal and the contrastive-phonetics viewpoint, concerns the articulation of /u/ which is realized as [u] in Italian (16b), and as [ɯ] in Japanese (16c):

(16) a. A-ve-te tor-to: è fi-ne, as-tu-to.

b. asˈtuːto

c. ɐsɯˈtɯɯtσ

You are mistaken, he is clever and cunning. (VS 305)

Japanese /u/ ([ɯ]) lacks the lip rounding of Italian /u/ ([u]). Besides, as Canepari (2007: 347) enlightens us, the Japanese /u/ is articulated with the tongue dorsum in a frontal position. In fact, [ɯ] is back-central while [u] is back, much in a backside position compared to the location in which the ^{off}IPA vowels chart places it (see Okada 2007: 117).

When singing in Italian, students should be instructed to round their lips as much as possible whenever a /u/ appears. In this respect, an exercise Dardi and Soldà (2006: 94) suggest is to have students articulating [u] through a straw. If inaccurate productions are properly acknowledged (and if they are able to store acoustic information into phonetic memory) students can correct them.

Consonants contrastively viewed

Below I will compare consonants in the two languages focusing on those sounds which do not have a correspondence in Japanese, and which constitute a problem for Japanese singers.

Nasals

Neutral Italian has the following possibilities, which students do not find particularly awkward to articulate: [m, ɱ, n, ɳ, ɲ, ŋ]. The only problem I observed with nasals concerns cases in which [n] is followed by a continuous consonant (i.e., one of those produced with an incomplete occlusion of the oral cavity, such as /s/, /z/), or when [n] occurs in final position, especially before a pause (Canepari 2007: 377). In cases like these, students may tend to transfer into the target language a syllabification rule of the L1, producing a moraic [n̩] (17c) instead of the expected phone (17b):

(17) a. Chi vuoi che non s'in-gan-ni.

b. non s‿ɪɲ ˈganni

c. nσn̩ s‿in̩ˈgɐnni

Who would not be deluded. (VS: 377)

Stops

As for stops, [p, b, t, d, k, g], a major problem concerns the articulation of [b] (18b) which, if not redressed, becomes a voiced bilabial fricative [ß] (18c) when /b/ occurs between vowels:

(18) a. Ad-dio spe-ran-za bel-la!

b. ˈbɛlla

c. ˈßɛl.lɐ

Farewell then my sweet beloved. (VS 329)

Another problem with stops concerns the fact that in Japanese /t/ may be realized as a bilabial prepalatal stopscriptives [ʈɕ] (19c) by assimilation before [i, j] (Canepari 2007: 377):

(19) a. Ti chie-si un ba-cio.

b. ti‿ˈkjeːzi

c. ʈɕiˈkjɛɛzi(ɖʑi)

I asked to kiss you (VS 431)

Stopscriptives or affricates

Neutral Italian has two diphonic pairs (i.e., voiced vs. unvoiced) of stopscriptives, [ts, dz] and [ʧ, ʤ]. The main problem concerns the pronunciation of the second pair, which if uncontrolled tend to be articulated as [ʈɕ] (20c) and [ɖʑ] (21c) respectively:

(20) a. L'Ar-no pri-ma di cor-re-re al-la fo-ce …

b. ˈfoːʧe

c. ˈɸσσʈɕɛ

(Here meandering gently through the country) wonders the Arno … (VS 306)

(21) a. E ven-ga Giot-to dal Mu-gel sel-vo-so …

b. ˈʤɔtto

c. ˈɖʑɔtto

(Here we have gathered men of art and science:) Arnolfo, Giotto, architects and painters… (VS 308)

Conscrictives or fricatives

In neutral Italian we also find two diphonic pairs of constrictives, [s, z] and [f, v], along with a voiceless post-alveopalatal protruded self-geminant [ʃʃ]. Japanese native speakers generally have problems with the articulation of [f, v] (22b) which usually are substituted by [ɸ] and [ß] respectively (220c):

(22) a. Ad-dio Fi-re-e-e-en-ze ad-dio cie-lo di-vi-no!

b. fiˈreeeentse ˈdiviːno

c. ɸɯiˈrᴇᴇᴇᴇntsᴇ ˈdißiːno

Farwell dear Florence, farewell enchanting city! (VS 385)

Another problem concerns the articulation of [ʃʃ] (23b) which tend to be pronounced as [ɕ] (23c):

(23) a. La-scio a Si-mo-ne i be-ni di Fu-cec-chio …

b. ˈlaʃʃo

c. ˈlɐɕio

Then (I leave to) to Simone the houses in Fucecchio … (VS 403)

It has to be noticed that in Japanese /s/ shows an allophonic variation between /ʃ/ before /i/, and /s/ before any other vowel. However, although Japanese native speakers tend to produce /si/ (Simone [siˈmoːne]) as [ɕi]([ɕiˈmσσnᴇ]) and the voiced counterpart [zi] as [ʑi], singers are usually able to control this particular phenomenon and avoid the incorrect productions.

Approximants

As for the approximants [j, w], the main problem concerns the production of [w] which is velar rounded. Japanese speakers, if not adequately trained, substitute it with the unrounded [ɯ̟] (24c). The difficulty has the same relationship with articulation of [u] which is generally replaced by [ɯ]:

(24) a. No, no, po-chi quat-tri-ni!

b. kwatˈtriːni

c. kɯ̟ɐtˈtσɻiini

No, that would be wasteful! (VS 396)

Trill, tap, and laterals

The final problems with consonants concern the articulation of the trill (poly-vibrant alveolar [r]) (25b)/r/, which between vowels (see Colorni 1996) becomes a tap (mono-vibrant [ɾ]) (26b), and the articulation of the two laterals: the alveolar /l/ (27b), which in neutral Italian becomes [l̪] before [ʧ, ʤ, ʃ] (28b), and the palatal [ʎ] (29b). Japanese native speakers may replace the five distinct sounds [r, ɾ, l, l̪, ʎ] with the voiced lateral flap [ɻ(ɯ)], or may articulate /r/ as /l/, or vice-versa, when the two phonemes occur in a close position (30):

(25) a. Da-te-mi i pan-ni per ves-tir-mi.

b. ves'tirmi

c. ßɛsɯ'ti.lɯmi

Give me the night gown and the kerchief. (VS 371)

(26) a. Pro-pon-go di ri-me-tter-ci a-lla gius-ti-zia e all'o-nes-tà di Schic-chi.

b. pro'poŋgo di ɾi'mɛttertʃi

c. pɯ.lɔ'pɔŋ̍gɔ di ɾi'mɛttɛ.lɯtɕi

I move that the decision be left to the fair minded judgment of Gianni (VS 370)

(27) a. Ec-co la cap-pel-li-na.

b. kappel'li:na

c. kɐppɛ.l'.liinɐ

Here is Donati's nightcap. (VS 372)

(28) a. L'uo-vo di-vien pul-ci-no …

b. puḷtʃi:no

c. pɯ.lɯtɕiinɔ

Acorns become great oak trees… (VS 377)

(29) a. Il vi-so dor-mi-glio-so …

b. dormiʎ'ʎo:zo

c. dɔ.lɯmi.liɔɔzɔ

A visage tired and sleep… (VS 377-378)

(30) a. Quan-to du-ra l'a-mo-re fra i pa-ren-ti!

b. 'duɾa.l̩.amo:ɾe

c. 'dɯ.lɐ.l̩.ɐmɔɔlɛ

How enduring is love between relations! (VS 360-361)

When they become able to articulate [r] correctly, some singers may tend to geminate it, presumably by reason of hypercorrection:

(31) a. Sì, sì ci voglio andare...

b. an'da:ɾe

c. ɐŋ̍'darrɛ

Concluding remarks

In this article I offered a comparative description of the syllabic and phonological systems of neutral Italian and neutral Japanese founded on data I have collected in a class. I also discussed the importance of helping singers identify sounds as phones, each of which needs to be considered as linked to a phonetic symbol. I would like to call attention to the relevance of training singers not simply to pronounce sounds in a foreign language, but to reflect consciously about the movement of the speech organs while articulating phones or when redressing incorrect productions of sounds.

I would also like to point out the relevance of the teaching experience under analysis, despite its conciseness. In Japan, as in any conservatory of music around the world, opera majors are required to learn Italian, in particular when mastering the fundamentals of their area of expertise,

working on a repertoire of ancient Italian arias. Ironically, however, the importance of the study of phonology is often ignored in Japanese faculties of music. This contribution therefore can probably be regarded as the account of a rather exceptional experience.

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Appendix

Synopsis of the Italian speech sounds that Japanese native speakers find difficult to articulate: Target sounds and actual articulations

Phonetic level

Vowels

Target sounds	Japanese native speakers' (JNS) articulations
(i) u e o ɛ ɔ a	(i) ɯ ɛ ɔ ɐ

Consonants (according to the [off]IPA chart)

Target sounds → JNS' articulations

bilabial	labio-dental	dental	alveolar	post-alveo-palatal	post-alveo-palato-labial	palatal	velar	velo-labial	SONORITY voiced (+) unvoiced(–)			
m	ɱ	n[1]		ɳʲ		ɲ	ŋ		+	nasals		
p b[2]		t[3] d					k g		– +	stops		
		ʦ ʣ			ʧ[4] ʤ[5]				– +	affricates		
		s[8] z[9]			ʃ[10]				– +	fricatives		
	f[6] v[7]								– +			
						j	w[11]		+	approximants		
			r[12]						+	polivibrant	trills	
			ɾ[13]						+	monovibrant		
			l[14]	ɭʲ[15]		ʎ[16]			+	laterals		

1) n → N
2) b → β
3) ti → ʦi
4) ʧ → ʦ
5) ʤ → ʣ
6) f → ɸ
7) v → β
8) si → ɕi
9) zi → ʣi
10) ʃ → ɕ
11) w → ɯ
12) r
13) ɾ
14) l
15) ɭʲ
16) ʎ
→ ɺ

Syllabic-structural level

Sequences of (C)CC

Target sounds	JNS' articulations (application of L1 syllabification rules)
Possible occurrences of CC in Italian a. /p b k g f/+/r/ b. /p b k g f/+/l/ c. /s/+/p b k g ʧ ʤ f v l r m n/	Insertion of epenthetic vowel /u/, or /o/ in combination /t d/ + /r l/
Possible occurrences of CCC in Italian a. /s/+/p b k g f/+/r/ b. /s/+/p b k g f/+/l/	
Apocopated words ending in /r/, /l/, /m/	Addition of /u/
Apocopated words ending in /n/	/n/ → moraic N