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THE CHANGING AESTHETICS OF VOCAL REGISTRATION IN THE AGE OF 'VERISMO'

BY BARBARA GENTILI*

ACHIEVING A PERFECTLY SMOOTH VOCAL LINE that joins pitches without any perceptible change in the timbre of the voice is considered to be a basic skill of the Western classically trained singer. This ability, which is crucial to what the literature on voice studies defines as 'vocal registration', requires a considerable amount of time and effort from singing students (and their teachers) to be mastered. Its achievement is essential in order to sing in a comfortable, relatively effortless and expressive manner.

Approaches to vocal registration varied widely throughout the history of classical singing pedagogy, as they responded to changing ideas of vocal beauty which, in turn, were correlated with different degrees of sensitivity towards the gendered nature of the singing voice. Our current conception of vocal registration is deeply rooted in a specific aesthetic vision of the operatic voice that developed in the decades spanning the end of the nineteenth century and the beginning of the twentieth. In this period, an interest in the scientific observation of the working of the vocal apparatus had become ubiquitous although vocal treatises, especially those belonging to the Italian singing tradition, ~~which~~ still displayed a stubborn loyalty to modes of teaching that were linked to the previous schools of *bel canto*.

At the same time, the rise of a realistic genre of opera, known as *verismo* opera, accelerated the decline of old-fashioned, *bel canto*-like techniques for achieving vocal registration. *Verismo* prompted highly gendered vocal types, whose standardization on a global scale was favoured by the large and ever-increasing distribution and consumption of early recordings from the beginning of the twentieth century. This article will explore the changing aesthetics of vocal registration in an extremely dynamic period of Italian opera singing, when *verismo* and then later pre-electrical recordings were reconfiguring the accepted attributes of the operatic voice. First, a historical overview of vocal treatises will show how the concept of vocal register started to become framed in precise anatomical terms by vocal pedagogues only from the mid-nineteenth century onwards, as a consequence of the ongoing scientific investigation of the human voice. Second, a study of late nineteenth-century literature on vocal registration will illustrate the fundamental principles that informed the training of singers. As many of them left an aural trace of their vocalism in

early recordings, this pedagogy will be read against the evidence provided by selected pre-electrical recorded excerpts. I will approach their analysis from the autoethnographic perspective of ‘insider knowledge’. These recordings eloquently show that, in the first decades of the new century, both the old and new techniques for mastering vocal registration lived side-by-side. In the concluding section of the article, I consider these contrasting vocal habits in the context of *fin-de-siècle* Italian operatic culture, and put forward a tentative hypothesis that changes in vocal registration were a conscious response of singers to the massive dissemination of a realistic idiom.

DEFINING THE CONCEPT OF VOCAL REGISTER

Singing jargon is likely to be considered as something mysterious and esoteric by the non-singer musician. This surely extends to the subject of vocal registers, whose very definition is lacking in standard musicological dictionaries.¹ The origins of the term ‘register’ are also uncertain. Where the theorist Conrad von Zabern, writing in late fifteenth century, relates the human voice to the alleged three sizes of an organ’s pipes, Johann Ernst Galliard, in his 1743 English translation of Pier Francesco Tosi’s seminal singing treatise (1723), clearly suggests that ‘register [is] a term taken from the different Stops of an Organ’.² Most medieval authors of music treatises dealing with the voice, meanwhile, adopt variations of the terms ‘chest’, ‘throat’ and ‘head’ to describe what are perceived as different ranges of the voice; but they do not use the word ‘register’.³ Even when the term ‘register’ started to be explicitly and

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¹ For example the *New Grove* defines register (and not vocal register) as ‘a part of the range of an instrument, singing voice or composition’, William Drabkin, ‘Register’, *Grove Music Online. Oxford Music Online*. Oxford University Press, accessed April 9, 2019, <http://www.oxfordmusiconline.com/grovemusic/abstract/10.1093/gmo/9781561592630.001.0001/om-o-9781561592630-e-0000023072>.

² Footnote 21 added by Galliard to Pier Francesco Tosi, *Observation on the Florid Song or Sentiments on the Ancient and Modern Singers* (London, 1743), 23. For Conrad von Zabern see Joseph Dyer, ‘The Voice in the Middle Ages’, in John Potter (ed.), *The Cambridge Companion to Singing* (Cambridge, 2000), 165–77 at 169.

³ In the thirteenth century, John of Garland, Jerome of Moravia, and Marchetto of Padua agree on three partitions of the singing voice; see Dyer, ‘The Voice in the Middle Ages’, 168, 169. The three voices individualized by Jerome of Moravia were: the *vox pectoris* (chest), the *vox gutturis* (voice of the throat), and the *vox capitis* (head). According to E. De Coussemaker, John of Garland followed the same classification: ‘Si sit pectoris, tunc se habet in gravibus... Si sit gutturis, mediocriter... Et sicut vox pectoris tantummodo se habet in gravibus, ita vox capitis tantummodo se habet in superacutis; et sicut modi cantus, voces pectoris debent ordinari cum suo proprio, scilicet in fundamento, et voces gutturis semper in acutis medium locum debent tenere.’ (‘If it is a chest voice, then [the voice] is in the low notes. If it is a throat voice, it is in the middle... And just as far down, the

extensively used, such as in the eighteenth-century practical singing treatises by Tosi and Giovanni Battista Mancini, its meaning remains fundamentally confined to the idea that the voice has several ranges which have different tonal qualities. Brent Jeffrey Monahan, who conducted an extensive survey of vocal treatises written between 1777 and 1927, effectively sums up that ‘the old masters did not refer the registers to changes in the laryngeal action. They were treated simply as different qualities of tone, each quality best adapted to be sung only in a portion of the voice’s compass.’⁴

It is not until Manuel García the younger’s *A Complete Treatise on the Art of Singing* (1841) that a definition of register contained in a treatise of vocal technique is actually associated with a physiological action:

<EXT>By the word register, we understand a series of consecutive and homogeneous tones going from low to high, produced by the development of the *same mechanical principle*, and whose nature differs essentially from another series of tones equally consecutive and homogeneous produced by *another mechanical principle*. All the tones belonging to the same register are consequently of the same nature, whatever may be the modifications of timbre or of force to which one subjects them [my emphases].⁵<EXT/>

The reference to a ‘mechanical principle’ in García’s definition is identified by David C. Taylor with the ‘mechanical’ turn taken by vocal pedagogy in mid-nineteenth century.⁶ The importance of this ‘turn’ did not escape the attention of post-García voice teachers, and it still influences modern writers’ interpretation of the impact that García’s anatomy-based studies had on the history of vocal pedagogy. A connection with Taylor’s idea of a

chest voice is in the low tones, so the head voice is high in the upper notes. And, in regard to the way of singing, chest voices ought to be placed in their proper space: that is, the lower part; throat voices also ought always to have the middle place in the upper section when [the voice is] high.’ See Charles Edmond Henri de Coussemaker, *Scriptorum de Musica Medii Aevi Nova Series* (Paris, 1864), vol. I: 158. Garland seems to refer here to voice types and their ability to sing low, middle or high notes comfortably.

⁴ Brent Jeffrey Monahan, *The Art of Singing* (Metuchen, N.J. and London, 1978), 133. For Tosi, the term register indicates both a range and a specific tone quality (*Observation on the Florid Song*, 23–4). He distinguishes between ‘the feigned and the natural Voice’ which he defines also as Registers. In the previous paragraph 18 he mentions also a *voce di Testa* (22). The same idea is expressed by Domenico Corri in *The Singer’s Preceptor* (London, 1810), 66–7.

⁵ Manuel García, extract from the *Mémoire on the Human Voice* contained in *A Complete Treatise on the Art of Singing*, ed. and trans. Donald V. Paschke (New York, 1984), p. xli.

⁶ David C. Taylor, *The Psychology of Singing* (New York, 1908), 16–17. For Taylor, along with García, a new phase begins in the history of voice culture where the scientific knowledge of the vocal organs and their workings becomes the foundation of any method of instruction.

‘mechanical turn’ can often be found, even if the writer does not state it openly. John Rosselli, for example, observes not only that with García vocal technique began to rest on ‘scientific knowledge of the vocal organs’ but also, and even more importantly, that he wanted his pupils to ‘acquire that knowledge for themselves’.⁷ In other words, in García’s system the pupil must be aware of the mechanics of the vocal apparatus and acquire them in a conscious way. Perhaps David Mason’s perspective on García as the voice teacher who linked eighteenth-century teaching precepts to modern voice science sums up the discussions around his historical role in the most convincing way.

<EXT>[García] attempts to present a comprehensive method of voice training based on his observations and scientific studies of the voice. The belief that one could exercise some direct control upon [the larynx] represented quite a radical change of philosophy in vocal pedagogy .^^. However, in many ways García’s teaching was quite traditional, although presented in a more systematic way, in keeping with his ‘modern’ approach.⁸<EXT/>

Again, though, the link between singing and voice science suggested by Mason prompts the pupil to reflect on the mechanical aspects that put in motion the entire system of voice production, which in turn is mechanically conceived. Before García, voice teachers of the ‘old’ Italian singing school based their methods on the ‘purely empirical system of instruction’ by imitation.⁹ For Taylor, the *Méthode de chant du Conservatoire de Musique* (Paris, 1803), which contains only a few references to physiological mechanisms,

⁷ John Rosselli, ‘Grand Opera: nineteenth-century revolution and twentieth-century tradition’, in John Potter (ed.), *The Cambridge Companion to Singing* (Cambridge, 2000), 96–108 at 101.

⁸ David Mason, ‘The Teaching and (Learning) of Singing’, in John Potter (ed.), *The Cambridge Companion to Singing* (Cambridge, 2000), 204–20 at 211–13.

⁹ Taylor, *The Psychology of Singing*, 326–7. It must not be thought, however, that such an approach was alien to late nineteenth-century Italian voice teachers. Beniamino Carelli, describing the normal daily practice of teaching singing of his day, complains that ‘Il Professore canta e suona l’esercizio; l’allievo lo ripete per eco e questo è il solo mezzo di trasmissione’ (‘The teacher sings and plays the exercise; the pupil repeats it as an echo and this is the only means of instruction’). Carelli concludes that in this way the pupil never links mental processes with the work of the vocal organs. Carelli, *L’arte del canto: Metodo teorico-pratico* (Naples, 1898), i. 1. Another example of the empirical approach to teaching is that of Alessandro Guagni-Benvenuti. He highlights the need to adapt the method of teaching to the individual characteristics of the pupil by closely observing him or her and correcting every small imperfection as it presents itself. Only the experienced teacher will be able to craft the voice of the pupil, never losing faith that the expected results will one day be achieved if both pupil and teacher keep working with rigour. Here even the language suggests the approach of instruction by imitation as practised in the eighteenth-century singing schools and described, for example, by Mancini. See Guagni-Benvenuti, *L’odierna scuola di canto in Italia* (Rome, 1886), 22–3.

represented probably the last significant exemplar of such methods in the training of professional singers. In fact, Domenico Corri's *The Singer's Preceptor*, published in 1810 and aimed at amateur singers, still exhibits such an 'empirical approach', together with a modest acknowledgment of the concepts of vocal physiology.¹⁰ Corri belongs to the long tradition of *bel canto*, having himself been a pupil of the famous composer-castrato and immensely influential singing teacher Nicola Porpora (who had also taught Farinelli, Caffarelli, and Salimbeni). It is notable, therefore, that Corri does not even use the word 'register' in his method and refers to the two principal ranges of the voice as Natural and Feigned voices, a terminology which, as will be shown, was used by much earlier singing pedagogues such as Giulio Caccini (1602).

The awakening of a generalized interest in the physiological aspects of the vocal mechanism in pedagogical writing that was prompted by García by no means implies that there was no scientific research on the physiology of the human voice before him, or that no vocal theorist before García had engaged with these issues. On the contrary, García was building on numerous scientific studies going back at least to Denis Dodart and Antoine Ferrein.¹¹ In 1741, the French anatomist Ferrein realized that in order for the human voice to phonate, the lips of the glottis have to come together, and furthermore that different tensions at the edges of the glottis produce changes in pitch. Because the vibratory system of the glottis lips resembles that of vibrating strings, Ferrein called them *cordes vocales* (vocal cords). Ferrein's classical theory of phonation was followed by the studies of Johann Müller

¹⁰ Domenico Corri, *The Singer's Preceptor* (London, 1810).

¹¹ Although anatomical and physiological investigations of the voice started in Classical times with Hippocrates and Aristotle, the physician Galen (130–200 AD) is justly considered the father of laryngology. He described the principal cartilages, their musculatures, and also gave to the vocal cords the name glottis. However, he believed that the edges of the glottis only came into close approximation during phonation without actual adduction—the contact between the vocal cords. Medieval authors uncritically relied on the esteemed authorities of the past, although in the thirteenth century the 'pseudo-Aristotle' (a monk named Lambertus) added the epiglottis to the description of the vocal apparatus, acknowledging its principal role in vocal production. It was not until the sixteenth century that active anatomical research was resumed with Berengarius of Pavia, who realized that the arytenoid cartilages were two and not one as believed by his predecessors, and Fallopius of Padua, who named the cartilage previously called 'innominata' (unnamed), 'cricoid'. In the seventeenth century four important publications were produced by Battista Codronchi, Hieronymus Fabricius, Caspar Bauhinus, and Julius Casserius, which added new important details on the larynx structure. Still, it was only with Antoine Ferrein's (1693–1769) first acoustic experiments on the natural larynx—of both humans and animals—that Galen's theory on phonation was overthrown. For a survey of the historical work on laryngology, see Philip A. Duey, *Bel Canto in Its Golden Age* (New York, 1951), 13–24.

(1837 and 1839) in the same field and Charles Wheatstone (1837) in acoustics.¹² However it was with García's *Mémoire sur la voix humaine* that the concept of register as the product of laryngeal action became a staple of vocal methods.¹³ With this study García accounted for the results of observations made on his own pupils while singing different sounds belonging to different registers, mainly in terms of laryngeal positions. Subsequently, in 1855, he published the results of laryngoscopic investigations of the actions of the vocal cords in the different registers.¹⁴

Post-García pedagogical writing was much influenced by the definition of registers that the eminent pedagogue had elaborated; meanwhile physiologists acknowledged the scientific soundness of García's theory.¹⁵ The adjustments of the vocal cords throughout the compass of the voice were established as the primary causes of vocal production and register formation.¹⁶ Nevertheless, a great deal of the continuing confusion about the topic of registers has its roots in long-inherited habits of voice teachers. For a long time teachers associated the physical events which take place in the larynx, and which were the focus of modern voice science, with the different phenomenon of a perceived point of resonance in some parts of the body. That '[t]eachers learned to associate various vibratory sensations in the local areas of the chest, neck and head with different pitch levels in the singer's compass' has a long pedigree; as we have seen, medieval theorists defined the several ranges of the voice by the names of 'pectoris', 'gutturis' and 'capitis'.¹⁷ Beginning in the latter part of the

¹² Müller associated pitch with the tension of the vocal cords, while Wheatstone formulated a theory of vowel formants.

¹³ García's *Mémoire sur la voix humaine*—which was incorporated in his *Treatise on the Art of Singing* (1841)—was presented to the Parisian Academy of Science in 1840.

¹⁴ This paper, with the title *Physiological observations of the human voice*, was presented to the Royal Society of London on 24 May 1855, and published in the seventh volume of its proceedings; see García-Paschke, *A Complete Treatise on the Art of Singing*, Preface, p. viii.

¹⁵ Albert B. Bach, *Musical Education and Vocal Culture* (London, 1898), 67; Emil Behnke, *The Mechanism of the Human Voice* (London, 1881), 86; Beniamino Carelli, *Cronaca d'un respiro* (Naples, 1875), 33; Henry Holbrook Curtis, *Voice Building and Tone Placing* (London, 1909), 111; Lilli Lehmann, *How to Sing* (New York, 1916), 134; Luisa Tetrazzini, *The Art of Singing* (London, 1923), 20.

¹⁶ Contemporary research in the field of voice science supports these ideas. Both Johan Sundberg and Natalie Henrich Bernardoni refer to Hollien's definition (1974) of register as 'a totally laryngeal event', Sundberg, *The Science of Singing Voice* (Dekalb, Illinois, 1987), 49–50; Bernardoni, 'Mirroring the Voice from Garcia to the Present Day: Some Insights Into Singing Voice Registers', *Logopedics Phoniatrics Vocology*, 31 (2006), 3–16.

¹⁷ Monahan, *The Art of Singing*, 161. Likewise contemporary vocal pedagogy displays a similar approach. Richard Miller, for example, states: 'Registers are experienced by the performer as vibratory sensations located in the chest or the head', Richard Miller, *Training Soprano Voices*

nineteenth century, however, the link between phonatory event and resonance became totally ingrained in teaching practices and pedagogical writing as a result of the ever-increasing emphasis placed on resonance and vocal power. Alberto Randegger puts together both these elements and makes up the concept of register from them, stating that ‘[t]he distinctive character assumed by the voice, according to the particular action of the vocal organs and the particular cavity employed as its “resonance chamber” constitutes what is called “register”’.¹⁸

Salvatore Marchesi also expresses the same idea when he explains that the differences in colour between registers depend not on the ‘vibrator’ (the vocal cords or glottis) but rather on the ‘resonance-chambers’:

<EXT>Now, if what we call register consists in a series of homogeneous sounds which are essentially different in timbre from those of succeeding higher or lower registers, it follows that the vocal apparatus must contain as many distinct special resonance-chambers as there are registers. These various cooperative resonators, built of different organic texture (hard or soft) impart, by reason of their physical properties, a characteristic, distinct colour to each series of sounds contained within the limits of each register.¹⁹<EXT/>

Someone who strongly objected to this sort of ‘empirical wisdom’, was the voice scientist Morell Mackenzie. In his book *The Hygiene of the Vocal Organs* (1890), he points out that the perception of the voice as resonating at some specific points in the body, although accurate within a subjective point of view is, from a scientific standpoint, incorrect. Therefore, he argues that

<EXT>just as ‘the evil that men do lives after them’, misleading terminology continues to work havoc in the minds of learners long after its incorrectness has been recognised by teachers, who, however, adhere to it from a mistaken notion of its practical usefulness. ... The larynx is the organ of

(Oxford, 2000), 27. Although Miller insists that the phenomena of vocal pitch and timbre are rooted in vibrations of the vocal ligaments, he cannot resist the temptation to link phonatory aspects with the proprioceptive sensations experienced by the singer.

¹⁸ Alberto Randegger, *Singing* (London, 1880), 11.

¹⁹ Salvatore Marchesi, *A Vademecum for Singing-Teachers and Pupils* (1902), 26, quoted in Monahan, *The Art of Singing*, 137. In this case Salvatore also confounds registers with ranges and associates the resonance-chamber with the different ranges. In effect, as the physician Morell Mackenzie underlines, there is confusion in the way of understanding the word register, as it has been used to indicate the pitch of a given note as well as its ‘particular mode of production’, Mackenzie, *The Hygiene of the Vocal Organs* (London, 1890), 39.

the voice just as the eye is the organ of the sight, or the ear of the hearing. Everyone would laugh at a man who should pretend to smell with his lips or see with his fingers; yet such claims are not one whit more absurd than those of singers who profess to fetch their voice from the back of the head, the roof of the mouth, the bottom of the chest, or anywhere else that their misinterpreted sensations lead them to fancy. As a *basso profondo* is sometimes figuratively said to ‘sing out of his boots’, we may perhaps be grateful that there is no *voce di piede* among the acknowledged registers.²⁰<EXT/>

The ironic tone of Mackenzie’s writing certainly highlights the fact that more than a hundred years of history seems have changed little in contemporary mainstream vocal pedagogy. Although in the meantime, the vocabulary has been slightly updated, the basic metaphors remain the same today. So while ‘the roof of the mouth’ has become ‘the soft palate’, expressions like ‘the back of the head’ or ‘the back of the throat’ have survived unchanged. Instead of condemning the inertia of institutions and voice teachers, I would underline that these expressions represent an essential feedback for the singer. The fact that they might not explain the physiological process of sound production in no way detracts from their proprioceptive effectiveness.²¹ Mackenzie clearly stated that the larynx is the sole organ where the voice is primarily produced and that registers are ‘the series of tones of like quality producible by a particular adjustment of the vocal chords’.²² This ‘particular adjustment’ depends exclusively on two physiological mechanisms, which Mackenzie defines as ‘long-reed’ and ‘short-reed’.²³ Modern voice science has confirmed that the pitch of the voice is regulated by the tension and thickness of the vocal folds which, in low-pitched sound, ‘are tick and vibrate over their whole length ... [while in higher notes] the vibrating mass and amplitude are reduced’.²⁴

²⁰ Mackenzie, *The Hygiene of the Vocal Organs*, 11.

²¹ Studies in the field of acoustics have demonstrated that registers are mechanisms which depend on the conditions of the vocal folds. Changes in resonance are a consequence of the loading on the vocal cords. For a complete overview of the acoustic aspects implied by modal registers, see Brian White, *Singing Techniques and Vocal Pedagogy* (New York and London, 1989), 60–121; and Ingo R. Titze, *Principles of Voice Production* (Englewood Cliffs, 1994), 112–35.

²² Mackenzie, *The Hygiene of the Vocal Organs*, 39.

²³ Therefore for Mackenzie only two registers exist, *ibid.*, 41. Mackenzie underlines how the topic of registers has been complicated by ‘the fantastic terminology which has come down to us from a prescientific age, and by erroneous observations of incompetent persons’, 40. Again he underlines that the old Italian masters—Tosi and Mancini—spoke of only two registers and that with the invention of the laryngoscope the whole subject of registers has been thrown into chaos by the erroneous observations of what is supposed to be seen happening inside the larynx, 235–8.

²⁴ Natalie Bernardoni, ‘Mirroring the Voice from Garcia to the Present Day’, 9.

As the examples above show, in trying to ‘define’ registers, vocal pedagogues and theorists confused the matter by considering phonatory and acoustical aspects simultaneously, or by adopting acoustical terminology for their definitions and classifications. This leads us to the complex topic of register divisions and the different terminology by which singing teachers indicate the various registers.

HOW MANY REGISTERS ARE THERE?

If confusion surrounds the question of what registers are, a Babel of theories has been formulated on the number of possible registers and their classification. The large number of vocal treatises surveyed for this study—all written between c.1840 and c.1920 and representative of the Italian operatic tradition—have shown that the majority of these writings subscribed to a rather specific version of the three-register theory.²⁵ Furthermore, a divide between female and male voices was also generally accepted, with a two-register theory for male and three-register theory for female voices. In previous ages vocal pedagogues had variously adhered to different register-division theories. For instance, Pier Francesco Tosi’s *Opinioni de’ cantori antichi e moderni* and Giovanni Battista Mancini’s *Riflessioni pratiche sul canto figurato*, probably the most authoritative pedagogical sources of the eighteenth century, both supported the two-register division.²⁶ These two teachers were castratos who nevertheless taught female, uncastrated male, and castrato singers, although the latter constituted the main focus of their teaching, and this needs to be borne in mind perhaps more carefully than is usually the case in studies which cite these two influential writers. In both Tosi’s and Mancini’s treatises the term ‘register’ is used explicitly and repeatedly. Tosi writes:

<EXT>A diligent Master, knowing that a Soprano, without the Falsetto, is constrained to sing within the narrow compass of a few notes, not only helps the student to attain it, but also tries out any tools in order to unite the feigned and the natural Voice, in such a way that they may not be distinguished; for if they do not perfectly unite, the voice will be of different registers, and will consequently lose its Beauty.²⁷<EXT>

²⁵ For a summary of the various three-register theories see White, *Singing Techniques and Vocal Pedagogy*, 53. For a wider historical overview on the number and classification of registers see Monahan, *The Art of Singing*, 143–8.

²⁶ The reading of the original Tosi makes clear that he does not mention a third register, which is instead introduced by Galliard, his English translator, with the name of ‘head’ register.

²⁷ ‘Un diligente istruttore sapendo, che un Soprano senza falsetto bisogna, che canti fra l’angustie

Giovanni Battista Mancini (1774) went further to explain in great detail the methods he followed for achieving the unification of the chest and head voices. Carefully adapting his methods to the individual characteristics of the pupil whom he is instructing, Mancini aims to strengthen the sounds that belong to the register which is naturally weaker in the pupil's voice, while holding back the tones produced in the naturally stronger register.²⁸ The approach of both voice teachers highlights a profound change of perspective from the hitherto accepted aesthetics of Renaissance vocal music, which largely favoured the chest range over the falsetto (although falsetto singing was nevertheless also practised professionally throughout Europe). The range of the vocal parts in many sixteenth- and early seventeenth-century vocal scores is generally limited to around a tenth. Therefore, the reminder given 'to singers in treatises to stick to the chest register as much as possible' is self-evident.²⁹ In *Le nuove musiche* (1602) Caccini, after having opposed the 'voce finta' (feigned or head voice) to the 'voce naturale' (natural or full or chest voice) in a two-register theory division, clearly expresses his preference for the latter.³⁰

Moreover, changing the overall pitch of the music to suit the singer's range was commonplace in this period, so that ideally every vocalist could sing the entire piece comfortably within the chest voice without recourse to a register change. During the seventeenth century operatic repertoire came of age, and the ever-increasing complexity of vocal music with its highly ornamented lines and extended tessituras made it impossible for singers to cover the full range using only the range of the 'natural' or chest voice; there was a marked change, and the question of passing from one register to another in the same piece

di poche corde non solamente procura d'acquistarglielo, ma non lascia modo intentato acciò lo unisca alla voce di petto in forma, che non si distingua l'uno dall'altra, che se l'unione non è perfetta, la voce sarà di più registri, e conseguentemente perderà la sua bellezza', Pier Francesco Tosi, *Opinioni de' cantori antichi e moderni o sieno Osservazioni sopra il canto figurato* (Bologna, 1723), 14, my translation. Galliard added a footnote in his 1743 translation of Tosi's treatise which specifies that the term register is derived from the stops of an organ (see above), but this information is not contained in Tosi's original text.

²⁸ Giovanni Battista Mancini, *Pensieri e riflessioni pratiche sopra il canto figurato* (Vienna, 1774), 89.

²⁹ Richard Wistreich, 'Reconstructing Pre-Romantic Singing Techniques', in John Potter (ed.), *The Cambridge Companion to Singing* (Cambridge, 2000), 178–91 at 180.

³⁰ 'The nobility of good singing cannot arise from the feigned voice: it can be born only from a natural voice comfortable on each tone'; 'Ma dalle voci finte non può nascere nobiltà di buon canto: che nascerà da una voce naturale comoda per tutte le corde' Caccini, *Le nuove musiche* (Florence, 1602), Preface, my translation. Caccini exhorts to sing in the compass where the singer can comfortably use his natural voice and avoid the *voce finta* (Preface).

became critical for virtuoso singing.

The generally accepted idea that the voice was basically divided into two registers started to be questioned during the eighteenth century, as the translated versions of Tosi's treatise demonstrate. Both J. E. Galliard (1743) and Johann F. Agricola (1757), respectively the first English and German translators of Tosi, introduced the concept of a third register, variously derived from the concept of 'falsetto' voice.³¹ A three-register theory for female (especially sopranos) and a two-register theory for male voices was also supported, among others, by the singers and voice teachers Bernardo Mengozzi (1803) and Jean-Paul-Egide Martini (1792).³²

During the nineteenth century, three-register theories received full endorsement from most vocal pedagogues, as mentioned above. I explore this specific register division and the issues regarding the transition between the registers (so-called *passaggio*) through a selection of ten vocal treatises. In the context of this study, the latter treatises are particularly relevant as they contain the traditional and largely shared principles on vocal registration that were likely to be imparted in the training of singers who actually recorded early discs and cylinders. More specifically these writings claim inclusion for one or more of the following reasons:

1. the impact they had on future developments of voice teaching (García) together with their strict links with eighteenth- and early nineteenth-century vocal pedagogy (both García and Luigi Lablache);
2. the key position occupied by their authors in major Italian institutions by the later part of the nineteenth century (Francesco Lamperti, Beniamino Carelli, Alessandro Guagni-Benvenuti) or in the wider European context (García, William Shakespeare, Mathilde Marchesi, and again Lamperti);
3. the direct link between the authors of some of these treatises and their students, whose recordings will be examined here. This link exists between Virginia

³¹ Galliard considered head and falsetto as two separate registers: the '*Voce di testa* comes more from the Throat, than from the Breast ... [while] Falsetto is a feigned Voice, which is entirely formed in the Throat'. Galliard, *Observation on the Florid Singing*, 22 n. 18. Also Agricola distinguishes head register from falsetto (*Fistestimme*) but for him the latter could be produced in both registers (chest and head), see James Stark, *Bel Canto: A History of Vocal Pedagogy* (Toronto, 1999), 64–5.

³² For an overview of the opposition to the two-register theory over the eighteenth and early nineteenth centuries see James Stark, *Bel Canto*, 64–7.

Boccabadati and Celestina Boninsegna, Mathilde Marchesi and Nellie Melba, and Beniamino Carelli and his daughter Emma Carelli.

NINETEENTH-CENTURY AESTHETICS OF VOCAL REGISTRATION

I start with one of the older treatises of this selected group, which was written in 1842 by the renowned bass Luigi Lablache.³³ It is strictly linked to the vocal tradition of the previous century and Lablache followed the generally agreed terminology of the earlier period by dividing the male voice compass into two registers: *petto* (chest) and *testa* (head), with the transition, or *passaggio*, between the lower and the second register, beginning on *a'* for tenors and *f'* for baritones (see Ex. 1). <Place Ex. 1 near here> The use of head voice is excluded for the bass voice, whose chest is considered too heavy and strong to be united to any other register. Women, meanwhile, are said to have three registers, called *petto*, *mezzo*, and *testa* respectively (see Ex. 2). <Place Ex. 2 near here>

The method of passing from one register to another, to which Lablache devotes three sub-sections, is based on the idea that some tones, common to both of the registers to be ‘united’, can be sung using either one or the other register’s mechanism. In the exercises prescribed by Lablache for attaining a smooth register transition, these common pitches are alternatively produced with chest and head registers (see Ex. 3). <Place Ex. 3 near here> Although the transition between the registers ought to be smooth, the tonal colour (or timbre) of each register will not yield a consistent quality. This can be inferred from Lablache’s warning to the student ‘not to change the voice abruptly on the first note of the new register, but instead, to continue the voice of the previous register as much as possible, in order not to damage the homogeneity of the sounds.’³⁴ Although an abrupt change of voice colour should be avoided while passing from one register to another, this timbral change is bound to occur, as the recommendation to maintain an even tonal quality ‘as much as possible’ suggests. The aesthetic principle that the tone quality ought to change as the singer passes from one register to another is alien to our contemporary aural dimension. While sitting in the opera house or concert hall, or listening to a recording we expect to hear voices displaying a thoroughly consistent timbre from top to bottom. A change in vocal colour would come across as a shock and no doubt encounter immediate censure, as we have internalized the totally homogeneous sound of classically trained voices for almost a century now. This aural

³³ Luigi Lablache, *Metodo completo di canto*, facsimile of the 1842 Ricordi edition (Milan, 1997).

³⁴ ‘non cangiar la voce di botto alla prima nota di un registro ma bensì continuar il più che sia possibile quello in che si trova, onde non guastar l’equabilità dei suoni’. Ibid., 13.

dimension, though, was far from being formed in the nineteenth century, as the pedagogical writing of the era confirms.

For instance, Francesco Lamperti, organ scholar of the Milan conservatoire, composer, and one of Italy's most eminent vocal pedagogues, clearly expressed the idea of timbral inconsistency for the pitches which belong to different registers. The tones which preserve the same timbre are only those belonging to the same register, explained Lamperti, while 'the others, no matter how even the voice may be, differ from each other, as does the mechanism of the throat in producing them'.³⁵ And Beniamino Carelli, celebrated singing teacher at the Naples's Conservatoire, sides with Lamperti, pointing out that, for the benefit of the vocal apparatus, 'the pitches of each register have to be produced WITH THEIR OWN PURE CHARACTER'.³⁶

For Carelli, the fulcrum of registration lies in what he calls '*voce mista*' (mixed voice), which results from the combination of the qualities of the notes of the first register with those of the second. Carelli represents an exception to the predominant opinion that the voice's compass is divided into three registers. He declares the tripartition into *petto*, *medio* or *false*, and *testa* to be a misconception, resulting from the confusion of a mechanical principle (*registro*) with the wholly distinct concept of timbre (*colore*). He defines the registers, which are produced by two exclusively physiological mechanisms, as *primo registro* (first register) and *secondo registro* (second register). The third register in between them represents only 'a section of the second register modified in colour' (the so-called *voce mista*) which controls the mechanism of *passaggio*.³⁷ Over this range the first register is still operating, working together with the second register in a variety of balances. Ascending towards the higher tones, the first register releases control over the vocal production by degrees, allowing the second register to take over by degrees, and vice versa (see Ex. 4).³⁸

<Place Ex. 4 near here>

Unlike Carelli, both Lamperti and his pupil William Shakespeare adhered to the

³⁵ 'gli altri, quantunque siano omogenei per tutta l'estensione della voce, differiscono essenzialmente a norma che varia il meccanismo della gola che li produce'; Lamperti, *A Treatise on the Art of Singing*, trans. J. C. Griffith (Milan and London, 1877), 17.

³⁶ 'Ciò che vi dovete fissare bene in mente fin da ora ... se non volete correre il rischio di distruggere l'organo vocale od arrestare lo sviluppo degli acuti, si è la necessità ... che i tuoni de' singoli registri vengano emessi COL PURO LORO CARATTERE'; Carelli, *Cronaca d'un respiro*, 22, emphasis in the original text.

³⁷ Ibid., 34.

³⁸ Carelli, *L'arte del canto*, vol. I, 12.

predominant theory of a two-register division for men, whose higher register is called ‘mixed’ by Lamperti and ‘medium’ by Shakespeare, and the three-register division for women, traditionally named chest, ‘mixed’ or ‘medium’, and head registers.³⁹ On the issue of *passaggio* both teachers give the pupil the general advice to carry the upper registers down rather than extending the lower upwards. Shakespeare points out that while the experienced singer may skilfully draw the low register upward, ‘it would be well for the student to spare the voice and carry down the registers, rather than the contrary’.⁴⁰ In other words, the passage to the next register up needs to be achieved before the upper tones of the previous register, which are common to both registers to be united, have been reached. The rule of carrying the upper limits of registers down seems to have been largely shared by voice teachers of the period as a staple of registration techniques. Alessandro Guagni-Benvenuti, another eminent singing teacher of late nineteenth-century Italy, likewise exhorts singers never to push the upper limits of the chest register upward, as this will cause the loss of the lower tones and would compromise the clarity and spontaneity of the top notes.⁴¹ As these observations show, registration may be intended as an action which, however, bears fundamental effects on the singer’s overall system of vocal production. By consistently ‘carrying the lighter register down’, singers will produce their voices in a lighter registration; vice versa the opposite procedure of ‘drawing the lower register upwards’ will result in a heavy system of vocal registration, as we shall see.

Another advocate of the three-register division was Virginia Boccabadati. ‘For us of the old school’, stated the great *prima donna*, ‘the registers are three; whereas the illustrious and talented doctors (Moleschotte and Mackenzie) affirm that there are only *two* registers, and some singing teachers even admit *five* of them (M. Melia).’⁴² In Boccabadati’s perspective, the ‘old school’ represents the tradition of *bel canto*, as she was the daughter of Luigia Boccabadati, for whom Donizetti wrote several roles and whose teacher was the castrato Gaspare Pacchiarotti. It is interesting to note that in the vocal treatises of the *bel canto* period—whose tradition is epitomized in the writings of Tosi and Mancini—the voice

³⁹ Francesco Lamperti, *A Treatise*, 17; William Shakespeare, *The Art of Singing* (London, 1898), 36–46. The consideration of Shakespeare’s writing is essential as it offers additional insight into Lamperti’s teaching methods and ideas on vocal registration and breathing.

⁴⁰ Shakespeare, *The Art of Singing*, 37.

⁴¹ Guagni-Benvenuti, *L’odierna scuola di canto in Italia* (Rome, 1886), 43–4. Carelli also warns the pupil not to draw the first register (chest) upwards to its upper limits; see Carelli, *Cronaca*, 22.

⁴² ‘Per noi della vecchia scuola i registri sone tre; mentre valenti medici (Moleschotte e Mackenzie) asseriscono esservene *due*, ed alcuni maestri di canto ne ammettono perfino *cinque* (M. Melia).’ Boccabadati, *Osservazioni pratiche per lo studio del canto* (Pesaro, 1893), 10, italics in the original.

compass was instead generally divided into only two registers. Boccabadati's claim, nevertheless, constitutes further evidence of the fact that the three-register theory was well-established during the first half of the century to which she refers ('For us of the old school . . .').

On the topic of registration, the instructions given from Boccabadati highlight that neat changes in timbre when passing from one register to another were considered absolutely normal. She considers 'unfortunate' those soprano voices who cannot sing an *e*' in the chest register and adds that the lower sounds up to *f*' or *f*'<*sh*> should be sung in the pure chest voice.⁴³ This practice induces a marked change in vocal colour when the voice switches between chest and medium register, as recordings of her pupil Celestina Boninsegna clearly display.

Mathilde Marchesi also refers to the specific quality of the sounds belonging to each register and asserts that 'homogeneity in the nature of the sound [exists] throughout the particular compass of each register'.⁴⁴ In the course of her argument, she makes the point that whereas the three registers need to be carefully joined, the quality of the sounds belonging to any one register differ from the quality of the sounds belonging to another. Regarding the transition between registers, Marchesi recommends to 'close slightly the two last notes of the preceding register in ascending, and open them in descending'.⁴⁵ The idea of 'darkening' the sound is suggested in her recommendation of notes which are to be 'slightly closed' when ascending the scale and opened when descending it ('open').⁴⁶ The language used by Marchesi clearly recalls that of García, of whom she was a highly esteemed pupil.

García seems to identify two pivotal strategies for carrying out the *passaggio* between registers.⁴⁷ Like Lablache, he recommends passing from one to another within the

⁴³ Boccabadati, *Osservazioni pratiche*, 11.

⁴⁴ Marchesi, *The Marchesi School: Theoretical and Practical Vocal Method* (London, 1896), p. v. Marchesi fixes the limit of chest at *f*'–*f*' sharp and the limit of the middle register on the *f*"; see *ibid.*, p. iv.

⁴⁵ *Ibid.*, p. v.

⁴⁶ These expressions are the translations of the original French '*sombrier légèrement*' and '*ouvrir*'; see Mathilde Marchesi, *Ecole Marchesi. Method de chant théorique et pratique* (Paris, 1886), p. vi.

⁴⁷ García calls the middle register, somewhat confusingly, falsetto. In his table of registers, he indicates *a*' as the upper limit for tenors chest voice, see García-Parschke, *A Complete Treatise on the Art of Singing*, First Part, 22. Nevertheless, he recommends tenors to limit the use of this register to the *f*# when practising exercises, while their falsetto—which generally starts on *d*'—will extend to *c*" (48). Above this tone, the table of registers for the tenor voice (22) assigns the third between *d*" and *f*" to the head register. He specifies that the chest is the principal register for men, and that they

bordering tones, producing them alternately with both mechanisms.⁴⁸ The second option will either darken or round out the timbre of the sounds belonging to both registers.⁴⁹ This latter procedure (known as ‘mixed voice’) is explained more in detail by García when he suggests that singers increase the roundness of the vowels as they ascend a scale and reverse this mechanism when descending it (note the equivalent recommendation of Mathilde Marchesi to ‘*sombrier légèrement*’ the tones when ascending the scale and ‘*ouvrir*’ them when descending it).⁵⁰

Vowel modification is a principle that is also generally asserted by contemporary vocal pedagogy. For example, dealing with the soprano voice, Richard Miller claims that in ascending the scale, the mouth progressively opens and allows for the gradual migration of the vowels toward a point of neutralization. Although this process ‘must never occur abruptly [its avoidance] will produce a shrill, edgy timbre’.⁵¹ Increasing the roundness of vowels ‘darkens’ the upper sounds and affects the shape of the pharynx (the membrane-lined cavity behind the nose and the mouth and extending down to just below the larynx, where it becomes the oesophagus). García describes the pharynx as a tube which, being able to elongate or to shorten itself, to broaden or to narrow itself, to take ‘the form of a slight curve or to break into a right angle, and finally to maintain any of the numerous intermediary forms, fulfils wonderfully the functions of a reflector or a megaphone.’⁵² In other words, the

cannot use the head voice in artistic singing. Moreover, García states that the head sounds are ‘a remnant of the boy’s voice... . The Italian public attach no value whatever to them; nor can they be employed, unless in exceptional cases by very high tenor voices All other male singers do wrong to use them’, *New Treatise on the Art of Singing* (London, 1857 and 1870), 4.

⁴⁸ See Gracia-Paschke, *A Complete Treatise on the Art of Singing*, 50–3.

⁴⁹ Discussing female voices, García states that the weakness of their lower notes (*d’-f’*) can be overcome through the use of a sombre timbre if ‘the quality of the tone is ...infantile’, while for a male’s medium tones (*a-c’ sharp*) he suggests rounding the tones common to the two registers, García-Paschke, *A Complete Treatise*, 45–7, 48.

⁵⁰ For prescriptions regarding vowel modification see Manuel García, *Hints on Singing* (London, 1911), 16, 17.

⁵¹ Miller, *Training Soprano Voices*, 129. On vowel modification see also the set of exercises suggested by Janice Chapman in *Singing and Teaching Singing* (San Diego, 2017), 343–4, and Nanda Mari, *Canto e voce* (Milan, 1995) 67–8.

⁵² García-Paschke, *A Complete Treatise*, 28. Beniamino Carelli’s *Cronaca d’un respiro* repeats the same concept. In rising notes, the soft palate takes the shape of a lengthened arch (*volta allungata*) while the larynx descends. With regard to the position of the larynx, Carelli highlights that only a handful of singers can maintain the lower position of the larynx on high sounds of the second register (for him the registers are only two for both female and male voices, making an important exception to the prevalent opinion which subscribes three-register theories). Carelli, *Cronaca d’un respiro*, 44–5.

shape assumed by the pharynx during phonation fundamentally affects the timbre of the voice. If the voice is darkened through vowel modification the larynx will be lowered while the soft palate will be lifted up with a consequent elongation of the vocal tract. The dark (*sombre*) timbre obtained in this way stands in opposition to the bright (*clair*) timbre which originates from a ‘curvilinear form’ of the vocal tract where the larynx raises towards a dropped soft palate.⁵³ Much confusion has arisen from the fact that the original French term (*clair*) used by García in his *École de Garcia: Traité complet de l’art du chant* (1847) has been translated in English with the word ‘open’. The adjective ‘open’ generally has a positive connotation for English-speaking voice teachers who, in current practice describe an open sound as characterized by a raised soft palate and a lowered larynx, creating, in other words, an ‘open’ space at the back of the mouth.⁵⁴ Nevertheless, a vocal tract so shaped corresponds to what García defined as the dark (or *sombre*) timbre.⁵⁵ I follow this latter usage in the analysis of the recording excerpts which are presented in this article.

THE PASSAGGIO RECORDED

Does the rule of timbral differentiation of registers receive any endorsement from early recordings of the pre-electrical era? The particular interest of pre-1925 recordings lies in the fact that singers who recorded this early were trained within the schooling tradition of the mid- and late-nineteenth century. The instructions on vocal registration which are contained in the vocal treatises just examined were given to singers such as Emma Carelli and Pasquale Amato (both students of Beniamino Carelli), Nellie Melba (Mathilde Marchesi’s pupil), and Celestina Boninsegna—who studied with Virginia Boccabadati at the Pesaro Conservatoire at the time when Mascagni was Director of that Institute.

However, before engaging with the close listening of selected excerpts from the recordings of these and other singers, it will be helpful to recall some of the fundamental issues regarding early recordings. Connected with these questions is what, at the incipit of

⁵³ These notions further corroborate that vocal registration is a physiological action which determines changes in the vocal colour—i.e. the aural perception of the voice.

⁵⁴ I am not asserting that this idea is universally accepted by singing teachers, who instead follow a number of different approaches, but it is nevertheless widely shared among those in the English-speaking world.

⁵⁵ To add uncertainty to the linguistic issue, the use that some English-speaking critics historically made of the word ‘open’ confirms that they, far from signifying an open space at the back of the mouth, indicated, in fact, quite the opposite. Likewise, in Italian pedagogical and critical language, an open (*aperto*) timbre describes a raised larynx in a flat soft palate, following the Garcían terminology or, perhaps, the converse, following García the Italian usage of the term *aperto*.

this article, I defined as my autoethnographic approach to the analysis of early recordings, which I will briefly discuss here. A number of important sources have considered the flaws and limitations of the pre-electrical recording process.⁵⁶ Because the concept of universal technical standards was alien to the pre-electrical era, we have no precise idea of the exact number of revolutions per minute at which recordings were made. Discs labelled as 78 rpm were recorded at a variety of different speeds ranging from *c.*60 to *c.*90 rpm. The revolving speed of a disc (or cylinder) naturally determines the pitch of the recorded sound: in practice, a variation of four or five revolutions per minute alters the pitch by about half a tone. This variation, in turn, can have dramatic effects on the tone quality of the recorded voice (timbre). Additionally, the range of frequencies captured by the recording horn was limited and the background noise and other accidental forms of distortions omnipresent.⁵⁷

In practice, the sound projected by the singer into the recording horn is, in turn, transmitted to a diaphragm attached to a stylus. The latter cuts the groove of a flat disc revolving on a turntable and produces, therefore, the immediate impression of the sonic wave on the blank wax disc.⁵⁸ Paradoxically, and within specific boundaries, these recordings represent perhaps the most high-fidelity traces of a singer's performance: 'extra-

⁵⁶ For an exhaustive overview on the topic see: Daniel Leech-Wilkinson, *The Changing Sound of Music: Approaches to Studying Recorded Musical Performance* (London, 2009), Chapter 3, <http://www.charm.kcl.ac.uk/studies/chapters/chap3.html>. Simon Trezise deals with limitations of pre-Second World War recordings in 'The Recorded Document: Interpretation and Discography', in Nicholas Cook, Eric Clarke, Daniel Leech-Wilkinson, and John Rink (eds.), *The Cambridge Companion to Recorded Music* (Cambridge, 2009), 193–6. For academic dissertations, see Susan Schmidt Horning, 'Chasing Sound: The Culture and Technology of Recording Studios in America, 1877–1977' (Ph.D. thesis, Case Western Reserve University, 2002), 14–50, and James Alan Williams, 'Phantom Power: Recording Studio History, Practice, and Mythology' (Ph.D. thesis, Brown University, 2006), 20–72. For a historical overview of matters related to the evolution of recording technology and the recording industry, see Roland Gelatt, *The Fabulous Phonograph*, 2nd rev. edn. (New York, 1977); Andre Millard, *America on Record: A History of Recorded Sound*, 2nd edn. (Cambridge, 1995); and David J. Steffen, *From Edison to Marconi: The First Thirty Years of Recorded Music* (Jefferson, N.C. and London, 2005).

⁵⁷ The human ear can detect frequencies from *c.*20 to 20,000 Hz and pre-electrical limits seem to be 5,000 Hz. In acoustical recordings the upper harmonics of a voice are removed above 3,500 Hz, and this heavily affects the sound quality. On these topics see Simon Trezise, 'The Recorded Document: Interpretation and Discography', 193–4.

⁵⁸ James Allen Williams, 'Phantom Power', 40. If the years between 1925 (the beginning of electrical recording) and the 1940s (when the system of tape recording took over) may have established the closest relationship between live performance and recording, from the 1990s, with the advent of digital technology, most parameters of sound can be manipulated or built from scratch. In the latter case, the performance itself becomes more or less irrelevant or, rather, it becomes the concern of the producer and the sound engineer, together with computers and integrated interfaces for sound design.

musical' signifiers as vividly audible breaths, technical imperfections, or even plain mistakes are preserved on the matrix and enhance an impression of 'authentic' intensity of the recorded performance which, at first, can be overwhelming. However, this reaction to the listening experience is particularly acute in those who have experimented with the mechanics of singing through their own larynxes and breathing muscles and, particularly, those who have themselves advanced experience of singing.⁵⁹

Although the sound yielded by a pre-electrical disc is not what an early twentieth-century audience would have heard live—and everybody engaging with early recordings has to fall back on their imagination and mentally recreate the sound of a voice whose frequencies the recording medium could not capture—the shortcomings of early recordings are much more easily overcome by the expert ear of the professional singer.⁶⁰ The kind of listening experienced by the latter is based on an empirical knowledge of what the recorded voice is 'doing', so that the voice heard on the disc is physically decoded by the singer during the listening process. In this way the recorded performance is approached with 'insider knowledge', an ability which, far from being a pre-existential given, develops progressively through experience and self-reflection.⁶¹ By analysing original early 78 rpm recordings through close listening—an exercise which I repeated daily for many hours in the span of almost four years at the British Library Sound Archive and in private collections—and comparing the results of my own observations with those of other expert listeners (other music historians or opera singers), I became aware that my own knowledge as a singer was causing me to engage deeply with the listening process in a complex and embodied manner. This is not to say that in this manner I have overcome the intrinsic subjectivity of my evaluations about how the vocal sound is created in the recorded performance, but to highlight that a great deal of comparative analysis on a substantial number of recordings has been carried out.

The first excerpts which I consider come from two recordings of Tosca's aria 'Vissi d'arte' by Emma Carelli and Nellie Melba, made for Fonotipia in 1906 and for Victor

⁵⁹ See the author's forthcoming chapter for *The Routledge Companion to Autoethnography and Self-Reflexivity in Music Studies*.

⁶⁰ On this topic see Daniel Leech-Wilkinson, *The Changing Sound of Music: Approaches to Studying Recorded Musical Performance*, ch. 3.2, par. 29, 30, <http://www.charm.kcl.ac.uk/studies/chapters/chap3.html#par29>.

⁶¹ Stacy Holman Jones, Tony E. Adams, and Carolyn Ellis, 'Introduction: Coming to Know Autoethnography as More than a Method', in Stacy Holman Jones, Tony E. Adams, and Carolyn Ellis (eds.), *Handbook of Autoethnography* (London and New York, 2016), 17–47 at 33–4.

Talking Machine in 1907 respectively.⁶² A forty-six-year-old Melba (1861–1931) is therefore compared to a much younger (twenty-nine-year-old) Carelli (1877–1928). The substantial age gap between the singers cannot be disregarded, as the effect of ageing is crucial to the sound of the singing voice. Nevertheless, Melba’s recordings attest to the almost perfect condition in which she preserved her wonderful instrument well into her sixties, while Carelli had a relatively short singing career and was more or less retired as a stage singer by the time she reached her forties.⁶³ There are two points in this aria where the *passaggio* comes into play, illustrated in Examples 5 and 6.⁶⁴ <Place Ex. 5 and Ex. 6 near here> In both cases, Carelli draws the lower (and heavier) ‘medium’ register upwards instead of pulling the upper (and lighter) ‘head’ register downwards, as prescribed by the accepted rule of traditional teaching. In the attempt to depict an impassioned Tosca she produces full-weighted vocal sound. Renouncing any pretence at stylistic elegance, Carelli sighs the desperation and anger of the outraged Tosca until the last notes of her ‘prayer’ to God. In Example 5, Carelli ascends the major third *e<fl>”–g”* progressively lowering the larynx and avoiding a switch to the head register on *g”*. She keeps the phrase within the medium register and achieves a very natural crescendo effect from mezzo forte to forte. After the *g”* she takes a non-written breath and in a free *allargando* decreases the following *f”* to pianissimo. This floating effect is essentially achieved by decreasing the breath pressure through a procedure which is called ‘filatura’ or ‘filare il suono’ by Italian singing teachers, and ‘spinning’ the sound by English ones.⁶⁵ In Example 6, Carelli modifies the distribution of the text—interjecting the exclamation ‘oh’ on the *f”*—in order to take an extra breath before the jump from *d”* to *b<fl>”*, where she lowers the larynx producing a full elongation of the vocal tract. In this way, she attempts to pursue a consistent vocal colour in the final climax of her ‘Vissi d’arte’.

By contrast, Nellie Melba sings her upper notes in the lighter registration. Melba’s breath control is outstanding, and she never exerts more air pressure than is precisely

⁶² *Nellie Melba: The Complete American Recordings* 1, Naxos Historical CD 8.110334, 2004, and *Eugenia Burzio, Emma Carelli, Ester Mazzoleni: The Harold Wayne Collection* 37, Symposium CD1244, 2000.

⁶³ This was a choice that Carelli felt compelled to make in 1912 when she became the new *impresario* of Teatro Costanzi (today Rome’s opera house), a role which she held up until 1926. At that time Mussolini nationalized the theatre and did not confirm Carelli as its general manager.

⁶⁴ The examples are taken from Giacomo Puccini, *Tosca*, melodramma in three Acts, libretto by Luigi Illica and Giuseppe Giacosa, vocal score based on the edn. by Roger Parker (Milan, 1995).

⁶⁵ ‘Spinning’ the sound might imply that the sound is made thinner and thinner, although teachers can use the term to mean keeping the sound alive in the breath (in the sense of ‘spinning top’). It is clear that Carelli performs this effect on the premiss that the tempo is freed from any metronomic regularity.

required to support and link the sounds in a perfect, legato line. Moreover, the articulation of the vowels is so smooth that it never interferes with the continuous flow of her pure vocal tone. This being the case, her Tosca lacks the ebullient temperament of the character. In Example 5, Melba switches to the head voice on *f*” and there she locks the entire phrase which she sings in the prescribed single breath. In Example 6 she follows the same manoeuvre, and at the second ‘perchè’ leans on the head register with a perceptible change of the tonal quality, which becomes even more evident when the singer goes from *d*” (in the middle register) to *b<fl>*” (switching to the head register). Here the flute-like quality of the top note does not embody the passionate and, at times, wild nature of Tosca, portrayed at the peak of her emotional turmoil at this very moment. Because Melba sings in pure head register above *f*”, her top notes lack body when compared to the ringing tones produced by Carelli. Melba pursues registration in the single way prescribed by traditional modes of instruction: she carries the qualities of the head register down into the middle register. This practice produces a modification in the quality of the voice (timbre) as the singer passes between registers. Therefore, the golden rule of carrying registers down squares with the other principle also firmly asserted by the vocal pedagogues surveyed in this study, that a consistent vocal colour can be attained only within the limits of each register. We would expect that Carelli, the daughter of a strong advocate of these ideas, managed registration following the very same rule exemplified in the singing of Melba. In fact Carelli eschewed this technique and achieved registration by producing a consistent tonal quality between middle and head register.

With regard to the first *passaggio* (the transition between the chest and middle register), older and younger generations of sopranos seem to have kept faith with the instructions of vocal treatises. Celestina Boninsegna (1877–1947) literally put into practice the directions of her teacher Virginia Boccabadati on the projection of lower tones (up to *f*’/’<*sh*>) which, as it will be remembered, should be sung in pure chest register. In the aria ‘Suicidio!’ from Ponchielli’s *La Gioconda* the wide leaps of descending whole octaves are met by Boninsegna with radical and sudden changes of timbre as she passes from the middle to the chest register (see Ex. 7).⁶⁶ <Place Ex. 7 near here> The contrast is so extraordinary that the listener may have the impression of hearing two different singers. ‘[T]he emphatic use of the open chest voice’, as William Ashbrook defined it, was a typical feature of early

⁶⁶ *Celestina Boninsegna*, Eterna, LP 0-468, 1954. Ex. 7 is taken from Amilcare Ponchielli, *La Gioconda*, opera in four Acts, libretto by Tobia Gorrio, vocal score, edited by Michele Saladino, (Milan, 1890).

twentieth-century sopranos as much as previous generations.⁶⁷ The phonographic legacy of elderly sopranos such as Adelina Patti (b. 1843) or Emma Albani (b. 1847) displays the use of a pure chest register for lower tones.⁶⁸

The recordings of the ‘Siciliana’ from *Cavalleria rusticana* made by Caruso (1873–1921) in 1902, 1903, 1904, and 1910 show the several stages through which he achieved a progressively more consistent tone quality. I only consider the recordings made for the Victor Company in 1904 and 1910, as they allow us to trace the process thoroughly.⁶⁹ In the opening phrases of the first recording, Caruso chooses a light registration (bright or clear timbre) for the sections which overlap the *passaggio* and a heavy registration (dark or sombre timbre) for the sections ranging below this critical zone (see Ex. 8).⁷⁰ **<Place Ex. 8 near here>** This choice results in a timbral divide between bright sounds, pitched between *c*’ and *f*’, and darker sounds on notes below *c*’. The first *f*’ which Caruso clearly sings with a dark timbre leads to the short sequence of three *a*<*fl*>’s, a pattern which will be extended later in the ‘Siciliana’ (see Ex. 9). **<Place Ex. 9 near here>** He is compelled to darken this *f*’ as otherwise the top *a*<*fl*>’ would sound heady, a tonal colour which he might have felt unsuitable to the character of Turiddu, a Latin macho, peasant type that a more bodily vocal sound could better incarnate. Although in the interval *f*’–*a*<*fl*>’ Caruso maintains a consistent tonal quality, the *g*’ to which he descends after three repeated *a*<*fl*>’s has a darker quality and more laryngeal depth than the preceding notes. It seems, therefore, that at this stage Caruso approached the top notes with a relatively lowered larynx but without maximising the elongation of the vocal tract. Lowering the larynx stretches ‘the pharyngeal sidewall tissues . . . so that the lower pharynx is widened’.⁷¹ This widening of the bottom part of the pharynx is not audible on Caruso’s *a*<*fl*>’s, as the comparison with the same notes recorded in 1910 clearly demonstrates.

⁶⁷ William Ashbrook’s liner notes in *Verismo Soprano Eugenia Burzio: Complete Recorded Operatic Repertoire*, Marston Record, CD 52020-2, 1999. In big and heavy dramatic voices the timbral shift between chest and middle registers is generally more evident than that audible in lighter ones.

⁶⁸ Nor is the phenomenon limited to sopranos. Beghelli and Talmelli explored the radical shifts in timbre in the early recordings made by contraltos and mezzo-sopranos in *Ermafrodite armoniche: Il contralto nell’Ottocento* (Varese, 2011).

⁶⁹ *Enrico Caruso: The Complete Recordings 2*, Naxos Historical CD 8.110704, 2000 and *Enrico Caruso: The Complete Recordings 5*, Naxos Historical CD 8.110720, 2001.

⁷⁰ From Pietro Mascagni, *Cavalleria Rusticana*, libretto by G. Targioni-Tozzetti and G. Menasci, vocal score, ed. Leopoldo Mugnone (Milan, 1890).

⁷¹ Sundberg, *The Science of the Singing Voice*, 114. Sundberg also adds that, in contrast, ‘when the larynx is raised, the wall tissues must pile up and fill part of the lower pharynx.’ *Ibid.*, 115.

In the recording of the ‘Siciliana’ made in 1910, Caruso seems finally to have found a homogeneous *sombre* timbre for his opening phrases both when they insist on, and also when they move below, the *passaggio*. The only exceptions to the choice of a consistently darker vocal colour are the first four *f*’s in ‘Lola ch’hai’, sung again with a bright (or clear) timbre, in what could be a sort of hangover from his own earlier habit (see Ex. 8 above). His first ascent across the *passaggio* from *f*’ to *a*<*fl*>’ (Ex. 9 above) starts from an *f*’ whose registration is much heavier than that which he had adopted for the same note in the previous recording. In other words, the extreme lowering of the larynx widens the pharyngeal walls at their maximum and allows Caruso to produce full-weighted and ringing *a*<*fl*>’s, avoiding the variation in vocal colour between the registers.

A last example of different registration choices is offered by two recordings of the ‘Prologo’ from Leoncavallo’s *I Pagliacci*, both made in 1911 by the baritones Mattia Battistini (1857–1928) and Pasquale Amato (1878–1942) for the Gramophone Company and Victor, respectively.⁷² Their fundamentally different approaches to registration, evident throughout the two performances, is especially clear when Battistini and Amato produce piano and forte effects in the upper range.

The first long legato phrase, where the character of the music changes to a moving piano, starts with the words ‘Un nido di memorie’ (see Ex. 10).⁷³ <Place Ex. 10 near here> Battistini passes from *b* to *e*’ very cleanly, without any audible gap. He places *b* and *e*’ in the middle and head register, respectively, in order to obtain a soft, tender piano on the upper tone, which he reinforces briefly after its approach. On the same *e*’, Amato sings a real *mezza voce* as he carries the same tonal quality from *b* to *e*’, both pitches kept within the same heavy registration. The procedure is made particularly apparent by the use of an expressive *portamento* between these two notes. The piano effect is obtained exclusively through breath pressure, avoiding the *bel canto* mechanism of switching registers.

Similarly, when the dynamic climax is reached in the andante cantabile at the end of the aria (see Ex. 11), both singers make their way to the top *f*’ and *a*’, again adopting different registral balances. <Place Ex. 11 near here> In both occurrences of the rising interval (the second one is not in the score, but is added by the large majority of baritones), Battistini darkens the notes preceding the top *f*’ and *a*’ (respectively two *e*<*fl*>’s, and *c*’–*d*’)

⁷² Pasquale Amato, Victor 78 rpm disc, 1911, British Library Sound Archive BLSA (BLSA) shelf mark 1CL0032082; and *Mattia Battistini: The Complete Recordings*, Marston Record Company, CD 65002-2, 2015.

⁷³ Taken from Ruggero Leoncavallo, *I Pagliacci*, drama in two acts, libretto by R. Leoncavallo, vocal score, ed. Giacomo Zani (Milan, 1981).

without lowering the larynx completely. The high-placed top notes to which critics often refer when discussing his recordings are a result of this procedure. In particular, Battistini's top *a*' in this recording, although bright and ample, possesses a certain edgy quality when compared to the ravishing velvety tone produced by Amato. Certainly, we have to take into consideration the different ages of the singers, who both made the recordings in 1911, when Battistini was fifty-four, while Amato was only thirty-three. As noted above when discussing the recordings of Melba and Carelli, ageing affects the singing voice, and even experience and a refined technique cannot make up for the effects of time. Nevertheless, in this recording, Battistini still exhibits an instrument in good condition, the only real flaw being a lack of body in his lower notes, but no detectable weaknesses in the top notes. Moreover, Battistini's approach to the top of his range was exactly the same ten years earlier.⁷⁴ The factor which makes Amato's upper notes sound so different from those of Battistini is rooted in the same principle illustrated in the case of Caruso's top *a<fl>*'s, although it is managed according to Amato's own individual vocal and physical characteristics.

First, Amato modifies the vowels when he sings his high notes: once the top *f*' is reached, the intelligibility of his vowels, clear on the preceding *e<fl>*'s, vanishes. This reminds us of that 'point of neutralisation' discussed by Richard Miller in the section above. On the word 'poichè', the *o* vowel is so covered that it sounds almost like *u*. The same effect occurs later on the top *a*' where, like Caruso, Amato fully lowers the larynx and stretches the pharyngeal walls in order to achieve timbral consistency throughout the compass. Amato's heavy registration is the result of both innate and cultivated aspects of his vocalism: his voice was more dramatic than that of Battistini, and his vocal technique was based on a generally lower placement of the larynx. This 'cultivated' element is symptomatic of a general shift in approaches to vocal registration during these decades, when old and new ways of uniting the registers still coexisted.

These contrasting vocal behaviours reflected wider transitions in *fin-de-siècle* Italian operatic culture, the discussion of which clearly falls outside the limits of this article. Nevertheless I will engage with one theme which in my view was profoundly intertwined with the new experimental techniques for uniting the vocal registers, namely, the flowering of realistic trends which are commonly referred to with the term *verismo*. The impact of *verismo* on vocality I believe to be an important topic which has thus far received very limited scholarly attention. As a first step to remedying this deficiency, I put forward a

⁷⁴ Battistini's early recordings can be found in the excellent collection realised by Marston, see Mattia Battistini, Marston Record Company.

tentative hypothesis that some turn-of-the-century singers were making a conscious effort to adapt their vocality to the new aesthetic.

THE AGE OF *VERISMO*

Operatic *verismo* has always been a controversial topic within musicology. Two fundamental obstacles have prevented the acknowledgement of its existential ‘autonomy’: the large variety of works that the expression ‘musical verismo’ encompasses, and the problematic transfer of the term *verismo* from literature to music. With regard to the first issue, Jay Nicolaisen could claim that ‘had not [Mascagni] set *Cavalleria* a few years after its appearance as a play [by the *verismo* novelist and playwright Giovanni Verga], it is questionable whether the term “verismo” would have been transferred to the operatic sphere at all.’⁷⁵ As for the second obstacle, Carl Dahlhaus, Eugen Voss, and Matteo Sansone, among others, have highlighted certain characteristics of literary *verismo*, such as its formal restraint, the social criticism that it conveys and, most importantly, the central principle of impersonality.⁷⁶ Their appreciation of literary *verismo* in the light of all these elements led them to argue for its fundamental incompatibility with opera.⁷⁷

It was only recently that Andreas Giger made the fruitful suggestion to reframe this entire debate within the historiography of late nineteenth-century literary and music criticism. From this perspective, *verismo* proved to be rather different and substantially broader than our modern understanding of it.⁷⁸ According to Giger, the adjective ‘veristi’

⁷⁵ Jay Nicolaisen, *Italian Opera in Transition 1871–1893*, (Ann Arbor, Mich., 1980), 244.

⁷⁶ This latter notion consists in the elimination of the authorial voice from the text she or he is writing and was expressed by the great novelist and playwright Giovanni Verga in the preface to his short story *L'amante di Gramigna* (1880).

⁷⁷ On an alleged impossible transferability of these elements to opera see Carl Dahlhaus, *Nineteenth-Century Music*, trans. Bradford Robinson (Berkeley and Los Angeles, 1989), 351; Matteo Sansone, ‘Verga and Mascagni: The Critics’ Response to “Cavalleria Rusticana”’, *Music & Letters*, 71 (1990), 198–214 at 201; Adriana Guarneri Corazzol, ‘Opera and Verismo: Regressive Points of View and the Artifice of Alienation’, trans. Roger Parker, *Cambridge Opera Journal*, 5 (1993), 39–53; David Kimbell, ‘Opera since 1800’, in Peter Brand and Lino Pertile (eds.), *The Cambridge History of Italian Literature* (Cambridge, 1996), 450–6 at 454, and David Kimbell, *Italian Opera* (Cambridge, 1991), 621.

⁷⁸ Andreas Giger, ‘Verismo: Origin, Corruption, and Redemption of an Operatic Term’, *Journal of the American Musicological Society*, 60 (2007), 271–315. To contemporary standard histories of Italian literature the concept of impersonality is crucial to literary *verismo*. Only in 1920, however, an influential study of Luigi Russo on Verga linked the impersonal style with the substance of *verismo*. His view, in fact, seemed not to have been shared by critics of his age. This suggests that up to that date *verismo* had not traditionally been associated with the impersonal style and that Russo’s

was first used by the critic Guido Guidi, who in 1867 reviewed a painting by Antonio Pulcinelli, *Cosimo Pater Patriae riceve i letterati e gli artisti del suo tempo*.⁷⁹ With this adjective Guidi opposed the *verista* writer who ‘loathes what was and wants only what is’ and the *idealisti*, who ‘cherish [those subjects] that have already passed into the domain of history and ancient history’.⁸⁰ Guidi disavowed this simplistic binary opposition, and insisted that, whether historical or contemporary, a work of art must both arouse strong feelings and be the result of an attentive observation of the social context (reality) in which the chosen subjects are represented.⁸¹

Guidi’s review already outlines the basic terms in which late nineteenth-century Italian criticism would dispute *verismo*. In effect, the struggle between idealism and realism, the essence of realism and its artistic merits, each became contested positions in the critical debate. Thus, several streams within the movement can be identified. Francesco De Sanctis, Italy’s most eminent literary critic, was among those who reacted against the exaggerations of crude realism and stood for a middle-way between idealism and realism. For him, relying only on the perception of reality as an observable phenomenon, the creative freedom of the artist was severely limited. Moreover De Sanctis advocated the true nature of both the ‘real’ and the ‘ideal’ and bitterly criticized the realists who, in his view, looked ‘for art in the mud’ and gave to ‘the lowest social classes ... [the status of] artistic topics’.⁸²

Other authors supported the opposite manifestation of *verismo* as an exaggeration of realism and hailed *verismo* as a means of social denunciation, a sort of ‘bill of rights’ for the low-life, vulgar, trivial subjects whose representation in artistic forms had traditionally been rejected. For the publicist and theorist Lorenzo Stecchetti, pseudonym of Olindo Guerrini,

essay marked a turning point in the critical reception of *verismo*.

⁷⁹ *Cosimo, Father of the Fatherland Receives the Scholars and Artists of His Time*. Guido Guidi, ‘Della statua del Sig. Salvini da erigersi sulla Piazza dell’Indipendenza di Firenze e del quadro del Sig. Prof. Puccinelli’, *Gazzettino delle arti del disegno* 1, no. 26 (1867), 202, quoted in Giger, ‘Verismo’, 279.

⁸⁰ ‘coloro che, banditi i soggetti contemporanei accarezzano quelli che passarono già nel dominio della storia, e della storia antica, né a quella che schifa di ciò che fu e vuole soltanto ciò, che è ... senza entrare nel ginepraio delle disquisizioni estetiche dei precetti accademici, delle dottrine degli idealisti e dei veristi’; see Guidi, *Gazzettino delle arti del disegno* 1, 202, 203.

⁸¹ Guidi’s thoughts seem to echo the ideas of literary and artistic realism put forward a decade previously by the French theorist and publicist Jules Champfleury (*Le réalisme*, 1857). For him the representation of social reality, when it is set in the past, must likewise be concrete. In other words, historical subjects must possess historical substance and realize the aim of realism, which is the objective representation of social reality.

⁸² Francesco De Sanctis, *Nuovi saggi critici*, 2nd edn. (Naples, 1879), 380.

one of the most read *fin-de-siècle* poets, this operation would correct the unbalanced notion of idealism, which was focused exclusively on the positive sides of life. This would lead in turn to social action and, eventually, to progress.⁸³ Finally, for anyone who was struggling to foster artistic renovation, *verismo* represented a genre reacting against idealism, which was seen as the guardian of conventional models in content, form, and language. The *scapigliati* (literally ‘dishevelled’), a reformist group of writers, artists and musicians, were the most vocal exponents of this group and insisted that the tidy formalities of literary and artistic models had to be swept away by the depiction of reality in all its untidy richness and complexity.⁸⁴

As this brief overview reveals, the late nineteenth-century discourse on *verismo* linked the term with the introduction of new subject matters (from everyday life to vulgar, trivial topics) whose status had been traditionally perceived as ‘low’ and therefore unsuitable for artistic representation. The preference accorded to contemporary subjects, however, did not restrict *veristi*’s range of possibilities, as they could always opt for historical topics. More importantly, the ‘concrete’ approach to the observation of social reality prompted a profound renewal of linguistic styles and modes of expression. The concept of impersonality, by contrast, which is crucial to the musicological debate briefly mentioned above, seems to have bypassed the heated discussions of the era entirely.⁸⁵ From this historiographic perspective, therefore, it is possible to infer that the term *verismo* could easily be transferred to opera. The art-form was undergoing profound transformations in content, structure, and language which were just as far-reaching as those in literature and the visual arts.⁸⁶ In this transformative context, turn-of-the-century singers made a conscious

⁸³ Stecchetti, *Nova polemica*, 12th edn. (Bologna, 1900), 71, 72. The poet Giosuè Caducci defined Stecchetti’s poetry the ‘porco fottuto’ (wretched swine) genre; see Antonio Baldini, *Fine Ottocento, Carducci, Pascoli, D’Annunzio e Minori* (Florence, 1947), 129.

⁸⁴ The terms *scapigliati* and *scapigliatura* were for the first time adopted by the journalist, novelist and playwright Cletto Arrighi (1828–1906) in his novel *La Scapigliatura e il 6 Febbraio* (1861). The most significant exponents of the movement were the poet Emilio Praga, the poet, composer, and librettist Arrigo Boito, the composer Franco Faccio, the poet and novelist Iginio Ugo Tarchetti, and the poet Giovanni Camerana. On this complex, reformist, and ambiguous movement see David Del Principe, *Rebellion, Death and Aesthetics in Italy: The Demons of the Scapigliatura* (Madison, 1996), Mary-Lou Patricia Vetere, ‘Italian opera from Verdi to Verismo: Boito and la Scapigliatura’ (Ph.D thesis, State University of New York at Buffalo, 2010), and Antonio Di Pietro, *Per una storia della letteratura italiana postunitaria* (Milan, 1974).

⁸⁵ This fact strengthens the argument that before Russo discussed the centrality of this principle in relation to the production of Verga, it was scarcely associated to *verismo*.

⁸⁶ In opera, *verismo* prompted a gradual process of renovation in structures, forms, language, and subject matters. From the 1860s to the 1890s the conventions of Romantic *melodramma* were progressively exchanged for dramatic continuity, a new harmonic texture made of symphonic-like

effort first to imagine and then to craft a new type of vocal sound.

In opera, just as in literature and the fine arts, the new *verismo* characters could be contemporary, such as the low-class protagonists of Leoncavallo's *I Pagliacci*, or historical, as exemplified by the powdered figures of the *comédie-Française* in Cilea's *Adriana Lecouvreur* (which was set in the eighteenth century). The naturalistic depiction of operatic personages is mainly achieved through a shift of focus on human passions. The political or religious context within which *verismo* characters are represented does not significantly interfere with their personal life, in the manner of Romantic *melodramma*; these 'modern' characters function as if they were essentially moved by their inner feelings, instincts, and emotions. Even when political and moral themes are supposedly present, such as in the case of the revolutionary and Bonapartist Cavaradossi (*Tosca*), they eventually dissolve into the sensuous compulsion of love: it is the 'dolci baci and languide carezze' ('sweet kisses and languid caresses') of Tosca and not the heroic cause for the political liberation of Rome that Cavaradossi expatiates on in the hours leading to his execution. When women such as Tosca, Manon, or Nedda enter the stage, their voluptuousness fills the atmosphere and captures the audience's imagination. Their hallmark is sheer sensuality. The earthiness of this type of character needs to be translated into a bodily, carnal vocal colour which turn-of-the-century singers pursued, I argue, by experimenting with new ways of joining the vocal registers. The use of heavier systems of registration—what I above defined with the expressions 'drawing the heavier register upwards'—aims to produce this fully weighted vocal tone. This technique stands in opposition to the *bel canto* rule of 'carrying the light register down'. As we have seen, mid and late nineteenth-century *bel canto* vocal treatises advised against pushing the heavier register upwards to its extreme limits. Instead they insisted that the *passaggio* be managed by switching the voice to the lighter register as soon as possible. This procedure is audible in the recordings of Melba and Battistini. The pre-electrical technology available to them was the same as that used for the recordings made by Carelli, Amato, and Caruso, and yet one can clearly hear that their method for joining the registers appears to be rather different, as they favour the opposite principle of 'drawing the heavy register upwards'. It seems, therefore, that these *verismo* singers were actively engaging with the elaboration of a new type of operatic sound, which was better suited to expressing the new substance of *verismo* characters. In order to achieve this result they had to challenge the traditional rules of good singing (in which they had been trained) and experiment with

traits, a gradual reconsideration of the lexicon and syntactic structures of librettos, and a new shape and articulation of the vocal line.

different laryngeal heights, pharyngeal shapes, and breathing methods.

Another crucial element which goes hand-in-glove with the technical evolution that I am describing was the ongoing erosion of florid singing. From the mid nineteenth century, singing teachers started to complain about a new fashion of writing for the voice, which was again connected with the progressive dissemination of realistic trends. Francesco Lamperti claims that:

<EXT>Vocal music, in order to assume a more dramatic style, is almost entirely despoiled of agility of every kind; to such a pitch is this carried, that by degrees it will become little else than musical declamation, to the total exclusion of melody. Without entering here into the question . . . I shall only briefly observe that as the singing of melodies, though not absolutely true to nature, is yet productive of much pleasure to the audience, it seems to me a pity that the melodramatic system should be exchanged for one, perhaps more realistic, but which tends to the exclusion of melody, and is hence detrimental to the art of singing.⁸⁷<EXT/>

In Lamperti's view, florid singing is the best style for the cultivation of healthy voices as agility and coloratura develop flexibility and are important aids for perfecting tone production. It is Lamperti's *bel canto* approach to vocal registration, however, which also impinges on his negative attitude towards vocal declamation. His technique of 'bringing the lighter register down' is more appropriate to florid than dramatic style, as it emphasizes the brightness and lightness in the singing voice rather than its weight and body. Lamperti's system of vocal registration also favours what he conceives as tonal 'purity', a specific notion of tonal beauty which, stylized and ideal, cannot be sacrificed for the need of realistically depicting a specific dramatic situation. Such a tonal quality had been elaborated for a kind of music which, as vocal pedagogues themselves recognized, was not in pursuit of the 'sentimento drammatico' or, in other words, the true-to-life passion that the character was representing on stage.⁸⁸

⁸⁷ Lamperti, *A Treatise*, 14. 'La musica vocale per assumere un carattere più drammatico si è pressochè intieramente spogliata di tutta l'agilità, a tal punto che per poco si prosegue di questo passo essa non sarà più che una declamazione musicale in perfetta contraddizione col vero metodo della declamazione puramente drammatica che impone ai vari attori l'esclusione di qualsiasi cantilena. Senza entrare ora in questione ... mi farò lecito soltanto di osservare per incidenza, come convenutosi una volta che il cantare se non è verosimile però diletta assai, non parmi conforme ai precetti naturali del melodramma l'abbandonarsi a un metodo che condurrà all'esclusione del canto, mentre è per il canto stesso che la forma melodrammatica fu creata'.

⁸⁸ For similar remarks see Luigi Celentano, *Intorno all'arte del cantare in Italia nel secolo decimonono* (Naples, 1867), and *First Italian Conference of Music, Report of the V panel 'Singing'*

This ‘purity’ of tone might resemble rather closely what we hear in the recordings of Nellie Melba and Mattia Battistini. These two singers still cherished beauty of tone (a perfectly balanced vocal production) above the naturalistic depiction of their characters. Their notion of vocality yearned towards the ideal rather than the real. By contrast, the new prototype of *verismo* singer would embody in their voices the exact ‘sentimento drammatico’ which their character would experience throughout the unfolding of the drama. Moreover, as low-life subjects and lower social classes had acquired in the context of *verismo* opera ‘the status of artistic topics’, an entire array of new types had now to be impersonated. The peasants of *Cavalleria Rusticana*, the travelling company of *commedia dell’arte* actors in *I Pagliacci*, the longshoremen of *Il tabarro* bring basic impulses and passions to the forefront of the operatic scene. Sexual desire and violence, female sexual awareness, ubiquitous erotic craving and unfaithfulness could hardly be expressed through the aural dimension of tonal purity.

As Lorenzo Stecchetti pointed out, *verismo*’s aim was to correct the unbalanced vision of life that idealism had long supported. The tension between the ideal and real, which was central in the debate on *verismo*, brings into focus the negative aspects of reality together with the positive ones. We can find this same preoccupation echoed in a dispute between Emma Carelli and the baritone Delfino Menotti. The argument is recounted by Emma’s brother, Augusto, in his biography of the famous soprano. It seems that Menotti had reservations on the sensational rendition given by Carelli of the character of Margherita from Arrigo Boito’s *Mefistofele*. Menotti would have preferred the mad Margherita a bit more sober, less frantic and ugly. For Menotti such a violent representation, although true-to-nature, lacked artistic merit, as art for him was the representation of beauty. Emma Carelli apparently addressed Menotti with these words:

<EXT>For you good interpretation means to be well dressed, being beautiful, serene, not to feel agitated, tormented, desperate. For you there are no cripples, there are no blind people or under-nourished creatures: everything must be idealized. But I wanted my Margherita to live the life of a

(Naples, 1864). As Lena Doria Devine, one of Lamperti’s last pupils, confirms, he ‘stood for purity of tone, and for never sacrificing quality for quantity’ (Lena Doria Devine, ‘Francesco Lamperti and his Methods’, *The Etude* 26 (1908), 259). Both Lamperti and Devine underline the fact that embellishments, roulades, and coloraturas still appeal to the taste of contemporary audiences. Devine, in particular, mentions the earnest enthusiasm that singers such as Sembrich, Melba, and Tetrazzini still arouse in London and American audiences.

cursed fool, and I made of her an ugly creature.⁸⁹<EXT/>

Carelli's discourse clearly resonates with the arguments in favour of *verismo* that were circulating in the critical debate. Carelli goes further and comments on the vocal aspects and visual appearance of her Margherita:

<EXT>I want exactly this; that when the curtains rise and before I sing, or rather before I speak, the audience had the impression of seeing in front of them a scrap of agonising life ... so that the *nenia* [Margherita's romanza] will be her delirium ... and she will sing from where she is, in the ground, with her mouth in the dust and a very special tone which reveals the horror of her soul, and not just the horrors and scary images of the terrible things she is saying.⁹⁰<EXT/>

Carelli's words stress her sharp sensitivity to shifting ideas of artistry, and her receptivity to central issues such as the 'concrete' depiction of reality and the need for the work of art of arousing strong feelings (all concepts clearly expressed by Guido Guidi's critic above referred). All these concepts had to find a corresponding vocal expressivity; a new type of vocality which, abandoning the notion of pure tonal colour, had to reveal the psychological and emotional destruction of Margherita's soul.

The important transformation that Italian opera singing underwent in the decades spanning the end of the nineteenth and the beginning of the twentieth century deserves far more consideration than it has so far received. With my contribution, I hope to have made a first step in this direction. It is my contention that in order to achieve this transition singers had to craft new ways of joining the vocal registers. As the initial historical overview on registers has highlighted, the way of conceiving vocal registration widely varied in the different historical periods. These shifts occurred because ideas of artistry, vocal beauty, and qualities that are deemed to be attractive and worthy of praise in a singing voice are all cultural constructs. The singers who lived in the age of *verismo* were trained in the old *bel canto* vocal schools and their attempts at achieving the *passaggio* from one register to

⁸⁹ 'Per voi interpretare significa vestirsi bene, significa essere belli, sereni, non sentirsi agitati, tormentati disperati. Per voi non vi sono zoppi, non esistono ciechi, non creature denutrite: tutto deve essere idealizzato. Io invece ho voluto che Margherita visse la sua vita di folle dannata, e ne ho fatto una creatura brutta', see Augusto Carelli, *Emma Carelli. Trent'anni di vita lirica* (Rome, 1932), 51.

⁹⁰ Io proprio questo voglio: che quando la tela si alza e prima ancora ch'io canti anzi ch'io parli, il pubblico abbia la sensazione di trovarsi dinanzi a un rottame di vita angosciosa ... talchè la *nenia* sia davvero il suo delirio ... ma canti là, per terra, con la bocca nella polvere e col tono speciale che riveli quel suo stato d'animo spaventoso, e non solo gli orrori e la paurosità di tutte le terribili cose ch'essa dice', my emphasis, *ibid.*, 51–2.

another in a new fashion required sheer will-power, dogged perseverance, and a bold act of creativity. This whole process is revealed in their precious recording legacy, which becomes particularly illuminating when it is read in the context of the pedagogical literature that formed the background to their vocal education. It was their keen awareness of a vast sea-change in the culture at large which led them to attempt a risky and far-reaching transformation of their vocal art.

ABSTRACT

The idea that classical singers should join the notes of the vocal line by maintaining a consistent vocal colour is a relatively recent historical construct. In the last decades of the nineteenth century, singers of the Italian tradition were loyal to a very different vocal aesthetic, which valued the distinct differences in timbre between different vocal registers, as this article shows through a comparative analysis of pedagogical writing and pre-1925 recordings. The latter show that, in the early twentieth century, old and new techniques for uniting the vocal registers coexisted, and reflected an aesthetic transition towards a more gendered quality of the operatic voice. This process was intertwined with profound transformations in Italian operatic culture. The demands of a new realistic idiom known as *verismo* required a new type of vocalism, which prompted singers to re-conceive the ‘art of vocal registration’.

<captions>

EX. 1. Luigi Lablache, *L'arte del canto*, 8

EX. 2. Luigi Lablanche, *L'arte del canto*, 8

EX. 3. Lablache, *L'arte del canto*, exercises n. 2–3, 11

EX. 4. Beniamino Carelli, *L'arte del canto* vol. I, 12

EX. 5. Giacomo Puccini, *Tosca*, ‘Vissi d’arte’, Act II, bb. 823–4

EX. 6. Puccini, ‘Vissi d’arte’, bb. 833–6

EX. 7. Ponchielli, *La Gioconda*, Aria ‘Suicidio’, Act IV, bb. 81–4

EX. 8. Pietro Mascagni, *Cavalleria Rusticana*, ‘Siciliana’, bb. 2–10

EX. 9. Mascagni, ‘Siciliana’, bb. 11–16

Ex. 10. Ruggero Leoncavallo, *I Pagliacci*, 'Prologo', bb. 78–82

Ex. 11. Leoncavallo, 'Prologo', bb. 110–19