

MY SINGING LESSONS

BLENDING THE REGISTERS

Learning to blend the registers is one of the most challenging, and often frustrating, aspects of singing for most students. Most new singers have noticeable register breaks, in which their voices shift into the adjacent register with a crack or 'clunk' or change in volume or tone quality, and it takes a great deal of work and dedication to retrain the vocal instrument to make the correct acoustic and muscular adjustments necessary at every pitch to promote seamless transitions throughout the range.

In order for the vocal folds to produce higher pitches, they must elongate and become thinner, with less of the folds becoming involved in vibration. As pitch descends, the opposite occurs, and the vocal folds become shorter and more compact, and more muscular mass becomes involved. When registers are smoothly blended or 'bridged', there is a certain balance of muscular involvement that needs to become reversed around the *passaggi* (the pivotal registration change points). The chest register is primarily thyroarytenoid (shorter) dominant, the middle register (women) or *zona di passaggio* (men) are 'mixed in function', and the head register are primarily cricothyroid (lengthener) dominant. Therefore, moving from chest voice to mixed (middle) voice requires that the balance of the laryngeal muscles shifts from shorter to lengthener dominant to create and support the higher pitches. This shift needs to be gradual and continuous, or else an unpleasant register break will occur.

This gradual muscular shifting is aided by a simultaneous acoustic shift, generally achieved through subtle modification or alteration of the sung vowels and by adjustments in breath energy. In Italian, this aspect of technique is generally referred to '*aggiustamento*'. When the acoustic shift begins to happen, the tone of the voice generally starts to incorporate more and more of the adjacent register's quality. For example, as a male singer moves upward through his *zona di passaggio*, the tone will gradually begin to sound more and more 'head voice like' and less 'chest voice like', and there will be a section in which both sounds are very clearly part of the mixture. Failing to allow this acoustic shift to take place over the course of the several notes preceding the *passaggio*, where the muscular shift naturally occurs, will inevitably cause an abrupt and noticeable change in sound (i.e., a register break).

The French term for this mixed sound quality is *voix mixte*. This *registre mixte* (mixed register) is found in the region of the singer's range that is common to both the heavier

(chest) and lighter (head) laryngeal mechanisms. It refers either to an intermediate vibratory mode that borrows timbre (resonance qualities) and muscular elements from both the lower (chest) and upper (head) registers or to a vocal technique developed in the Western lyric school of singing in which singers unite or bridge their chest and head registers. Most researchers believe that this resonance balancing choice can be produced in either the lower laryngeal mechanism, (which is more common in men since they have a greater chest register range) or in the lighter laryngeal mechanism, (which is more common in women because they have a longer middle section of their range). In this sense, *voix mixte* is a register made in either chest or head that is coloured to sound more like the vibratory mode of the other register. Use of *voix mixte* allows singers to realize a homogeneous voice timbre throughout their tessitura and eliminate register breaks.

The biggest mistake that we see with singers is that they attempt to learn blending by repeatedly singing the same scales quickly, with the same results each time. (Speed does not cover up, nor improve, bad sound.) They would be better served, instead, by breaking down those scales note by note. Major scales and chromatic scales that begin a few notes below the *passaggio* and end a few notes above it are a great starting place for learning to effectively blend or bridge the registers. A student can start out slowly, taking special note of the resonance and muscular balancing at each semitone, and feel how this balance shifts very gradually in the scale. By tackling and perfecting individual notes in the scale first, a student can usually learn to recognize the physical and acoustic signs associated with both correct and incorrect resonance and blending, make necessary adjustments, and develop effective muscle memory. Once the vocal instrument learns to consistently make the correct adjustments at every note, the range and tempo of the exercise can be gradually increased.

There are female students for whom blending is a major challenge because of the relative heaviness and fullness of their chest registers as compared to that of their middle registers. For these lower voiced singers, their chest voice tones are full, and there is a great deal of dynamic intensity (e.g., volume), yet their timbre significantly lightens and their volume diminishes when they are singing in their middle registers. With these students, we introduce the concept of *voix mixte* to help them blend the colours of their adjacent registers and ultimately eliminate register breaks. (Sometimes, we suggest that they think of this section of their range as a sort of 'grey area' that is neither fully chest nor fully head, and in which they can choose to balance their tone as they see fit for a given vocal task.) we usually have them intentionally but progressively lighten up or brighten the tone of their chest register as they ascend the scale toward their first *passaggio*. Likewise, as they enter their middle register, we have them hold onto a little bit of the fullness of their chest register tones (but still allow for the appropriate muscular changes or register shifts where they would naturally occur) and increase their breath energy. Doing so often enables them to create a more homogeneous sound between these two registers that would otherwise sound very different. Then, we work toward developing a stronger middle register. Dramatic baritones will often encounter the same kinds of challenges when they ascend the scale and enter their *zona di passaggio* and head register. This same blending technique is often helpful for them.

For lighter or more lyric voices and for voices of higher fachs, this same kind of blending technique is not usually as necessary, as the chest register for these voice types is not usually as 'big', creating less inconsistency between timbres as they ascend into their middle and upper registers, or descend into their chest register.

Glides, slurs and portamentos (short, smooth slides through intervals in which all the in-between notes are sung), both ascending and descending in pitch, can help the student learn to make smooth laryngeal adjustments. For example:

Blending the Registers Exercise 1



Ooh.....Ah

A musical staff in 4/4 time with a treble clef. It shows a single note on the second line (G4) with a dotted quarter note value. A wavy line indicates a glide down to a note on the first line (F4), which is also a dotted quarter note.

Blending the Registers Exercise 2



Ooh.....Ah

A musical staff in 4/4 time with a treble clef. It shows a single note on the second line (G4) with a dotted quarter note value. A wavy line indicates a glide down to a note on the first line (F4), which is also a dotted quarter note.


Blending the Registers Exercise 3



Ooh.....Ah

A musical staff in 4/4 time with a treble clef. It shows a single note on the second line (G4) with a dotted quarter note value. A wavy line indicates a glide down to a note on the first line (F4), which is also a dotted quarter note.

Blending the Registers Exercise 4



Ay.....

A musical staff in 4/4 time with a treble clef. It shows a single note on the second line (G4) with a dotted quarter note value. A wavy line indicates a glide down to a note on the first line (F4), which is also a dotted quarter note.

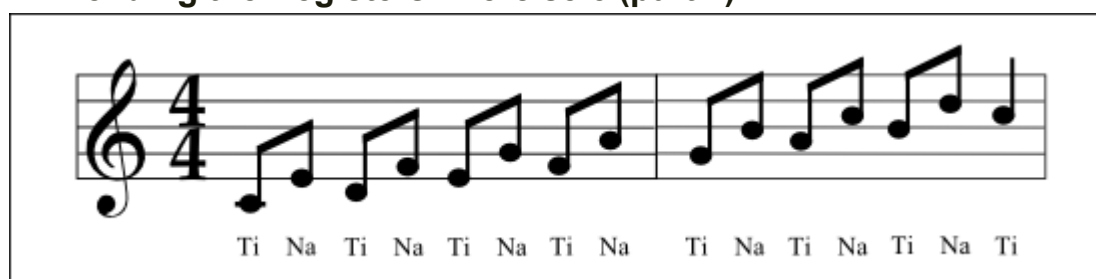
These slides should be made slowly, and the tendency to rush through the second half of the descent should be avoided. (we liken this to a roller coaster ride. At the top of the coaster's hill, the car is moving forward, but slowly. As it begins to descend the hill, however, the car picks up more and more momentum and thus speed. The voice tends to do the same thing when descending in pitch.) It's a particularly good idea to practice gliding smoothly and with control through the passaggi, as this is when it is likely to be the most difficult. If the passaggi are problematic and the student experiences a 'clunking', he or she should try a short, chromatic scale, such as Vocal Range Increasing Exercise 2 (above), and apply it in the area of the passaggio in order to master the acoustic and muscular shifts associated with each individual note in the scale. Use all of the five pure Italian vowels.

There are many examples in both classical and contemporary repertoire in which singers are required to slide from (or 'tie') one note to another during a single word or vowel phoneme rather than sing each note in isolation. Practising vocal glides will help to develop the necessary control to use them during the singing of text.

Two of our favourite exercises for teaching blending of the registers once a certain mastery of the passaggi has been achieved involve a gradual 'back and forth' climb and descent that cover a little more than an octave in range. The goal is to avoid the 'stair stepping' or 'zigzagging' sound in which the voice shifts very dramatically from pitch to pitch. To avoid this, the singer needs some control over his or her instrument. To illustrate the difference in the smoothness and control that we desire to hear, we sometimes tell our more visual students to think of their voices floating gently like a leaf in the wind, or climbing an escalator rather than climbing the stairs.

Some students also have a tendency to emphasize certain notes, usually the lower notes, more than the others in the exercise. These notes will often sound louder or be better articulated than the others - we call this 'revving' - and the student needs to learn to maintain both steadiness of volume and consistency of articulatory definition.

Blending the Registers Exercise 5 (part 1)



Ti Na Ti Na Ti Na Ti Na Ti Na Ti Na Ti

Then, after taking a breath, the exercise continues with ...

Blending the Registers Exercise 5 (part 2)



Na Ti Na Ti Na Ti Na Ti Na Ti Na Ti Na

Different combinations of vowels and consonants can be used in these exercises, such as "Gay...Dah" and "Nay Nah". Singing the exercise on single, sustained vowels, such as "o" or "e" adds a little more of a challenge to the exercise.

Another variation to this exercise, which involves a little more breath control due to its being a bit longer, is:

Blending the Registers Exercise 6



The image shows two staves of musical notation in 6/8 time, both in treble clef. The first staff begins with a treble clef and a 6/8 time signature. The melody consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. The second staff continues the melody: C4, B3, A3, G3, F3, E3, D3, C3. Below the first staff, the word "No" is written with a dotted line extending to the right, indicating a vocal line.

Another exercise that extends through different registers and also develops the singer's ability to smoothly execute (short) intervallic leaps is:

Blending the Registers Exercise 7



The image shows a single staff of musical notation in 6/8 time, in treble clef. The melody consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4, B3, A3, G3, F3, E3, D3, C3. The exercise involves large intervallic leaps between registers.

The challenges for most students with this exercise include staying on pitch, maintaining smoothness of the legato line and finding consistency of timbre between the registers. In addition to demanding laryngeal flexibility, this exercise can also help to develop vocal agility.