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www.SantaresMusicPeople.Com, and the directors
of the Fort Lauderdale Sunshine Chordsmen
present this online music theory series
(Barbershop Edition - Lesson #02)
<*))>< Andrew E. Reid, General Editor
Posted at: <http://www.barbershopchorus.com>
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When we sing a string of different pitches, like a melodic line, each note change that occurs is a "melodic interval" -- you just need to be able to determine what that interval is ahead of time to be able to consistently sing that interval correctly. When two voices are singing two pitches at the same time, either the same pitch or different pitches, the relationship of the two pitches can be determined and that pitch relationship is called a "harmonic interval" which is hopefully a constant, unless one or the other voice is sliding or moving around the tonal center that was established. These intervals are the same, it's just that a melodic interval is the distance between two notes that are sung one after the other, whereby a harmonic interval is the name of the distance between two intervals that are sung at the same time. When working with musical media other than the voice, the concept is still basically the same.

The earliest vocal music was sung in unison, using simple scales and simple accompaniments. When mom and dad sang together, the music was then sung in octaves, which is still quite pleasing to the ear, (hopefully.) Anyway, son #1 comes along and sings with mom for a while, until his voice changes, and he starts singing between mom and dad, (at the interval of the perfect fifth.) As his voice thickens he swaps parts with dad, (who is aging,) and sis comes along and sings with mom. She gets a little bored and decides to sing everything mom is singing, but just up a major third, experimenting at first, but more confidently later on...

This isn't exactly how it happened but you get the picture, I hope. Singing at the fifth is not quite as stable harmonically as singing against someone else at the distance of an octave, but singing thirds are less consonant and took longer for listening ears to accept than singing harmonies in fifths or octaves. Minor thirds ring with overtones that are a level higher than major thirds (both considered imperfect consonances,) and were not considered stable enough to be used at the end of songs during medieval times. Seconds, otherwise known as whole steps, are even less consonant than thirds, and took even longer for Western ears to accept.

At this point I would like to mention "inversions" -- these are harmonic intervals that are stacked or flipped backward from the norm. In other words, if two people are singing at the distance of a perfect fifth, and the upper voice decides to drop down and sing a full octave lower, the singers would then be sounding at the interval of a perfect fourth. For example, in the key of F, the bass is singing an F, (fourth line up on the bass staff,) and the bari is singing a middle C, and then the bari for some reason or another decides to sing a low C, creating a new interval, but keeping the same note names, C and F. When inverted, thirds become sixths, and seconds become sevenths, Minor seconds and thirds inverting to major complements, and visa-versa. (Please review these inversions listed in the chart below...) The augmented fourth/diminished fifth, otherwise known as the tritone, is still a tritone when inverted, thus part of the reason for the nickname, (meaning specifically half of an octave.)

The interval of...

EXAMPLE:

Note: Intervals are always spelled from the lower note up to the higher note in order...

- an octave is still an octave when inverted. C to C / C to C
- a Perfect fifth becomes a perfect fourth when inverted. C to G / G to C
- a Perfect fourth becomes a perfect fifth when inverted. C to F / F to C
- a major third becomes a minor sixth when inverted. C to E / E to C
- a minor third becomes a major sixth when inverted. C to E flat / E flat to C
- a major sixth becomes a minor third when inverted. C to A / A to C
- a minor sixth becomes a major third when inverted. C to A flat / A flat to C
- a major second becomes a minor seventh when inverted. C to D / D to C
- a minor second becomes a major seventh when inverted. C to D flat / D flat to C
- a major seventh becomes a minor second when inverted. C to B / B to C
- a minor seventh becomes a major second when inverted. C to B flat / B flat to C
- a tritone is still a tritone when inverted. C to F sharp / F sharp to C

Another conversion chart that I would like to display for you is the theoretical name for the notes in relation to the key that the music is pitched in, paired up with the common name that is used in the solfeggio system which will be studied in the next lesson...

SOLFEGE: Harmonic name	EXAMPLE: In C	in F	in G
DO: Tonic (the pitch name of the key)	[C]	[F]	[G]
RE: Super-Tonic (one whole step above tonic)	[D]	[G]	[A]
MI: Mediant (halfway between tonic and dominant)	[E]	[A]	[B]
FA: Sub-Dominant (the inversion interval of dominant)	[F]	[B flat]	[C]
SO: Dominant (the fifth above the tonic)	[G]	[C]	[D]
LA: Sub-Mediant (the inversion of the mediant)	[A]	[D]	[E]
TE: Sub-Tonic (a whole step below tonic)	[B flat]	[E flat]	[F]
TI: Leading tone (a half step below tonic)	[B]	[E]	[F#]

More Solfege Practice: (in the key of C...) (key of G...)

NOTE: I've changed some of the traditional spellings for better ease of pronunciation...

C: DOH	C#: DEE	D flat: RAH		G: DOH	G#: DEE	A flat: RAH
D: RAY	D#: REE	E flat: MAY		A: RAY	A#: REE	B flat: MAY
E: MEE				B: MEE		
F: FAH	F#: FEE	G flat: SAY		C: FAH	C#: FEE	D flat: SAY
G: SOL	G#: SEE	A flat: LAY		D: SOL	D#: SEE	E flat: LAY
A: LAH	A#: LEE	B flat: TAY		E: LAH	E#: LEE	F natural: TAY
B: TEE				F#: TEE		

Note that singing up the scale names in half steps is different from the descending names:

--> UPWARD: Doh, Dee, Ray, Ree, Mee, Fah, Fee, Sol, See, Lah, Lee, Tee, Doh...

--> DOWNWARD: Doh, Tee, Tay, Lah, Lay, Sol, Say, Fah, Mee, May, Ray, Rah, Doh...

Also notice that there aren't any names in solfege to account for some of the less used note names, (i.e. all of the double sharps and flats, and some of the regular sharps and flats that can be substituted with a more common name, like B sharp would just become "DOH" in C.)