

## NAMING AND SINGING NOTES

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¶ *Do you use moveable-do or fixed-do in your teaching?*

In a way, I use both. I suggest using fixed-syllables when singing or naming specific pitches or notes (syllables replace letters) while using numbers to represent degrees of the scale and di-chords (pitch pairs or intervals). Only when we are aware of both the specific names of pitches and how they relate to other pitches in forming harmonies, modes and scales can we fully communicate meaning in music.

¶ *So you use syllables for notes and numbers for degrees. Is that right?*

Correct.

¶ *Could you briefly describe the difference between the moveable-do and fixed-do note naming systems?*

The moveable-do system that I refer to as *solfeggio* is the older of the two note naming (solmization) systems. Solfeggio is supposed to have been invented by the 11th century composer and pedagogue Guido D'Arezzo who assigned a different syllable *ut, re, mi, fa, sol* or *la* to degrees 1, 2, 3, 4, 5 and 6 of the diatonic major scale respectively in order to help singers to read music at sight. In solfeggio the same pitch may be sung with a different syllable when it exists in a different key. Later, users of solfeggio replaced *ut* with the syllable *do* and added a seventh syllable *ti* to represent the leading-tone or degree 7 of the scale. As well, *sol* is shortened to the two-letter syllable *so*. Solfeggio now uses syllables *do, re, mi, fa, so, la, ti*. The fixed-do system that I refer to as *solfège* uses almost identical syllables as those used in *solfeggio* excepting that the syllable *si* replaces

*ti*, and the original syllable *sol* has been retained into the modern era. The solfège syllables are *do, re, mi, fa, sol, la, si*. An important divergence with solfeggio is that solfège syllables identify not the degree of the scale of the note sung but identifies the actual note itself, thus the syllables are synonymous with English letter note names. In solfège, the syllable representing a fixed note remains the same no matter the key or scale.

*Letter Names*

F# F# G A A G F# E D D E F# F# E E

*Solfège*

fa fa sol la la sol fa mi re re mi fa fa mi mi

*Solfeggio*

mi mi fa so so fa mi re do do re mi mi re re

*Scale-Degree Numbers*

3 3 4 5 5 4 3 2 1 1 2 3 3 2 2

*Letter-names and Fixed Solfège*

F# F# G A A G F# E D D E F# F# E E  
fa fa sol la la sol fa mi re re mi fa fa mi mi

### Scale-degree Numbers and Solfeggio

3 3 4 5 5 4 3 2 1 1 2 3 3 2 2

mi mi fa so so fa mi re do do re mi mi re re

¶ *Where are these different systems used?*

As interests become more global, it becomes increasingly important for musicians to become facile in solfège because those who have been trained in this system are widely considered to have the fastest music reading, singing and dictation skills in the world. Though today it is common for college musicianship programs in the United States to employ solfeggio, based on my experience, it is more common for musicians to use solfège in the rest of the world: the most important music *conservatories* throughout the world use solfège, including the Curtis Institute of Music, the Juilliard School, the Conservatoire National Supérieur de Musique in Paris, the Toho Gakuen School of Music in Japan, the Central Conservatory in China, and many others.

¶ *I have heard that, though solfège is well known to instill music facility in students, it is frequently criticized for bypassing functional harmony.*

This is not necessarily so. In my own experiences, I have encountered exponents of solfège who are exceptionally skilled at reading and playing figured bass, at writing counterpoint, at transposing music with ease, and at improvising tonal and atonal music, demonstrating that they possess a deep understanding of functional harmony. This said, I also encounter exponents of solfège who develop into what C.P.E. Bach refers to as ‘trained birds,’ performing freakishly virtuosic vocal feats in solfège without an iota of musical harmonic understanding and so remaining unable to move the hearts and minds of the

listeners. However, it must be said that I encounter an equal if not larger number of individuals trained in solfeggio who have these same unmusical characteristics.

¶ *Yes, where does the impression come from that those trained in solfège are more interested in technical prowess than in depth of understanding?*

Sadly, young musicians trained in solfège sometimes focus too much on playing, singing or writing down correct pitches rather than on developing a thoughtful understanding of the relationships between pitches. Solfège pedagogy often begins at an early age and entails that young students perform spoken exercises of increasing difficulty at faster and faster speeds. This, then, entails much rote training that is, by its nature, mindless. It must be said that musical shallowness in any system indicates a poor education in functional harmony rather than a problem with the system itself and, in my experience, is no less a problem in schools using solfeggio. Nadia Boulanger, who used solfège to identify notes both in singing and speaking, was adamant about the vital importance of understanding the function of pitches in larger tonal and atonal contexts. Therefore, solfège is a means of naming notes in real time, and it cannot be said that solfège in some way undermines tonal awareness.

¶ *Besides the fact that solfège is used at the major conservatories around the world, what other advantage do you find there is in using it?*

Instrumentalists must know the name of the note to correctly play it. Therefore, it is crucial that students know not only the scale degree of pitches heard but also the precise note name of that pitch. Learning to identify the only 12 pitch classes to the octave is, therefore crucial. Further, I believe that solfège encourages a strong cognitive association between a pitch and its specific name—it may

encourage the development of absolute or perfect pitch (AP), especially when training is begun at or before the age of 4 or 5, and when daily vocal and verbal exercises of increasing difficulty and speed are encouraged.<sup>1</sup> We probably can agree that AP remains a highly valued skill throughout the world.

¶ *So you think that using solfège allows us to develop AP.*

Yes. I believe that those who consistently and very frequently associate a particular name, symbol, feeling or image with a more or less fixed pitch have a far greater chance of developing AP than those who do not do this. If every time we hear, think, see, play or write the pitch E4, we name it *mi*, our brain has an opportunity to reinforce specific auditory, kinesthetic and visual sensory pathways that associate a particular pitch class with a specific name. When E is named *mi* in any octave, on any instrument, it provides a means for the mind to find aspects of the pitch that remain consistent with the pitch class. However, because this is a cognitive process that requires complex neuronal connections to be forged, and such connections are more easily forged when we are quite young, it is advisable to begin the process of association at a young age—at about the same time we learn to associate other sensations, such as flavors, movements and colors, with specific names.

¶ *Are you saying that it is more difficult for adults to develop AP using solfège?*

Yes. Cultivating the habit of consciously, consistently and correctly naming every heard, sung or played pitch or note requires effort for the adult. Imagine what it would be like if we were asked to learn to identify and name colors or flavors after an entire lifetime never having done so. We would find naming these sensations troubling, as coming up with the correct associated name would

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<sup>1</sup> see Miyazaki, K, & Ogawa, Y. (2006). Learning absolute pitch by children. *Music Perception*, 24, 63-78.

## MOVEABLE-DO OR SOLFEGGIO

Used in singing

Syllables *do, re, mi, fa, so(l), la, ti* represent scale degrees 1, 2, 3, 4, 5, 6, 7 respectively

When singing or hearing, scale degree, therefore the syllable can be identified by ear without knowledge of pitch names

Degree alterations sometimes indicated with inflected vowel in the syllable

Generally, syllables are not employed in the written analysis of music. (Instead, letters represent note/pitch names, and Arabic numbers and Roman Numerals indicate scale degrees and chord function of the root)

Same syllables used in every key can instill a strong sense of degree tendencies

Must know the tonic in force at each moment to determine the syllable/degree requiring study

Useful mostly in elementary music or sections of music that is strictly tonal

May preclude knowledge of the actual played or heard pitches, especially needed to match pitch on a musical instrument

Though often introduced in college, it is an elementary system that is readily learned

Inflected notes developed in the Kodaly Method to indicate degree alterations from the original key

## FIXED-DO OR SOLFÈGE

Used to identify a note both when singing and speaking

Syllables *do, re, mi, fa, sol, la, si* represent the notes C, D, E, F, G, A, B respectively

When singing or hearing, the specific name of the pitch must be identified, requiring either good relative or absolute/perfect pitch skill.

Accidentals are generally never named when singing, but sometimes when speaking

Syllables are used to identify notes even in analyzing music, though Arabic numbers *may* be used to indicate intervals, interval classes and degrees, and Roman numerals may be used to indicate chord function of the root in written analysis.

Because syllables do not indicate the degree function of pitches, they can be easily employed in late tonal and atonal music

Tonic in force does not affect the syllable/note name, making the system applicable to atonal or complicated tonal sight singing and dictation in time

Useful in all genres of music using the dodecaphonic scale, in even advanced or non-tonal music

May bypass attention to tonal contexts instead cultivating absolute or very good relative pitch skills

In precollege conservatories, training begins in childhood and continues through high school and into college

Kodaly inflected syllables are only rarely used to indicate notes with accidental

intrude on our normal fast flow of thought. Fortunately, it is extremely rare for individuals to survive to adulthood without naming colors and flavors, and this in turn makes it hard for us to imagine such a circumstance. I believe, however, that this circumstance, were it to occur, approximates the experience of an adult having to identify specific pitches by ear, having never been asked to do so in the past. In my experience, those who most need AP develop AP. A choral director who needs to be able to know and sing pitches without the constant use of reference pitches on a piano, will most likely develop some degree of AP. On the other hand, pianists who do not need AP will not develop AP because they can rely on the instrument to provide all of the pitches.

¶ *Can adults introduced to solfège for the first time develop AP?*

Yes. An associate of mine developed the ability to name pitches in his mid-twenties after having been introduced to solfège for the first time during his adult music studies in Paris. He was successful, however, only after he had disciplined himself to sing at sight in solfège every day for many months while ensuring that he sang the correct pitch with its appropriate syllable at all times. Numerous of my students acquire reliable pitch identification skills after a few semesters of work, but only after I have required them to consistently sing any and all pitches according to their assigned fixed syllables without an outside pitch reference—or crutch. While their first efforts at singing the correct pitch with its associated syllable are unreliable, they become increasingly reliable with consistent practice, and eventually develop something akin to AP.

As an aside, I have identified certain specific sound properties for each of the twelve pitch classes in the octave that I share with adult students to provide a boost in developing AP. I teach these sound properties of pitches only after

students have developed strong relative pitch skills. Frankly, the more we *need* AP to get through our musical lives, the more likely it will be for us to develop a good pitch memory. Solfège helps with this.

¶ *If associating a name with a pitch is what matters, why not just use letter names instead of fixed-do syllables?*

Good question. The main reason that I do not use the English letters with notes and pitches concerns our voice. Letters in English are inherently awkward to speak or sing. This is obvious when we speak the letters A, B, C, D, E, F and G. Notice that the letter A is a diphthong—a composite of more than two or more vowels, such as *ay-ee*. By speaking or singing the letter A, we also observe that it begins on a vowel, forcing us to explode air onto our vocal chords, producing what is known as a ‘glottal stop.’ Whenever we produce a vowel without a consonant before it, we initiate the vocal chords with a glottal stop, as is the case when we speak the letter F (eff). All the other English letters, when spoken, start with a consonant but unfortunately include the vowel ‘ee’ that, when uttered, causes a constriction in the jaw and tongue that nearly blocks the flow of air through the mouth and so makes the ee-vowel among the most challenging or undesirable vowels to sing. Were we to consistently and frequently sing each pitch accompanied by its associated English letter, we would soon develop painful vocal habits that could result in injuries to the larynx. Of more importance, singing with letter names is aesthetically objectionable because of the overuse of the ‘ee’ vowel. Small wonder that English-speakers do not sing pitches by their common letter name but instead sing every pitch with on the syllable ‘la’. In so doing, the brain associates the same syllable with each of the 12 pitches, which is like calling all colors ‘red’.



¶ *Are the syllables specially designed for singing?*

We know that the syllables used in fixed-do originated with Guido D'Arezzo in the 11th century C.E., and that he selected the syllables *ut, re, mi, fa, sol, la* to match the first six notes in the diatonic hexachord C, D, E, F, G and A respectively. These syllables coincide with the Latin text in a plainsong chant composed by Paulus Diaconus in which each measure begins on a consecutively higher diatonic note. The entire Latin text of the short hymn is: ***Ut** queant laxis resonare fibris **Mi**ragestorum familituorum. **Sol**ve pollute labi-ireatum...* It would seem that the syllables were selected by sheer coincidence. However there is some evidence suggesting that these syllables resemble those used to represent diatonic pitches in more ancient traditions in the Middle East, whose syllables were *dal, ra, mim, fa, sad, lam, ta*. It is my feeling that there may be deeper reasons that these syllables work well, but suffice it to say that, after we substitute the syllable *ut* with *do*, and eventually add the syllable *ti* (in Italian) or *si* (in French) for the 7th degree of the scale in the newer *heptachord*, singing pitches using these syllables feels and sounds and feels more elegant and mellifluous than the English letters.

¶ *Are there other Western countries that use letters in singing?*

I know that German musicians use letters to identify notes when speaking, writing and singing, their letters being pronounced with a soft rather than a hard 'e' sound. I have never heard German musicians name each note with a letter while sight singing a virtuosic melody, though some musicians may be capable of this. Certainly, those who can sing fluently using letters instead of syllables are extremely rare, especially when compared to the many thousands of solfège virtuosos.

¶ *In solfège, do you identify accidentals? If so, do you say sharp or flat?*

When speaking, it is common for those using the fixed-do system to say *la-flat* or *do-sharp* for the notes A $\flat$  or C $\sharp$  respectively. In French, the native language of solfège, the word *dieze* is used for a sharp, the word *bemol* is used for a flat, and the word *becar* is used for a natural. In singing, the accidental is always clearly visualized on the staff or keyboard but is never uttered since stating the accidental while singing defeats the purpose of using a syllable to create a mellifluous vocal sound.

¶ *If it is important to associate a specific name with an agreed-upon pitch class, isn't it confusing to the mind to name a note with an accidental with the same solfège syllable as the pitch without an accidental?*

There can be confusion only if we do not have a visual image distinguishing the natural note and the note with an accidental. In teaching solfège, I insist that students have a clear visual concept of the musical keyboard and that they clearly visualize the precise location of each read, sung or written note. (See *The Musical Keyboard*, Ploger<sup>2</sup>). As a result, though the note A $\flat$  is called *la*, its exact location is clearly distinguished from the natural A.

¶ *Why the difference between the syllable 'ti' and 'si'?*

We can distinguish if a person is using solfeggio or solfège by whether or not they sing or speak *ti* or *si*: if they use *ti*, they are using solfeggio to indicate the pitch that is the 7th degree of the scale; if they use *si*, they are using solfège, indicating the pitch B.

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<sup>2</sup> [www.plogermethod.com/keyboard-visualization/](http://www.plogermethod.com/keyboard-visualization/)

¶ *Is there a system that uses different syllables for notes or degrees with accidentals?*

Increasingly, advocates of solfeggio use different syllables to indicate altered degrees of the scale. First forwarded by Zoltan Kodály in Hungary in the mid-20th century C.E., a degree that is raised or lowered employs the same consonant but a different vowel in the syllable, using the vowel *i* (pronounced 'ee') when the degree is raised and *a* (pronounced 'ah') when the degree is lowered: raised *re* becomes *ri*, raised *fa* becomes *fi*; raised *so* becomes *si*; lowered *mi* becomes *me*; lowered *sol* becomes *se*; lowered *ti* becomes *te*; et cetera. Because raising and lowering a degree affects the aural perception of the natural degree, using an inflected syllable allows the user to sense a real distinction between the natural and altered degree.

¶ *Why don't you use solfeggio in your pedagogy?*

There is much that I admire about solfeggio. In fact, in the fourth semester of musicianship at Blair, we encourage students to employ this and other solmization systems at will. While I was introduced to solfeggio in my freshman year in college, I was required to switch to solfège for my remaining years as an undergraduate and when studying in Paris. I found solfeggio easily comprehensible and useful as long as the tonic pitch was clear. However, I continue to find that as soon as determining a tonic becomes difficult, the system can be easily undermined in transitional sections between major key regions where the tonic is not easily aurally or visually identifiable. Using inflected syllables can be helpful in such situations, but real practical problems ensue when the tonic is obscured. Solfeggio was, after all, devised by Guido to be used in diatonic, not late-tonal or post-tonal, music. Already in the 17th century solfeggio became complicated as composers begin to explore tonal regions further from the original home base with frequent shifts between keys.

Determining the tonic—or key—in force at every moment in music composed over three hundred years ago is challenging, requiring thoughtful and skillful analysis to determine the tonic in force. Most musicians discover that theorists disagree as to when and where the tonic shifts in the course of a modulation. Therefore, the system becomes impracticable in real time unless the music is elementary.

¶ *Are you saying that solfeggio is impracticable except in elementary, straightforward tonal music?*

Yes, this is my greatest complaint about solfeggio. When the tonic is readily perceivable, it is especially helpful to choristers who need help in singing by identifying the pitch according to the degree of the scale. In post-tonal music, however, solfeggio is impracticable in real time. When examining sight-singing texts that are currently used in college musicianship courses, the music is often either naïve in its tonal simplicity or endures for only 16 measures, thus avoiding difficulties in determining the tonic in complicated sections. It is my feeling that the level of musicianship contained in these sight-singing texts is more appropriate to young adolescent students than to aspiring professional musicians who are called to perform much complicated tonal music (including most works of J.S. Bach's), late-tonal (Grieg, Shostakovich), modal (Debussy, Ravel), polytonal (Bartok, Prokofiev) and atonal (Schoenberg, Berg) music.

¶ *Do you think that solfège became more potent than solfeggio as a result of music composed in the post-tonal era?*

Already in 18th century France, Rameau used solfège syllables to identify both notes and scale degrees. Solfège has been used in conservatories since this time in France, Russia, the United States, South America and Asia. On the other hand,

solfeggio would have become nearly obsolete in singing atonal music because a tonic was not only obscured but often avoided by composers. Over the past 50 years, elementary level public schools in the United States favor solfeggio and/or inflected solfeggio, while precollege conservatory programs, such as those at the famous Juilliard School and Curtis Institute, favor solfège. Therefore, in the US, public schools, colleges and university music programs generally favor solfeggio while virtually all conservatory programs favor solfège. The reason for this disparity is, I believe, quite simply that public college and university programs seem unconcerned if music students are unable to develop beyond adolescent levels of musicianship, whereas conservatory programs—often considered music trade schools—demand that students develop adult or professional levels of musicianship.

¶ *This sounds like a harsh judgment against public schools, colleges and university music programs in the United States.*

I speak it as I see it. Students of mine who were first trained in solfeggio often display immature levels of musicianship and often think fluently only in the key of C. This problem can be easily remedied when musicianship skills are appropriate to more than tonally simplistic music. As most great Art music is not simplistic, it behooves musicians to raise their skills to a higher level.

¶ *So you believe that using solfège encourages a higher level of musicianship?*

Using solfège enables musicians to sing and aurally identify pitches in virtually any musical genre in real time—at the speed of music. I have heard numerous musicians who are not vocalists but are pianists, composers and conductors trained in solfège sing *a tempo* the predominant melodic line from music of any era from the beginning to the end of a movement. This requires great virtuosity

and clarity of thought. As an example of the extraordinarily high level of musicianship skill expected in precollege training in China, a graduate student of mine—a conductor—told me that he had decided to practice a challenging solfège exercise that I had assigned him as he was waiting in the student lounge to meet someone for a rehearsal. The exercise consisted of five lines of an unbroken diatonic melodic line consisting of 16th notes jumping up and down by large intervals, interspersed with scalar passages, all in the alto clef. The goal was for the student to speak in solfège each note up to the speed where the quarter note equals 100 bpm. Because my student had been working at this skill for only a few months, he had to be extremely attentive or he would speak the wrong syllable. After a few minutes of practice, a member of the faculty, who had been trained in China from a very early age, arrived in the lounge and, seeing the student earnestly practicing the exercise, came over to the student, looked at the text, laughed, took the book out of the student's hands and proceeded to effortlessly and flawlessly blast through the exercise. After, the faculty member glanced at the cover of the book and smugly commented that he'd worked through all these exercises in elementary school. My student was duly impressed by the high level of craft expected of those trained in solfège. Solfège training in China means business, requiring that musicians clearly and precisely identify by name each note heard or played.

¶ *Speaking the syllables is one thing, but what about singing pitches at a fast rate? This skill would seem difficult for vocalists. Is every musician trained in solfège expected to sing with virtuosity?*

Those trained at prestigious conservatories since childhood are able to sing with great facility though they are not vocalists. I will never forget my husband's reaction when he heard an adult conductor sing in solfège with agility and clarity

the predominant musical line from the beginning to the end of the final movement of Mendelssohn's Violin Concerto. Of course, he had to transpose octaves in order to sing the pitches, but this he did with remarkable ease. Was his voice beautiful? No. However the pitches were pearlescent, that is, they were clearly perceptible and in tune. It must be remembered, that this man had started to sing in solfège when he was only 5 or 6 years of age.

¶ *Do your students who learn solfège for the first time as adults ever achieve the level of musicians trained in solfège since childhood?*

Yes, though they must work with diligence if they are to become completely at ease. They must avoid lapses into the *la-la-la-la-la* habit—singing without naming notes by name.

¶ *Yes, it is common to hear musicians trained in the US to sing music on a single syllable like 'la'. What do you think is the problem with this?*

Singing is important, period, but only singing while identifying pitches develops the literacy skills crucial to Western art music traditions.

¶ *What do you mean by literacy skills?*

By literacy skills, I mean those cognitive processes associated with reading comprehension and writing. Western art music is literate—it is communicated not through aural/oral tradition but through reading and writing. I will not say that our literate culture is somehow better than those that are not literate, but I will say that, because it is literate, those of us involved in this culture must learn to fluently read and write music in the universally agreed-upon symbolic language. We must learn the names of notes and how these are associated with

specific pitches and then learn to encode and decode these notes on the musical staff and keyboard.

¶ *But what exactly does solfège have to do with developing music literacy?*

Literacy requires that we first learn the words that identify objects relevant to our existence and later we learn how to encode and decode these words to communicate with others interested in our thoughts in the language. Solfège is a starting point that allows us to name notes and pitches. After we have learned the correct syllable for each note and pitch heard or sung, we go on to learn how to read and write these pitches on the musical staff and, if we are instrumentalists, how the pitches correspond to notes on our instrument. Correctly singing pitches and rhythms by ear can be compared with correctly speaking and understanding words in our native tongue. We learn to effectively hear and understand words and phrases long before we learn to read and write. Similarly, in music we may learn to sing back tunes consisting of specific pitches, rhythms and intervals with no knowledge of how to read or notate them on the musical staff. Only after we are taught do we learn how to encode and decode music in a way similar to how we learn to read and write language. Being able to identify any pitch or rhythm by ear is learned—it is a cognitive skill. Most of us can sing back what we hear. Fewer of us invent music that we can sing. Far fewer can identify the specific pitches we sing or hear. Still fewer can do this when the pitches are flowing by at a fast speed. Singing a melodic line on only one syllable—like *la-la-la* is, frankly, pre-literate babbling. While I do not deny the importance of babbling before we have learned words to speak, comprehend, read and write, it suggests an immature expression of musicianship. We must develop beyond this phase as quickly as possible.



¶ *This is the real crux of the matter, isn't it? How can we know the name of a pitch or rhythm in real time? Is this really possible?*

Yes, this is the crux of the matter. For those of us who do not have AP—about 9,999 of us out of 10,000, we can only sing a nonsense syllable, that is unless we are able at least to recognize the scale degree of the pitch in a key, in which case we can name it in solfeggio; if we are unable to tell that the pitch we're hearing is an F/*fa*, we might be able to tell that it's degree 3 in some major key, so we can at least use solfeggio and call it *mi*. If we can't do that, we just have to sing on a nonsense syllable.

¶ *Are you saying that solfeggio is in fact more practicable for the vast majority of us without AP?*

No. I'm saying that solfeggio is a good default because when we know the degree by ear we can deduce possible harmonies and can also somewhat project its tonal trajectory—*mi* will eventually go through *re* to *do* for example. But we need to know more than the degree of the pitch, we need to know its name.

¶ *But why must we name the pitches if we're able to sing the pitches fine without this knowledge?*

Remember, Western music culture has been literate since at least the 11th century, - but let me answer your question. If you are not engaged in reading and writing music, you don't need to learn to decode and encode music; if you don't need to encode and decode the English language, there's no need to read and write it. However, to communicate, you need to name notes fluently. Certainly, if you're an instrumentalist, pitches are encoded on your instrument; that is, a particular pitch is produced on the instrument only by using a specified fingering that corresponds with its note. So, if you're trying to play back a melodic line or a

harmonic progression, you have to know the specific notes involved to play them on your instrument. You hear a pitch and you know exactly what it is. True, you may do this by feel without having learned the name of the notes, but you'll have a devil of a time communicating your intentions to another musician without knowing the names of notes. I suppose being unable to name notes is a bit like being a chef who can't name ingredients: though things might work out, there is a high likelihood that others will be confused much of the time. In music, there are only 12 pitches to each octave. Surely we can learn to name these!

¶ *Do you advocate that every musician learn solfège?*

Yes. I was indeed lucky to have been exposed to solfège during the last three of my four years in undergraduate school. Had this not been my experience, my subsequent music studies in Paris would have been far more difficult and even impossible as both my piano instructor, Jules Gentil, and my mentor, Nadia Boulanger, spoke and sang in solfège. Though Boulanger was fluent in using letters for notes, she always quasi-sang or spoke music in solfège. Had I needed to go through a translation process from syllables to letters when she discussed music, I would have been easily lost or confused. As it was, it was fairly effortless to understand her intentions and meaning. Because, in the future, so many of us will study with high-level, conservatory-trained musicians from around the world, we are advised to learn solfège, solfeggio and any other system that we will likely encounter, including, for example, the Nashville number system.

¶ *Do you think that almost any child could learn solfège?*

Yes, I do. When I have had the pleasure of working with small children, I find that they are highly receptive to naming the elements of music, as they are used to naming flavors, colors, animals, vegetables, fruits, leaves and the other

thousand things that impact their lives. Why shouldn't they learn to identify pitches in the same way?

¶ *So, why haven't we taught our children the names of pitches using solfège?*

Some parents and teachers do just that—they teach their young children to identify pitches by ear using solfège or letters. My uncle, who is now deceased, had stunningly accurate AP though he spent much of his life as an engineer. By contrast, his elder brother by seven years—my father—did not have AP. My father recalls teaching his younger brother, then only 4 years old, the names of the notes and pitches on the piano because his young brother wished to emulate everything my father did, including practicing for piano lessons. It seems coincidental that my uncle had AP - nobody else in our family has been quite so fortunate. Had my father been taught the names of the notes and corresponding pitches on the piano, might he have had AP and been able to name heard and sung pitches? I believe this may be the case. Therefore, what would it hurt to teach children the names of the notes and pitches, using solfège before the age of 4 or 5? Perhaps we should try this.

¶ *Earlier we discussed inflected syllables. Are the inflected syllables used in fixed-do?*

Early in the 1980s, I experimented with this idea. I asked a handful of my private students if they would be willing to use inflected syllables in solfège in order to see the advantages and disadvantages. In this system, the note A $\flat$  is named *le* instead of *la-flat* when speaking note names. Becoming good at using the inflected syllables took little time and everything progressed nicely until the students had to write down by ear an atonal melodic line I played for them. Curiously, it seemed difficult to write down *le* on the staff. Why? I can only speculate that when we write atonal music we must generally indicate both the

note and the accidental; we must write both the note A and the flat accidental in front of it in atonal melodies that have no key signature, and the same note is rarely repeated in the same measure. Students using the old system of naming the note as *la-flat* had less difficult writing this than those who had learned to indicate the note with one syllable *le*. At this, all students chose to abandon inflected syllables. As long as the correct note is clearly visualized on the keyboard, as I insist must be the case at all times, the traditional solfège system worked very well. Therefore, I do not use inflected syllables, as these seem neither necessary nor convenient. Some advocates of solfège are using inflected syllables, three decades after my experiments. It would be advisable that students develop skill in using inflected syllables should they wish to study music at a place where this system is employed.

*Fixed, Inflected Solfège*



¶ *What do you do to help students develop an aural sense of scale degree tendencies and the rules of functional harmony?*

As discussed before, exponents of solfeggio often decry the solfège system because it focuses more on the pitch itself than on its contextual, tonal meaning—its scale degree function. When instructors of solfège are insensitive to harmonic contexts, students flounder because, if they are sensitive—as almost all music students are, they will become confused whenever they ignore scale degree function in tonal music. In my experience, it is an incontrovertible fact that, in order to comprehend a pitch, we must acknowledge its function in a scale. Any

given pitch sounds different in different tonal keys. For example the note *re* sounds completely different in the key of D major than it does in the key of E $\flat$ , c minor or b minor: this is because we intuitively sense the tonic and so sense how *re* (degree 2) relates to it, feeling that it tends either down or up to that tonic, while also being either one, two, or more steps away from it.

¶ *You sound like an advocate of solfeggio.*

In a way, I am, however I prefer to use numbers to syllables in defining di-chords and degrees. I truly believe that no one in this world is a stronger advocate for the conscious awareness of the interval and the scale degree, when appropriate, of each and every pitch sung, played, written or heard. I use numbers because they represent relationships between elements of a set order. When we think the number 3, we sense its relationship as a note a step above 2, and 2 is a step above 1; when we think the number 6, we know that it is 3 steps above degree 3 and it is just one step above 5; 5 is also a step above 4 so 6 is two steps above 4. When numbers are used to identify degrees or intervals—what I call di-chords, we know something concrete about the way these things relate to one another. Also, when we define scale degrees, di-chords and chords, we use numbers, not solfeggio syllables. Only rarely do musicians refer to the triad build on the 4th degree of the scale as a *fa* chord: We refer to it as a IV chord, or simply as IV.

¶ *How do you ensure that your students are thinking the degree when they are speaking or singing in solfège?*

The answer to this is quite simple: Unless a student has AP, they are almost completely unable to correctly sing or aurally identify a specific pitch unless they are aware of that pitch's scale degree function or interval context. That is, if a student does not have AP and is given a tonal piece to sing in A major, she must

muster up her memory to sing the pitch *la* that is the tonic. If she gets this right, she sees that the next note is *fa#* that she knows is degree 6 in the key. If she has a clear memory of the sound factors of this degree, she will sing the pitch correctly on the syllable *fa*. Only if she knew the interval relationship between the tonic and degree 6 could she sing *fa#* with any assuredness. In other words, those few with AP can pull the pitch corresponding with the fixed syllable *fa#* out of their hat, without employing any knowledge of tonal context; those of us without AP must figure out the tonic pitch by eye and ear, then figure out the degree relationship of *fa#* to the tonic, and now we can sing the note *fa#*. It is, therefore, impossible to sing pitches without knowing quite a lot about tonal keys, the notes-to-degree correspondences in keys, the aspects of a degree that make it recognizable by ear, et cetera.

¶ *What if your student has AP? How do you know if they are hearing tonal or di-chord contexts?*

I ask my students with AP to use scale degree or di-chord numbers as much as is musically feasible. Further, like many instructors, I ask students with AP to transpose what they read, sing or hear to different keys in order to ensure that they are focusing on the di-chord/degree template more than on the pitches alone.

¶ *It is ironic that you ask your students without AP to sing pitch names and your students with AP to sing scale-degrees. Isn't it usual for those with AP to sing in solfège and those without AP to sing in scale-degrees?*

Indeed, this is ironic. The more normal thing is to have those with AP use solfège and those without AP to use solfeggio. I believe that the goal is for all of us to know both the di-chord and tonal degrees (when appropriate) of pitches as well

as the pitch itself rather than knowing one or the other. Further, it is my belief that a good education seeks to develop cognitive balance so that it, like a jet, can run on two engines rather than only one. This means that those with AP must use another part of their musical mind and brain to attend to context and conversely, those without AP must avoid being lost in context by training their musical mind and brain to identify specific pitches. Music is composed of both pitches and the di-chord relationships between them, not one or the other. It would be far better, if conservatories populated with mostly students with AP would use moveable numbers more than solfège; on the other hand, it would be wiser for music schools, colleges and universities populated mostly by individuals without AP to use solfège! Ultimately, all of us should be thinking of fixed pitch names as well as moveable harmonic functions.

¶ *Could you speak about the fixed pitch standard? Is there one that we can actually employ?*

The pitch standard of A4=440 Hz/bps (beats per second) is fairly new. This might explain why AP is still somewhat rare in the world population. Only in France in the 1850s did the government fix A4 at 435 Hz. Prior to this time, no fixed standard existed, so that A4 on a keyboard in Vienna might be quite different from one in Berlin or Paris. Because pitch was getting higher and higher in the mid-19th century, singers were finding it increasingly difficult to adapt, requiring that the rising pitch be finally halted. Only in 1936 did the pitch A4=440 Hz become officially recommended by the American Standards Association.

¶ *Does this mean that the French pitch for A/la4 is different than elsewhere?*

I cannot answer this with certainty. However I suspect that French music students who sing in solfège might sing slightly flatter than those trained in the same system where the pitch standard on keyboard instruments is slightly higher. In Germany the tuning standard for orchestras is often A4=444 Hz/bps (beats per second), and Baroque period instrumentalists often play at A4=415 Hz. Therefore, we have yet to ordain or affix 440 Hz to A/la4 excepting on keyboard and electronic instruments. Some musicians with extremely acute AP are irritated when the pitch they have learned is off by only a few beats per second, but most with AP have substantially more tolerance, being able to adapt to slight differences in pitch.

¶ *Do you have any further comments to make about your use of solfège for note naming and numbers for di-chords and degrees?*

On the next page is a summary of the characteristics and relative advantages of the solfège and solfeggio naming systems. I would like to encourage adults who have never used solfège to try it out!



## MOVEABLE-DO OR SOLFEGGIO

Used in singing

Syllables *do, re, mi, fa, so(l), la, ti* represent scale degrees 1, 2, 3, 4, 5, 6, 7 respectively

When singing or hearing, scale degree, therefore the syllable can be identified by ear without knowledge of pitch names

Degree alterations sometimes indicated with inflected vowel in the syllable

Generally, syllables are not employed in the written analysis of music. (Instead, letters represent note/pitch names, and Arabic numbers and Roman Numerals indicate scale degrees and chord function of the root)

Same syllables used in every key can instill a strong sense of degree tendencies

Must know the tonic in force at each moment to determine the syllable/degree requiring study

Useful mostly in elementary music or sections of music that is strictly tonal

May preclude knowledge of the actual played or heard pitches, especially needed to match pitch on a musical instrument

Though often introduced in college, it is an elementary system that is readily learned

Inflected notes developed in the Kodaly Method to indicate degree alterations from the original key

## FIXED-DO OR SOLFÈGE

Used to identify a note both when singing and speaking

Syllables *do, re, mi, fa, sol, la, si* represent the notes C, D, E, F, G, A, B respectively

When singing or hearing, the specific name of the pitch must be identified, requiring either good relative or absolute/perfect pitch skill.

Accidentals are generally never named when singing, but sometimes when speaking

Syllables are used to identify notes even in analyzing music, though Arabic numbers *may* be used to indicate intervals, interval classes and degrees, and Roman numerals may be used to indicate chord function of the root in written analysis.

Because syllables do not indicate the degree function of pitches, they can be easily employed in late tonal and atonal music

Tonic in force does not affect the syllable/note name, making the system applicable to atonal or complicated tonal sight singing and dictation in time

Useful in all genres of music using the dodecaphonic scale, in even advanced or non-tonal music

May bypass attention to tonal contexts instead cultivating absolute or very good relative pitch skills

In precollege conservatories, training begins in childhood and continues through high school and into college

Kodaly inflected syllables are only rarely used to indicate notes with accidental