From the Archives....

Intonation

compiled by Mary Sorlie

I was recently reminded of the immense wisdom, experience and talent within the MNSOTA organization. I am continually amazed at how deep and rich the string and arts community is in our part of the country. Looking back on past *String Notes* articles, I found myself immersed and impressed with the depth and range of string topics. This new column, *From the Archives*, will take a look back the insights of previous contributors. I thought intonation would be a great place to begin.

What is intonation? How do we teach it? Is it different with solo, ensemble or orchestral playing? The simplest of definitions is the ability to play or sing notes in tune. Below are some excerpts (from the archives) that might help in the studio, ensemble or orchestra in developing excellent intonation.

***Intonation*, by Annette Caruthers**
From Fall issue2002

Intonation is one of the most basic elements of playing the viola, and for some students it is a never-ending quest. I do believe that intonation can be taught; here are a few of my thoughts or tips on how to help students do their best with intonation.

Be sure student can hear the difference between pitches that are close—have them turn their back and tell you which note is higher... or which one rings better... make it a game. Then when you are sure they hear which pitch is really accurate, they can learn to change their finger placement to match what they know is correct.

Listen for the "ring" the viola gives when a note is exactly right. If the pitch matches an open string, you can actually see the matching string vibrate with the note being played; or feel the string vibrating if you touch it with a finger while it is moving. Students love feeling the vibration and watching it happen.

Look for a repeated note in a passage... be sure it is exactly the same pitch each time it is played. You can improve a passage dramatically by correcting that repeated pitch, and this will help the student correct other notes in the same passage.

Play an octave lower while the student plays the upper octave. This gives students a basis and it is amazing how particular they can get when they hear that octave!!

***Solfege + Theory —> Great Intonation*, by J. David Arnott**
From Winter issue 2005/2006

Which aural skills, if any, are worth the time, effort, and inconvenience to develop in school-aged orchestral musicians? As music performance or music education majors, we all had undergraduate ear training classes. Why did we suffer through them? Was it simply a hoop through which we had to jump in order to graduate? Or was it the beginning of lifetime journey of developing skills on which we rely during every musical moment of our lives, skills which we must share with our students.

How much music theory does a middle school or high school orchestral musician really need to know? Probably not much, as a little bit goes a long way. Teaching the diatonic intervals found in a major scale is great way to begin to fine-tune your orchestra.

We already practice scales, but do we ever discuss why we practice scales? ("Because composers write them," is the answer that always works for me.) Do we make it a point to relate our scales to specific issues in our orchestral repertoire? This practice goes hand in hand with teaching triads. How many times have your violas had an F♯ on the C string in a D dominant seventh chord and played it too low? Do you explain to them that it is out of tune and that they should try again? Or do you say to them that their note is the leading tone of the scale and, acoustically, it must be higher? Do your violas know when they are on the third or the fifth of a triad? Do your violins know when they are playing octaves with the bass? Do your cellos and basses play perfect octaves together?

String Notes Pedagogy Archive

Pedagogy articles since 1998 from *String Notes* volunteer writers encompassing all our instruments, as well as Orchestra, Chamber Music, Makers Bench, Performer Corner, Baroque Practice and Fiddle, among others, are now available on-line and as PDF download to MNSOTA members and article authors. Go to the mnsota.org website and choose the resources tab -> *String Notes* archive. As access to this resource is a benefit of membership, you will need to sign in with the email associated with your ASTA membership.

Once signed in you can simply scroll through the list, organized by issue, including a thumbnail of our wonderful original cover art for each issue. Or use your browser to search for title, topic, author or any other search term you would like.

Some of our wonderful contributors include: David Arnott and Annette Caruthers (39 articles each), David Holmes (38 articles), Ann Annderson (37 articles), Sally O'Reilly (28 articles), Tom Pieper (24 articles), John Waddle (21 articles), Jason Vanselow (20 articles). Are you surprised that over 30 of the topics deal with practicing?

The plan is that shortly after each new paper issue of the magazine is mailed the PDF of the pedagogy articles will be uploaded to the webpage.

As our write-ups for student events often include photos, these are not on the webpage because we don't have photo permission.

Is there a practical way to combine aural skills and beginning music theory? Of course, but I believe it requires some singing. Make your students sing. Make them sing often enough so it does not always seem like a chore. Make them sing so much they lose all self-consciousness about singing. Encourage especially those without any background in singing. For those who profess to not be able to sing, the rule in my studio/ensemble is that as long as you can grunt in tune, you will get by just fine. Sing for them by example.

Claudette Laureano spoke of this at the All-State Teachers Workshop at Gustavus this past summer and it was a great hit with the participants. Teach your students a little solfege; whatever brand suits your comfort level or experience will be just fine—"moveable do," "fixed do," note names, or the number system. It really does not matter, as solfege is more a practical means to an end than a process in and of itself.

***Teaching Intonation Creatively for String Orchestra,* by Kirk Moss (reported by Faith Farr)**

From Winter issue 2018/19

Kirk reminded us that there are many systems of intonation or temperament, including: mathematical; just; Pythagorean (which fixes the fifths and moves the thirds); mean tone (which fixes the thirds and moves the fifths); well-tempered; equal tempered; expressive; harmonic tuning (where the melody notes are influenced by the harmony); melodic tuning (e.g. double sharps are extra sharp); coloristic (where wide intervals are wider). String teachers live in the world of "corrective tuning"—where things always need fixing.

Prerequisites for good intonation include a balanced body platform for functional instrument placement, and left-hand format that has correct instrument position and angle, correct elbow/arm placement, correct and functional thumb placement, and curved, flexible fingers. It is important to realize that fingerboard tapes should be more for the teacher's use than the student's!

For upper strings, it may be helpful to drill students in Bornoff's finger patterns. Students should be able to give the "Live long and Prosper" hand greeting in any of the patterns: pattern 1 = 1-23-4; pattern 2= 12-3-4; pattern 3 = 1-2-34 (low 1, low 4); pattern 4 = 1-2-34 (high 3). For cello forward extensions, it is essential to move the thumb a long way—the whole step is always between fingers 1 and 2.

Kirk recommended *The Tuning CD* by Richard Schwartz because it includes different overtones, e.g. D with major third, with minor third, with perfect fourth etc. With all the technology available, it is essential to train students to tune by ear, and not exclusively by eye.

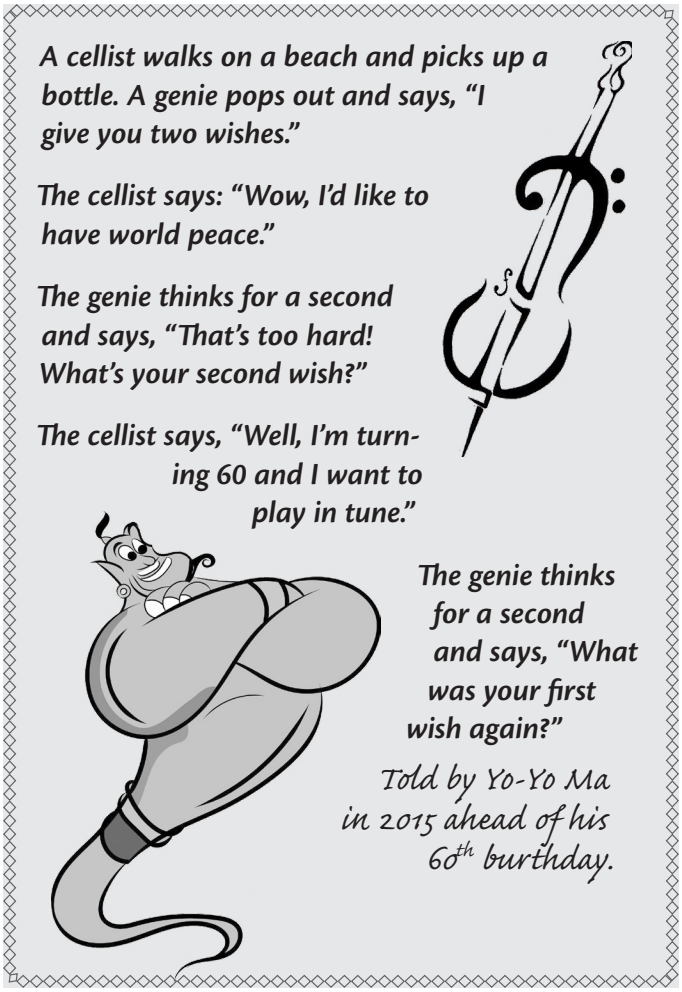
Traditionally, shifting is driven by a constant key signature—the finger pattern changes in the new position. The *Sound Innovations* shifting system is kinesthetically driven—keeping the same finger pattern in the new position. For example, upper strings might shift from first position pattern 1 (E–F♯G–A) to third position pattern 1 (G–AB♭–C).

There are many steps to teaching students how to tune their open strings. Matching the tuning tone with the voice (singing) should be a regular part of the tuning routine with the goal of matching the tuning tone with the open string. Peg manipulation is a second- or third-year skill.

The prerequisite skill is to answer yes/no to the question "Is it in tune?" If the answer is "no," remember that it is easiest to match the pitch by coming up from too flat. Cellists and bassists need to learn the additional skill of octave transposition—cellists are listening to A=440 but playing A=220. It may be helpful to teach cellists and bassists how to tune by harmonics because the harmonic pitches are easier to sing than the fundamental. (Cellists compare the 1/2 string harmonic played by finger 3 to the 1/3 string harmonic played by finger 1 in fourth position on the next lower string. Bassists compare the 1/3 string harmonic played by finger 4 in third position to the 1/4 string harmonic played by finger 1 on the next lower string.)

Kirk likes having a class tune from the basses. He has electronic tuners by the bass rack. After the bassists have tuned themselves, the rest of the ensemble tunes by listening. His tuning routine is: basses play A. Cellists add A, at the tip, softer than the person next to you. Then violinists and violists add A. Everyone sings D while playing A. Bassists go to D while everyone else stays on A. Then cellists go to D, violinists/violists go to D, etc.

The acoustics of the orchestra classroom affect intonation. Make sure your room is "live" enough that you can hear the overtones. Research has shown that inaccuracy in tuning is related to distance from the tuning tone, so consider your room setup. In a typical room, the speakers are at the front and the bassists are at the back—the farthest from the speakers and with the greatest challenge of octave displacement. Consider having the basses nearest the conductor so that everyone can hear better.



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