

Music mafioso walks into a trap

Lyndon H. LaRouche, Jr. tells why U.S. college music departments might be viewed as guilty of consumer fraud against their paying students.

The Sept. 18 edition of Turin, Italy's daily *La Stampa* features the leader of northwest Italy's "music mafia," Massimo Mila, in the act of stuffing both left feet in his mouth.

Although Mila probably did not foresee that consequence at the time his piece was published, the ultimate result of his actions might be former students' claims of "consumer fraud" against a number of college and conservatory music departments.

Mila's piece is a reflection of decisions made at a recent, secretly convened meeting of leaders of Italy's "music mafia." That meeting was called to discuss tactics for opposing the reintroduction of composer Giuseppe Verdi's draft legislation setting the official pitch of state-subsidized concerts.

Verdi's law sets the frequency of the A above Middle C of the scale at 432 cycles per second ($C = 256$). That legislation has been filed in Italy's Senate, and hearings on the bill are pending for some time soon during the weeks just ahead. The proposed legislation was introduced to the Senate on the initiative of the Schiller Institute, with endorsement of this action by many of the world's leading singers.

The secret meeting of "music mafiosi" decided to introduce counter-action in Italy's lower legislative branch. This proposed counter-legislation asserts that the modern history of musical tuning shows that the European standard pitch has varied widely, from time to time, and from place to place.

Similarly, Mila argues in his piece, that "absolute tuning" is "the cancer of music"; he insists that music is "passion and feeling," not subject to scientific intelligibility. Obviously, Mila did not suspect the trap he was setting for himself by publishing such an argument.

The 'historical school'

The source of the argument adopted at the secret meeting of the "music mafiosi" is material developed by an English admirer of Hermann Helmholtz, Alexander Ellis, material appended to Helmholtz's *Sensations of Tone*. [Ellis, Alexander, *On the History of Musical Pitch* (repro. of 1880 edition). Longwood Publishing Group, 1977. (LC 77-75197)]

Helmholtz's text is the source of much of the material on singing and hearing included in many undergraduate physics textbooks; the same text has been adopted as "authoritative" by music departments of many colleges and conservatories. The argument made by Ellis is usually identified as the thesis of the so-called "historical school of tuning." This is the argument adopted by Mila and the "music mafiosi."

The center of Ellis's argument is that J.S. Bach performed

his works on a wide variety of organs, most of which deviated widely from the standard Middle C of 256 cycles per second. Ellis and the "historical school" assume, that since these organs varied widely in pitch, Bach could not have adhered to $C = 256$ in his actual performances of his works.

Those who copy Ellis's argument, as Mila does, reveal their own musicological incompetence in the most devastating way. There are four conclusive pieces of evidence against Ellis's dogma:

1) In his book on keyboard instruments, J. S. Bach's son, C.P.E. Bach, emphasizes that the first qualification of a keyboard artist is the ability to transpose at sight into all keys. [This was crucial in an era when to save the costs of building large pipes, organs were often made pitched too high, and the organist would transpose at the keyboard to approximate the proper pitch.]

2) From no later than the second half of the 17th century, until 1849, all of the instruments of the classical orchestra, including the winds as well as the famous Cremona stringed instruments, were constructed to conform to a well-tempered scale at $C = 256$.

3) All of the classical composers, from Bach through Verdi and Brahms, composed their vocal works to conform to the equivalent of a soprano's natural register-shift between the F and F# (immediately above Middle C). Moreover, their instrumental works were composed to meet the same standards of voice-register-shift used for their vocal compositions.

4) Most devastating of all: If Bach had not transposed the keyboard performance on organs deviating from $C = 256$, the singers could not have performed the vocal part of those Bach compositions!

A few musical examples

A few musical examples help to clarify the fourth point. **Figure 1** indicates the normal range and natural register-shifts for the soprano, mezzosoprano, contralto, tenor, baritone, and bass. The ranges are approximate—the ranges which a composer could reasonably expect from members of a choral group; few such singers have a range significantly extended beyond those limits. For the male voices, the tone values of the shift between the first and second registers are approximate, for reasons which are irrelevant to the point being made here. For the upper registers of the male voice, and for the female voices, the values given are those universally accepted for a well-tempered scale based on Middle C

FIGURE 1
The six species of the human singing voice

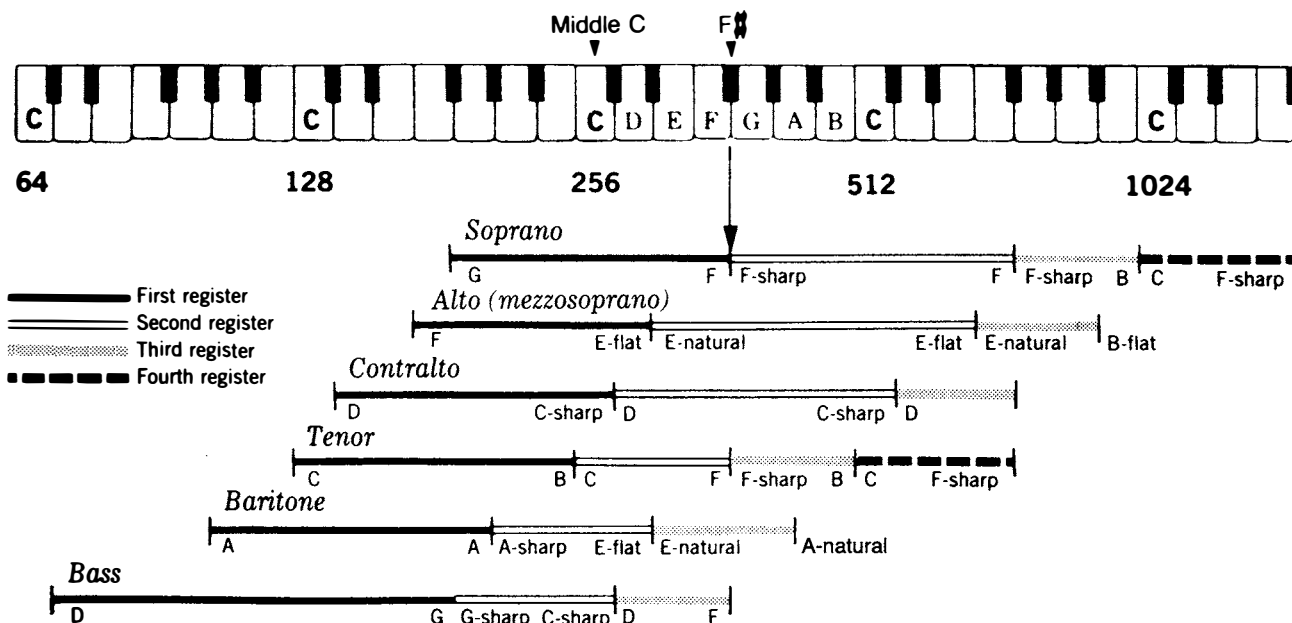


FIGURE 2
From J.S. Bach's motet, "Jesu, meine Freude"



The figure shows the alto and tenor parts only of measures 45-48 of the chorus, "Es ist nun nichts," which is scored for five parts. Note the high A for the tenor in measure 46, and the low A# for the altos in measure 48.

at 256.

Figures 2, 3, 4, 5, 6, and 7 are examples of the kinds of proof which should be well-known to any person with musical competence in the characteristics of the classical (bel canto) trained singing voices of soloists and members of choruses. The number of other examples which might be cited, is almost limitless.

'Absolute pitch'

Naturally, it has been the majority among the world's leading singers who have taken the lead in the campaign to implement Verdi's A = 432. Elevated pitch, even at A = 440,

tends to shorten the life of the voice, and compels the singer to lower the register-shift a half-tone of the scale, with resulting damage to the musical intent of the classical composer. At A = 443 or higher, the life of the singer's voice begins to be greatly shortened, while above 448, singing careers are cut very short, with some of potentially the best quality of voices never reaching professional ripeness for the concert stage.

Although some mathematical purists make a case for A = 430.5, from the standpoint of the health of the singing voice, any value of A between 430.5 and 432 might be acceptable.

For the best musical results, some fixed standard is needed, if the future singer is to acquire the sense of “absolute pitch” needed for the best results of training. It is desirable that musicians reading a classical score hear the exact value of the tone to be performed in their heads, automatically.

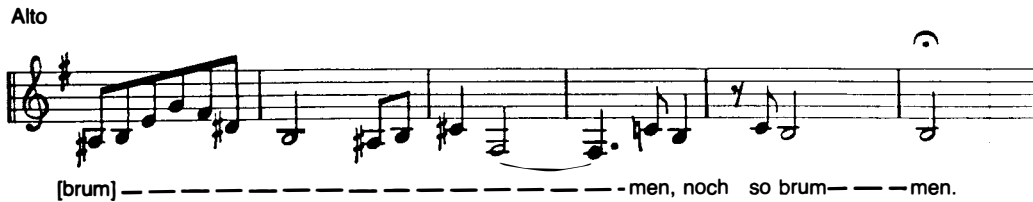
One of the problems of “variable,” or so-called “relative,” pitch, is that the musician tends to depend upon sounding a note on an instrument, reading a score, with the result that the connection between reading of score and perform-

ance tends to be too much a matter of connecting eye to muscle; it is desired that the musician produce an articulation of phrasing flowing from hearing the music in the mind.

Since the great Verdi adopted $A = 432$, the musicians supporting the effort have agreed to make $A = 432$ the professional standard.

Some instrument-builders and instrumentalists might prefer to have a basic tuning of A between 427 and 430 designed into their instruments, since the wind instruments’

FIGURE 3
From J.S. Bach’s motet, “Jesu, meine Freude”



The figure shows the alto part only, of measures 58-63 of the chorus, “Trotz dem alten Drachen,” which is scored for five parts. The low F# is sustained over measures 60-61.

The musical examples

The mezzosoprano (“alto”) line of the average Bach chorus neatly demonstrates that J.S. Bach standardized the well-tempered system at precisely $C = 256$. While it is true that composers before J.S. Bach did use varying pitch, Bach himself had to standardize the pitch, when he standardized the alto voice, and thus the well-tempered system.

Bach standardized the practice of using boys (choral) and women soloists for the alto choral line, which gave him four totally different kinds of voices instead of only three (boy sopranos; male altos and tenors; and basses).

True mezzosopranos (boys and women) cannot comfortably sing as low as did the highest Renaissance male altos. Thus, in order for boys and women to sing the “alto” (second) line, this line had to be raised slightly in tessitura. Still, a glance at Bach’s average mezzosoprano line makes clear, that boys and women cannot sing these low-lying lines, with sustained low G’s and F’s below the staff, at pitches any lower than $C = 256$.

Neither could most basses, for that matter, sing much lower than at $C = 256$, the sustained low E’s and D’s below the staff, for which Bach choruses routinely call.

Furthermore, Bach’s tenor and soprano lines require frequent high A’s and B’s above the staff, and thus could not be performed at pitches higher than $C = 256$.

Figure 2, “Es ist nun nichts” measures 45-48 from

Bach’s *a cappella* motet “Jesu Meine Freude,” is typical. No boy mezzosoprano could be expected to sing a line with such a low tessitura at the supposed “baroque pitch” of $A = 392$ -410, which is approximately one to two half-steps below $C = 256$. That is, the boys would be singing a tessitura from a low A to a middle E only, instead of a low B to D at $C = 256$ (equivalent of C to D#, speaking from the standpoint of vocal registers, at $A = 440$).

However, the tenors sit simultaneously at a high A above the staff, a fact common in Bach. Modern tenors either take these passages in falsetto, or complain bitterly about them, for at $A = 440$ or above they are impossible to execute beautifully. Clearly the tenor line needs the lower tuning of $C = 256$.

Figure 3 makes the case against any tuning lower than $C = 256$ even more clearly. “Trotz dem alten Drachen” from the same Bach motet (measures 58-63, end of the chorus) give an alto tessitura of low A to low B, including a sustained two-bar low F# below the staff! At any tuning lower than $C = 256$, no child or woman alive could sing this sort of line. The point is dramatized in Figure 7, showing the inner voices of the four-part motet “Lobet den Herrn,” where the tenors’ high A occurs *simultaneously* with a low F-natural in the alto part.

Unless Bach and Handel are performed precisely at $C = 256$, in fact, absurdities result. Christopher Hogwood’s famous video of the “Messiah” in London’s Westminster Abbey for example, is done at $A = 392$ —which forces Hogwood to revert to the use of male altos in passages such as that the “Trotz” chorus above. An example

pitch tends to climb a bit once the instruments are “warmed up.” As long as the concert pitch arrives at A = 432, singers and instrumentalists can live together quite happily, as far as tuning issues are concerned.

Until the 1815 Treaty of Vienna, European composers of classical compositions based their ideas of tuning and registration on the values dictated by the Italian “bel canto” method of voice-training. Middle C at 256 was generally accepted on the continent and by followers of the Handel tradition in England. It was Metternich’s Congress of Vienna which first sought to impose the A = 440 of the Russian czars’ military bands upon all of Europe. Nonetheless, the professional musicians resisted this Vienna political decree even after 1849, when wind instruments began to be redesigned to conform to the Russian standard of A = 440.

Later, the combined work of Helmholtz and Ellis created the musical “consumer fraud” known as the “historical school of tuning.”

Those who repeat Ellis’s dogma are exhibiting gross musical incompetence. In the coming debates in and around Italy’s parliament, this evidence against the “historical school” will now be forced to public attention. With that develop-

ment, the Italian musical world will say of Massimo Mila, “brutta figura!” The embarrassment to Mila and the “music mafiosi,” they will have brought upon themselves.

It would not be surprising if some former music students in the United States were to think of demanding rebates on the tuition fees paid to the music-theory departments of certain colleges and conservatories.

of such a passage is shown in **Figure 7**.

But, the continued use of high A’s and B’s above the staff as a matter of course for Bach’s tenor and soprano sections, means that higher tunings are also impossible. Bach’s famous cantata “Ein’ Feste Burg ist unser Gott” (**Figure 4**) contains repeated high A’s above the staff for the tenor in the opening fugue, and repeated low A’s below the staff for alto and low D’s below the staff for the basses.

The “B Minor Mass” in particular contains high B-naturals for the entire chorus for tenors and sopranos, yet a very low tessitura for altos and basses in some sections. **Figure 5** from Bach’s “B Minor Mass” demonstrates that in the same composition in which the tenors and sopranos execute high B naturals, which is impossible at tunings higher than C = 256, basses must sing a low E below the staff, which is not to be expected at lower than C = 256. Moreover, in case anyone is tempted to conclude, from the fact that the cantata “Ein’ feste Burg” has its extreme notes exactly one whole-step below the corresponding highest notes in the Mass, that a lower-tuned organ was used in the Mass than in the cantata, this can be refuted again by consulting the respective alto parts. If it were a question of a lower tuning for the Mass, one would expect to find the lowest alto parts about one whole-step higher in the Mass than in the cantata, but just the opposite occurs. The altos in the “B Minor Mass” are required to sing as low as F# below Middle C, whereas in the cantata the altos’ lowest note is G below Middle C.

—Compiled by Kathy Wolfe and Sylvia Brewda

FIGURE 4
From J.S. Bach’s cantata, “Ein’ feste Burg”

a)

Soprano

Alto

Tenor

Bass

Das Wort sie sol - len las - sen stahn

Das Wort sie sol - len las - sen stahn

Das Wort sie sol - len las - sen stahn

Das Wort sie sol - len las - sen stahn

b)

Soprano

Alto

Tenor

Bass

das Reich muss uns doch blei - ben.

das Reich muss uns doch blei - ben.

das Reich muss uns doch blei - ben.


das Reich muss uns doch blei - ben.

Example 4a shows the first four measures of the closing chorale, where the tenors must execute a high A in the second measure. Example 4b shows the last four measures of the same chorale, with the basses’ low D as the final, held note.

FIGURE 5
From J.S. Bach's Mass in B minor

a) Soprano  lin ex - cel - - sis - - De - - - - o,

b) Tenor  8 ter - ra glo - - - - ri - - a

c) Alto II  ter - - - - ra,

d) Bass  Et se - pul - tus est, se -

Example 5a is the first soprano part, measures 93-96, of No. 4, "Gloria in excelsis"; note that the choral sopranos must sing a high B-natural in measure 94. Example 5b is the tenor line, measures 74-76, of No. 20, "Sanctus," where the choral tenors, too, must sing a high B-natural. Example 5c is the second alto (mezzo-soprano) line, measures 107-8, from the "Sanctus," ending on a low F#. Finally, from the same work, Example 5d shows measures 48-49 from No. 16, "Crucifixus," where the bass choristers are required to sustain a low E.

FIGURE 6
From Bach's motet "Lobet den Herrn"

Alto  Herrn - - - - , den Al - - - - le

Tenor  8 lo - - - - - bet den Herrn, al - - - - le -

Measures 17-18 show the alto part descending to a low F below Middle C at exactly the point when the tenors climb to a high A above Middle C.

FIGURE 7
From the "Hallelujah" chorus from the Messiah by G.F. Handel

Alto  lu - jah! Hal - le - lu - jah! Hal - le - lu - jah! Hal - le - lu - jah!

Tenor  8 le - lu - jah! Hal - le - lu - jah! For

This closeup of the inner voices shows the altos executing a low A below the staff immediately after the tenors perform a high A above the staff, extremes which require a C=256 tuning pitch.