

More on Italy's C-256 'scientific tuning'

Last week, EIR published excerpts of the 1884 decree of Italy's Ministry of War establishing middle C at 256 full cycles per second as the standard pitch (diapason) for all military music. We continue here our publication of documents from the discussion at that time, which has become a lively issue today in Italy because a petition is being circulated, signed by many world-famous singers, asking Parliament to reestablish the "Verdi tuning." An advanced discussion of the reasons for setting the standard at C-256 was printed in this section by Jonathan Tennenbaum in the May 6, 1988 issue, under the title: "C=256: The Foundations of Scientific Tuning."

Verdi to the government commission

The great composer Giuseppe Verdi's letters on the new diapason were included in the pamphlet circulated by the War Ministry in 1884. Translated excerpts follow:

Since the standard diapason was adopted in France, I advised that the example should be followed also by ourselves, and formally asked the orchestras of several cities of Italy, among others that of La Scala, to lower their tuning fork bringing it into uniformity with the French standard. If the Musical Commission instituted by our Government believes, for mathematical reasons, that the 870 vibrations (A-435) of the French tuning fork should be reduced to 864, the difference is so small, almost imperceptible to the ear, that I associate myself most willingly with this.

It would be a grave, extremely grave error to adopt, as is proposed by Rome, a diapason of 900!!! (A-450) I am of the opinion, with you, that the lowering of the tuning fork takes nothing away from the sonority and vitality of the performances; but it gives, on the contrary, something nobler, fuller, and more majestic which could not be given by the shrieks of the overly high tuning fork.

For my part I would like one single tuning fork to be adopted in the entire musical world. The language of music is universal: Why then should the note which is named A in Paris or in Milan, become B-flat in Rome?

. . . We have faith that France, persuaded by irrefutable reasons that point to our tuning as the only scientifically universal one, will abandon the three excess vibrations [A-435] which are perhaps the primary cause of the lack of practical results which the proclamation of their international tuning fork had. . . . Nevertheless, to complete the work

begun by the War Ministry, the effective involvement of the Ministry of Public Education is needed; and moreover, it is to be wished that before long, the same Ministry accepts and adopts for all music schools the standard diapason of 432 double vibrations, which will thus be the official Italian tuning, and soon will become the universal tuning as well.

The physicists' pitch

Archimede Montanelli, "Empiricism and Science" (reply to an article by S. Perone on the Unified Diapason, Musical Gazette of Milan, Sept. 20, 1891):

Most convincing arguments and reasons were brought to the Congresses, printed in books and pamphlets, and original theories, or those of others, developed or reproduced, which fortunately were in accord on the essential principles from which were deduced the C (index 3) = 512 and the A (index 3) = 864 simple vibrations (C-256 and A-432 double vibrations), nor could it have been otherwise, since there is *only one truth*.

The studies on the determination of the relations of the intervals of the scale date from the era of the Greek Golden Age, and one may consult on this matter the most valuable *History of Music* of Padre Martini, vol. I. Is he credible, or can one only think that Pythagoras, Archytas, Aristoxenes, Eratosthenes, Ptolemy, and among the moderns, Renaud, Fetis, Liagre, Tully, Derutte, Collongues, Cronschi, Retter, Cavailles-Coll, Van Poucke, and Mœrens had wasted their time occupying themselves in laying the physical basis for a total system of music? It seems not; these studies have saved us immense labors, facilitating for us the way to better know phenomena which, being mathematically or physically proved, rendered innumerable services to art. And art is subordinated to all the laws of nature which science reveals. . . .

It should be added to this that in the physics laboratories, the various C's which have been adopted have, for reasons of simplicity, this natural base; for which reason, by adopting A-432 (here we speak of double or full vibrations) we would place music practice in agreement with laboratory practice: an advantage of a certain consequence, when one considers the continuous and incessant relations which pass between music and acoustics. . . .

It is no wonder then, Mr. Perone, if the physicists, the psychologists, and the music masters of world fame, such as Verdi, Pedrotti, Bozzini, Lauro Rossi, Faccio, Boita, Gomes and many others, preferred, far from diplomatic pressures, to adopt in Italy the "432" diapason, which so well links science to practice in art, far better than "435," which is scientifically incorrect. . . .

Why do we not want to believe that all that moves, all that unfolds on the face of the earth, is harmonic, is ordered as are the bodies of the planetary system? Why couldn't the A-432 diapason have serious relations with the mechanism of the human voice? . . .