

Plenty of pitches

The note A tuned to 440 Hz only became the norm for musical performance in 1939 after decades of international and interdisciplinary disputes. Fanny Gribenski retraces this rocky path.

Though music is often referred to as “the universal language of mankind,” in the words of Henry Wadsworth Longfellow, for the longest time, the practice of this art was founded on local standards. Now regarded as ‘natural,’ the note A tuned to 440 Hz only became the norm for musical performance following an international conference held in 1939. For most of music history, pitches were fluctuating concepts: countries, cities and individual musical institutions performed music according to their own tones. But with the development of railroads and the resulting integration of musical spaces, many voices called for the adoption of a unified musical measure.

France was the first country to create such a standard. In 1859, a state-appointed commission gathering representatives of the worlds of music and science fixed a diapason normal at A 435. In the same way as a standard metre had been agreed upon after the revolutionary standardization of the metric system, a model of the musical standard — a tuning fork — was stored at the Paris Conservatory (pictured). The ‘French pitch’ was subsequently chosen as a first international standard in Vienna in 1885 by several European countries and Russia. But in the interwar period, the United States adopted A 440 as standard, which was agreed on by certain European nations in 1939, and became the first acoustic norm issued by the International Standards Organization in 1955 as ISO 16.

Although resembling that of other technical and scientific standards, the history of concert pitch is more complex. Crucially, whereas the metre was principally the product of industrial factories and physics laboratories, pitch was also the concern of opera houses, radio studios and instrument workshops. For other scientific and technical standards, it was physicists, mathematicians, engineers and natural philosophers who determined at what measure these were set. In the case of pitch, such authorities were challenged by a diverse body of interested parties all with different ideas of what a standard pitch should be. Shaping these ideas were not only considerations about the



Credit: Diapason, Jules-Antoine Lissajous, France, 1859, E.378 Collections Musée de la musique / Cliché Anglès

physics of sound, but also conflicting notions of what sounded aesthetically pleasing, what was physiologically sustainable, and what was historically consistent with the works of celebrated composers.

Whereas in France the diapason normal was fixed in reference to a historical canon of operas with the commission claiming that the choice of A 435 “would render the performance of old masterpieces easier,”¹ these aesthetic considerations were challenged in other countries. In Britain, for instance, in the wake of the French decision, the Society of Arts started investigating “how far it would be practicable to do anything in this country in reference to it,”² but with the aim of putting a greater emphasis on science. Drawing from the recommendations made by natural philosophers such as John Herschel the body created a competing standard, presented as a compromise between mathematical knowledge and contemporary

musical practice: C 528. Following the advice of Giuseppe Verdi, the Italian association of musicians similarly adopted A 432 as a standard in 1881, reconciling the demands of science and musical practice. Such a low pitch, it was argued, was more friendly to voices. The following year, however, this measure was defeated by the French pitch A 435 at the conference held in Vienna because of the commercial strength of the diapason normal, which had already been adopted by several acclaimed instrument makers. Eventually, the French pitch was superseded by the higher pitch A 440. This standard had been introduced in the United States in 1917, and enforced by means of a radio signal emitted by the Bureau of Standards in 1935.

Concert pitch still remains a controversial standard. For several years, numerous blogs have been denouncing the use of A 440 and calling for its replacement by what they regard as the pitch of the “origins”: A 432. Following in the footsteps of activist Lyndon LaRouche who, at the end of the 1980s, claimed that one should “revive Verdi’s tuning [A 432] to bring back great music,”³ the Dutch political party Vrijzinnige Partij argues for A 432 as a standard on the unverified grounds that Joseph Goebbels was responsible for the adoption of A 440, and that it causes “disarray” in music and society.⁴ The history of our musical measure is actually one of many pitches, attesting to the great variety of sonic ideas and practices throughout the modern era. □

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