

Why Differing Pitch Standards?

Jeremy Montagu

We all know that A is sometimes tuned to 440Hz, sometimes to 415Hz, sometimes in the 430s, even down to 392 and up to 466. Why, and so what?

Why do different ensembles play at different pitch standards? If they play the Bach B minor Flute Suite at 415 (the so-called 'Baroque pitch', though Handel's and John Shore's forks were at 423), anyone in the audience who has perfect pitch will hear the B \flat minor Flute Suite and wonder how the flautist could manage all those flats. How many others in the audience will notice the difference? And if they'd played it at 392 (the so-called 'Hotteterre pitch') our perfect-pitcher would have heard it as in A minor, and at 466 (so-called 'Bob Marvin' pitch) in C Minor.

Does it really matter what pitch we play at? It's important to conductors who are trying to be 'authentic' and who want to differentiate their ensemble from the others that are around. It matters to woodwind players who have to have different instruments for the different ensembles they play with, and it matters to string players who may have to change their strings to match the best tension for tone quality, and it drives harpsichordists and organists scatty to keep retuning all the time, and as for vocalists who are trying to pitch their notes...

Back in the late 1950s and early 60s, when Musica Reservata got going, we decided to stick to A 440, chiefly because there weren't any instruments available then that weren't at 440, and anyway nobody really knew what English (estampies, etc) or Spanish (Kalenda Maya) pitches were in the thirteenth century. And when we expanded the periods a bit, for example to our '100 Years War' or 'Time of Christopher Columbus' LP records, we still didn't have any instruments available at any other pitches even if we had wanted them.

But I really am beginning to wonder whether there is really any real point in using all these different pitches. How many people in the audiences do notice

the differences? Do they really remember hearing one ensemble last month and another this month and hear the difference? Are we, the musicians, taking this trouble, buying the different instruments, and so on, for any real reason? There really was a real point in Dr Cathcart persuading Henry Wood to drop the old High Pitch (A 454.7) to New Philharmonic A 439 when Cathcart offered to sponsor the Proms on that condition, because it saved the singers from over-straining their voices, and there's something to be said for the same reason to dropping even lower to a Beethoven pitch for some of his vocal parts.

Incidentally did you realise that French pitch (*diapason normal* A 435) is the same as New Philharmonic? They are expressed at different temperatures so that 435 and 439 come out as the same actual pitch. So, while we have all these different forks (I've got quite a collection) we don't know at what temperature they were considered to be the standard.

Until the little Japanese pitch meters became available (and now online meters), a tuning fork was the only reliable pitch standard. No pitchpipe is ever reliable, whether duct-blown flute or reed because all will vary in pitch with breath-pressure, and most are unreliable to start with. Monochords are only approximations, though I did build some for myself and some colleagues that were accurate to one cent when measured against a Stroboconn (that was a reliable standard pre-pitch meter, but it was very expensive). But forks have only been available since the eighteenth century and until then all pitches were approximations, based on a musician's ear. If he could remember the pitch of an organ in one place, he could then tune another organ to that same pitch in another church or another city, but he would have no way to check this. We only know what historical pitches were by measuring surviving instruments against our modern tools: forks, meters, and so on.

Of the forks that I've got, the lowest, unmarked, is presumed to be a C at A 410 because a fork at B natural would seem to be improbable and so C is likelier. This is the same pitch as Bressan's recorders were tuned to in the late seventeenth century, and it's on loan to the Bate Collection.

The next is marked C and is at A 412, a pitch said to have been common in the early eighteenth century.

The next, unmarked, is an A at 423.3, the same pitch, however, as Handel's fork and as John Shore's, who was both Purcell's and Handel's trumpeter and who was said to have invented the 'pitch fork' in 1711. 412 and 423 are almost a quarter-tone apart, so which is better for Bach, Telemann, or Handel? The difference between 412 and our 'standard' 415 are only just past the recognised limit of human perception of a difference in pitch, but 423 could be perceived as distinctly different by Bach or Handel. 415 was selected as a Baroque 'standard' chiefly because it is almost exactly a semitone below 440 and therefore keyboard players could transpose a semitone down on their A 440 instruments, and for those who didn't like to transpose, harpsichord makers could produce instruments which would shift the action by a semitone. Of course this only worked if the instrument was tuned to Equal Temperament; if any more 'authentic' temperament was being used, the tuning went to hell.

Then comes a fork marked A at 433, which was Sir George Smart's pitch or London Philharmonic pitch in the early nineteenth century. Smart knew Beethoven and Weber, and Weber died in his house in London, and this pitch, about a third of a semitone below modern, might indeed be helpful to the sopranos in Beethoven's *Ninth*.

I have sets of Walker forks for different notes at *diapason normal* (French pitch) at A 435 and for New Philharmonic at A 439.

A John Walker fork marked Broadwood's Medium is at A 445.7, established in 1849, so this was presumably acceptable as a standard at that time, in contrast to what was later called Old Philharmonic.

Another Walker A fork is at Sir Michael Costa's pitch, 452.5 in the mid-nineteenth century.

And a set of Walker forks for different notes at Old Philharmonic (High pitch) at A 454.

And also various other forks, for example one at so-called Scientific pitch at middle C 256Hz, making calculations easier because the frequency of C in every octave is always a whole number, and always a power of 2.

Of course I have a number of modern forks at our ‘standard’ Baroque pitch at A 415 and at A 440, all of them modern John Walker forks, some of them made for me at those pitches. John Walker (whose proprietor was Mr Ragg when I met him in Sheffield in 1967, and who also made the Granton kitchen knives) would in those days, and probably still does, make any forks you asked for. In *Musica Reservata* we preferred a D to an A for tuning, and I got a number of forks at that pitch for each of us to use, all based on A 440 of course.

Where there are missing forks, we can all turn to Bruce Hayne’s book *A History of Performing Pitch: The Story of “A”* for almost any useful pitch, but would there be any point in putting on a concert of works by Mozart, Beethoven, and Brahms, and have everybody in the orchestra bundling a batch of instruments on to the platform and swapping each for another as the concert progresses so as to be at the ‘right’ pitch for each composer even if all were based in Vienna? And if not, why give concerts, one for each composer, in successive days or weeks with the different instruments relative to each time?

Yes, using the different instruments and played with their appropriate techniques will give us different sonorities, so that a Mozart orchestra will sound different from a Beethoven one, and different again for Brahms, and differences between those of Handel and our modern symphony orchestral instruments even more so, but will the different pitches be significant?

To my mind, using the original instruments, where they survive, or modern reproductions does make a real difference. But the problem is that very few modern reproductions sound the same as the originals (there’s a number of reasons why not, but that’s a different story, and a different article on this website), and there are very few surviving instruments around. Where they do survive, then if there are enough of them to provide an orchestra, then there is justification for using them at whatever pitch they produce, assuming that all of them do produce the same pitch, which is improbable, especially if they come from different makers in different places.

The alternative is to use all reproductions, and in that case why not make them all at modern pitch (A 440) and save a lot of complications? At least they will sound different from our modern orchestral instruments, and since music is

sound, written as dots on paper but conceived as sound in the composer's mental ear, that certainly is worth doing.

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