

# Perfect Pitch: Not So Perfect *by Isis Tse*

*There are two camps of musicians: those who have perfect pitch and those who wish they did.*



It was eight o'clock on a Monday morning – time for the first year university music students' aural skills class. We were attempting to sight-sing a melody. We croaked out the high notes with difficulty.

"Let's try it again in a lower range – it's too high for this morning," said our instructor. We started the melody a major second lower. The majority of the class improved. I fumbled through the solfège syllables and consistently sang the wrong notes. Several of my classmates gave me the side-eye; as someone with perfect pitch, I was supposed to be an unwavering reference for intonation.

Perfect pitch has long been a coveted and revered ability. Ultimately, perfect pitch is heightened tonal memory – each of the twelve tones can be recalled and reproduced. The advantages are obvious: no referential pitches are needed, sight-singing is easier, and keys can be identified aurally.

The disadvantages of perfect pitch are less well-known. Any change from the learned tonal system (usually 440 Hz) becomes an issue. Transposing music is often problematic for those with perfect pitch. Since each note has a fundamental identity, conflicts between what is heard and what is written are hard to reconcile. Even switching to Baroque tuning (415 Hz) becomes a transposition exercise - Bach's first cello suite is now in F sharp major rather than G major. Orchestra tunings (often 441Hz and higher) can also be difficult: players may be forced to adjust their learned tuning system to play in tune with the orchestra.


Anyone with perfect pitch will attest to the fact that they have been called upon to "name that pitch", whether the sound source is a piano or a car alarm. The car alarm might be halfway between an A and G#. They will probably label it as a "really flat A" or a "really sharp G#". The alarm's poor intonation will irritate them. An eight-year old musician with perfect pitch once declared, aghast, "There is no such tone!" as he played a note on a piano that was tuned sharp. German music theorist Hugo Riemann described the student's remark as a response to having "no pigeonhole into which to place this tone".<sup>1</sup>

Perfect pitch is a concept from the Western

musical system of equal temperament, which consists of twelve tones, each a semitone apart. There are, of course, pitches in between these labels. In other musical systems, these tones are not simply "out of tune"; in microtonal music, intervals smaller than a semitone exist. Even within Western music, musicians who play non-fixed pitch instruments often use just intonation, which, unlike equal temperament, uses pure intervals. For example, major thirds in equal temperament sound sharp when contrasted to their pure counterparts.

Where does this leave musicians with perfect pitch? A recent study from the University of Chicago suggests that "detuning" someone with perfect pitch may not be so difficult. In the experiment, subjects with perfect pitch listened to the first movement of Brahms's Symphony No. 1. Over the course of the fifteen minutes, the pitch slowly crept downwards until it was 33 cents (a third of a semitone) flatter than the original (note that most people are able to detect a change of 25 cents). The rest of the symphony was played in the flattened key. None of the subjects noticed the change. When tested again on their "perfect pitch" after listening to the symphony, they identified out of tune notes from the newly detuned music as being in tune, and in tune notes (that they had correctly identified previously) as slightly out of tune.<sup>2</sup> This change in the subjects' pitch sense was only temporary, but it may suggest that sustaining perfect pitch is dependent on the reinforcement of a tuning system.

This research might offer hope to musicians struggling with the rigidity of perfect pitch. By practicing with other tuning systems and working on transposition, musicians can think of pitches as not having a fundamental identity as one of twelve notes. Learning to stop relying on perfect pitch for intonation and developing a better sense of relative pitch is the first step in becoming a more well-rounded musician.

For now, though, my refrigerator will continue to annoy me with its sharp B flat. 

<sup>1</sup> Riemann, Hugo. "Ideas for a Study 'On the Imagination of Tone.'" *Journal of Music Theory* 36, no. 1 (1992), 95.

<sup>2</sup> Hedger, Stephen C., Shannon L. M. Heald, and Howard C. Nusbaum. "Absolute Pitch May Not Be So Absolute." *Psychological Science* 24, no. 8 (2012), 1497- 1499.

## Masterclass with Yehonatan Berick

presented by the ASA in partnership with the University of Alberta and Macewan University

Wednesday, February 18, 2015 at 4 pm at PCL Hall, Alberta College Conservatory of Music



Prizewinner at the 1993 Naumburg competition and a recipient of the 1996-97 Prix Opus, Yehonatan Berick is in high demand internationally as soloist, recitalist, chamber musician, and pedagogue.

Performances as a soloist include Quebec, Winnipeg, Windsor, Ann Arbor, Jerusalem and Haifa Symphonies, and the Israeli, Cincinnati, Montreal and Manitoba Chamber Orchestras, Thirteen Strings and Ensemble Appassionata. Recital offering include the complete Paganini Caprices, and the complete Solo Sonatas and Partitas by Bach. He has collaborated with many world renowned artists. Festival and chamber series include Marlboro, Ravinia, Seattle, Ottawa, Great Lakes, and Music@Menlo.

He tours extensively worldwide, and is featured in the world's most important venues, including Carnegie Hall and Wigmore Hall. On CD, Berick has recorded for the Acoma, Albany, Centaur, Equilibrium, XXI-21, Gasparo, Summit, and Helicon labels. On video, he can be seen on a BluRay dvd Paganini: 24 Caprices. His recordings have won rave reviews in the press. Equally sought after as violin teacher and chamber music mentor, Berick serves as Professor of Violin at the University of Ottawa and Visiting Professor at the University of Toronto. He has been invited as teacher and artist-in-residence at many festivals, and is featured in masterclasses worldwide. His students hold leading positions in major orchestras, ensembles, and music schools worldwide. Yehonatan Berick is currently plays a 1761 violin by Carlo Ferdinando Landolfi, generously on loan from the University of Ottawa, as well as violin by Honoré Derazey Père from 1852, and a viola by Stanley Kiernoziak from 2003.

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