Johannes Brahms: Six Pieces for Piano, Op. 118

Recital Program Notes & Performance Dossier

Pianist: Willis Miller

Instrument Tuning: Bradley Lehman 1722 / 2005 Circulating Well-Temperament

Pitch Standard: Scientific / Verdi Reform Pitch (A_4 = 432.0 Hz)

The Recital Concept: Acoustic Dramaturgy & Historical Counterpoint

Tonight's performance of Johannes Brahms's *Six Pieces for Piano, Op. 118* (1893) pairs two nineteenth-century acoustic realities that have been virtually erased by twentieth-century standardization:

1. **Scientific / Reform Pitch (A_4 = 432.0 Hz)**: Grounded in Giuseppe Verdi's famous February 1884 letter to the Italian War Ministry and the proceedings of the November 1885 Vienna International Pitch Conference.
2. **Bradley Lehman's 2005 Circulating Well-Temperament**: A mathematically proven reconstruction of the tuning Bach encoded on the 1722 title page of *The Well-Tempered Clavier*, representing the circulating intonation that Brahms studied, edited, and revered.

Hearing Op. 118 in this intonation restores the music's physical dialectic between **consonance and agitation**, transforming the cycle from a set of abstract piano pieces into a breathtaking journey across escalating and resolving states of sensory roughness.

Rescuing A=432 Hz from Modern Esoteric Mythology

In recent decades, A = 432 Hz has become associated with New Age mysticism and occult frequency theories. The historical record tells a radically different, entirely pragmatic story:

- **Verdi's Vocal Defense**: In the 1880s, European opera houses were suffering from unchecked pitch inflation, performing above 450 Hz to achieve piercing orchestral brilliance. Giuseppe

Verdi fought to lower the pitch to 432 Hz ($C = 256$ Hz in Pythagorean derivation) specifically to protect the human voice from irreversible vocal strain.

- **The 1885 Vienna Pitch Conference**: In November 1885, governmental delegates met in Vienna to halt runaway pitch. Official records showed the Vienna Court Opera was performing at 449–450 Hz. The conference adopted $A = 435$ Hz as an aggressive **downward corrective**. Lowering modern $A = 440$ Hz to 432 Hz mirrors the pitch reality that late-nineteenth-century Viennese musicians sought to establish.
- **Piano Acoustics & Soundboard Relief**: Lowering pitch to 432 Hz reduces string tension by 3.60% ($T \propto f^2$). Across all 230 strings of a concert grand, this removes over $1,440$ lbs **of downbearing pressure** from the soundboard bridges. The soundboard crown breathes freely, eliminating percussive glassiness and allowing middle-register contrapuntal voices to bloom with the rich, sustained transparency of Brahms's straight-strung 1868 Streicher piano.

Listening Guide: The Six Movements

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No. 1: A minor Appassionato (Descending storm resolving into congealing C major solace)
No. 2: A major Teneramente (Shimmering vocal vibrato third vs. motionless pure 5th in F# mi
No. 3: G minor Energico (Martial bass power leaping into ecstatic B major sparkle)
No. 4: F minor Agitato (Breathless contrapuntal canon in compressed funereal thirds)
No. 5: F major Romanze (THE ACOUSTIC SANCTUARY: Near-pure thirds @ 2.92 bps)
No. 6: Eb minor Dies Irae (Tragic desolation erupting into apocalyptic wide-third storm)
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No. 1: Intermezzo in A minor (*Allegro non assai, ma molto appassionato*)

Opens with a passionate descending arpeggio plunging into dark diminished harmony. The dramatic pivot occurs in measure 5 and the final cadence: resolving into **C major**, where the major third C–E measures 392.2 cents, beating at a peaceful 4.37 beats/second. The passionate storm dissolves into an acoustic cushion of profound consolation.

No. 2: Intermezzo in A major (*Andante teneramente*)

Marked *teneramente* (tenderly). Under Lehman's tuning, the tonic third A–$C\sharp$ measures 403.9 cents, beating at 11.03 beats/second. This rapid pulse acts as an organic vocal vibrato, imparting an unforced, singing warmth to the sighs. In the middle section (*Più lento*), Brahms modulates to **F-sharp minor**, weaving an octave canon over an **acoustically pure fifth (**$F\sharp$–$C\sharp$ @ 0.0 bps**)** —a motionless, glassy spiritual sanctuary.

No. 3: Ballade in G minor (*Allegro energico*)

Fortissimo chords voiced deep in the piano's bass ring with tight focus because the diatonic fifths (*G–D* and *D–A*) are compressed. In measure 41, the music leaps without warning into **B major** (*B–D♯* @ 403.9 cents, 12.38 bps). The effect is electrifying: martial grounded power giving way to ecstatic, sparkling harmonic light.

No. 4: Intermezzo in F minor (*Allegretto un poco agitato*)

A ghost-like contrapuntal canon at the octave. In 18th- and 19th-century aesthetic treatises, F minor was universally regarded as the key of *"funereal lament and shuddering horror"*. The minor third *F–A ♭* is compressed (296.1 cents), while Brahms systematically evades root-position cadences, creating an unstable, spectral friction.

No. 5: Romanze in F major (*Andante*) — THE ACOUSTIC SANCTUARY

This movement is the emotional and acoustic sanctuary of Op. 118. In Lehman's temperament, **the major third *F–A* measures** 392.2 cents, beating at a serene 2.92 beats/second (compared to modern 12-TET's harsh 7.0 bps). The pastoral melody in double-thirds floats like a Renaissance consort of viols or an ancient organ. The middle section shifts to D major (400.0 cents—identical to modern tuning), providing a neutral foil that makes the return of the pure F major theme sound breathtakingly celestial.

No. 6: Intermezzo in E-flat minor (*Andante, largo e mesto*)

Keyed in six flats, the movement opens with the solitary, unaccompanied **Dies Irae** chant for the dead. In measure 41, the movement erupts into an apocalyptic storm in G-flat and C-flat major. Here, the thirds widen dramatically to 402–404 cents, beating at up to 12.4 beats/second. In standard modern tuning, this climax sounds merely loud; in Lehman well-temperament, **it sounds physically hazardous**, delivering a terrifying sonic shudder under the pianist's hands before sinking back into desolate catharsis.

About the Artist

Willis Miller is a pianist, piano technician, and researcher at the University of New Mexico. His work bridges the physical craft of piano technology (CAUT) with advanced music theory, historical temperament reconstruction, and computer-assisted acoustics. He is the author of the 5-paper monograph suite *Historical Temperament Dramaturgy* and developer of the UnequalTemperament.com platform.