STILL

5-limit counterpoint for violin and viola
(2018)

STILL is a (momentary) contemplation of 5-limit just intonation: a type of pure tuning that uses certain combinations of the third and fifth overtones of the harmonic series and their multiples.

For the piece, the violin requires a fine tuner for the A string (II) that has a range of at least 150 cents.

The setup should be such that a tuning device/app reads G#4 − 45 cents when the fine tuner is screwed all the way out.

The string is then tuned up to A4 ± 0 cents (440 Hz) by means of the fine tuner for the beginning of the piece.

The remaining strings are tuned in pure fifths from the A string: E5 + 2 cents (660 Hz), D4 − 2 cents (293.34 Hz), and G3 − 4 cents (195.56 Hz).

The viola strings are tuned normally in pure fifths (as above) with the addition of C3 − 6 cents (130.37 Hz).

The pace of the piece is unrushed, though at no point is it *static*.

Just enough time should be given to each sonority so that the special colours and shadings of the 5-limit may begin to interact with each other and be clearly perceived (and enjoyed).

Slurs indicate phrashing rather than bowing.

Bowing is free and smooth throughout; changes may occur during long notes as well as between tied notes.

Natural harmonics are notated with diamond noteheads at the harmonic touch-point with an indication of which string to play on and which harmonic should sound (*e.g.* IV^{3} indicates the third harmonic on string IV).

The three retuning measures on page 2 last as long as necessary: the violinist retunes the A string be means of the fine tuner in a slow, steady downward glissando until the arrival pitch notated in the “sound (II)” staff has been reached.

The piece must be played without vibrato.

Tuning ratios with a solidus (*e.g.* 5/4) indicate simultaneous intervals (dyads), while those using a colon (*e.g.* 5:4) indicate melodic intervals.

The piece is notated in the *Helmholtz-Ellis JI Pitch Notation* devised by Marc Sabat and Wolfgang von Schweinitz.

The standard natural, flats, and sharps notate the chain of *untempered* (Pythagorean) perfect fifths 3/2 beginning on the note A and progressively spreading outward in both directions.

The farther these notes move away from the centre (A), the more they deviate from the notes of standard 12-tone equal temperament, as was demonstrated above in the tuning of the open strings.

Combinations of these notes form the various Pythagorean intervals, such as the perfect fifth (3/2), the perfect fourth (4/3), the major ninth (9/4), the [major] wholetone (9/8), *etc*.

Each arrow attached to these accidentals indicates that the Pythagorean note has been raised or lowered in the direction of the arrow by a syntonic comma 81/80, which is the small interval by which the complex Pythagorean major third (81/64) differs from the consonant dyad formed by the fourth and fifth overtones (5/4).

Combining these altered (Ptolemaic) notes with the Pythagorean notes produces the various Ptolemaic intervals, such as the [pure/just] Ptolemaic major third (5/4) and minor third (6/5), the major sixth (5/3) and the minor sixth (8/5), the major seventh (15/8) and the minor seventh (9/5), the [minor] wholetone (10/9), *etc*.

Consolidating the Pythagorean and Ptolemaic notes generates a basic palette of intervals, which, when strung together to form a network of interlocking constellations, gives rise to some of the most characteristic melodic microtones of the 5-limit, such as the large limma (27:25 = 133 cents), the minor chroma (25:24 = 71 cents), the [lesser] diesis (128:125 = 41 cents), and the syntonic comma itself (81:80 = 22 cents), *etc*.

for mom

STILL

5-limit counterpoint
for violin and viola

Thomas Nicholson

unrushed, though without dwelling

Violin

con sord.

II⁴ II² *p* *mp* *f* III³ *mf* I⁴ *mp* *15 : 16* *= +112 c* *mf*

Viola

con sord.

(I) *f assertivo* I³ *mf* *p*

Vln

I³ III² *p*

Vla

II³ I⁵ *mf* (I) *mp* *p* *restez*

Vln

IV² *mf* *f* II⁴ *mp*

Vla

25/18 *24 : 25* *= +71 c* *p* *mf* *mp* *f* *mf* *mp*

Vln

IV⁴ III² I² *f* *p* *mf* *25 : 27* *= +133 c* *restez* *25/16* *mp*

Vla

IV² (II) *p* *mf* *restez* *mp*

Vln

III³ *mp* *p* *mp* *mf*

Vla

(IV) *81 : 80* *= -22 c* III² (II) *mf* *mp* *mf* III³

Vln

Vla

III3 IV5 III3 IV5

f p pp

(III)

24 : 25
= +71 c

f p mp

81 : 80
= -22 c
(3/2 under viola)

sound (II)

Vln

[play] II

retune II

II3 I2 II3 II2

80 : 81 81 : 80

mp p dolce

IV5

Vla

p poco

256 : 243
= -90 c
(12/5 under viola)

sound (II)

Vln

II

retune II (slow)

II2

135 : 128
= -92 c

IV4

mf mf

Vla

(II) I3 IV4 IV5

p

81 : 80
= -22 c
(5/4 above viola)

sound (II)

Vln

IV3 IV2 II

retune II

mf mp

Vla

mf mf

sound (II)

Vln

24 : 25
= +71 c

molto sostenuto

f con gioia

125 : 128
= +41 c

senza descrescendo

molto sostenuto

III3

Vla

f con gioia

senza descrescendo

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