

When a Snake Eats its Own Tail

Equidistant Scales

Equidistant Tritonic: Three equidistant steps of 4 semitones (Augmented Triad)

Equidistant Tetratonic: Four equidistant steps of 3 semitones (diminished 7th Chord)

Equidistant Pentatonic: Five equidistant steps of 2.4 semitones (2 plus $\frac{2}{5}$ of semitone)

$C - D \text{ (plus } \frac{2}{5}) - F \text{ (minus } \frac{1}{5}) - G \text{ (plus } \frac{1}{5}) - B^b \text{ (minus } \frac{2}{5}) - C$

Closest concert pitches (C Lydian mode or F Major/D minor): $C - D - F - G - B^b - C$

Equidistant Hexatonic: Six equal steps of 2 semitones (Whole-tone scale)

Equidistant Heptatonic: Seven equidistant steps of 1.712 semitones (microtonal)

$C - D \text{ (minus } \frac{3}{10}^{\text{th}}) - E^b \text{ (plus } \frac{2}{5}) - F \text{ (plus } \frac{1}{10}^{\text{th}}) - G \text{ (minus } \frac{1}{10}^{\text{th}}) - A \text{ (minus } \frac{2}{5}) - B^b \text{ (plus } \frac{3}{10}^{\text{th}}) - C$

Closest concert pitches (C Dorian or B^b Major/G minor): $C - D - E^b - F - G - A - B^b - C$

Equidistant Octatonic: Eight equidistant steps of 1.5 semitones (microtonal)

$C - D^{1/4}\text{flat} - E^b - F^{1/4}\text{flat} - G^b - G^{1/4}\text{sharp} - A - B^{1/4}\text{flat} - C$

Closest concert pitches: Note the many variables due to equal division of semitone

$C - D^b - E^b - F - G^b - A^b - A - B^b - C$
 $C - D - E^b - E - G^b - G - A - B - C$

Equidistant Nonatonic: Nine equidistant steps of 1.333 semitones (microtonal)

$C - D^b \text{ (plus } \frac{3}{10}^{\text{th}}) - E^b \text{ (minus } \frac{2}{5}) - E - F \text{ (plus } \frac{3}{10}^{\text{th}}) - G \text{ (minus } \frac{2}{5}) - G^\# - A \text{ (plus } \frac{3}{10}^{\text{th}}) - B \text{ (minus } \frac{2}{5}) - C$

Closest concert pitches: $C - D - E^b - E - F - G - G^\# - A - B - C$

Equidistant Decatonic: Ten equidistant steps of 1.2 semitones (microtonal)

C – D^b (plus 1/5) – D (plus 2/5) – E (minus 2/5) – F (minus 1/5) – F[#] – G (plus 1/5) – A^b (plus 2/5)
– B^b (minus 2/5) – B (minus 1/5) – C

Closest concert pitches: C – D^b – D – E – F – F[#] – G – A^b – B^b – B – C

Equidistant Chromatic: Twelve equidistant steps of 1 semitone.

Equidistant Cycle of Fourths: Twelve equidistant steps of 5 semitones.

Equidistant Cycle of Fifths: Twelve equidistant steps of 7 semitones.

Stable Quartertones on the B^b Clarinet

G3 below stave (written A) is the lowest point of stable quartertones on B^b clarinet.

From G3 (written A3) there is a complete chromatic scale right through to A4^{1/4}sharp (written B4^{1/4}sharp).

There is an unstable B4^{1/4}flat (written C5^{1/4}sharp), but better results would come from over-blowing the standard B^b fingering (written C).

There is no B4^{1/4}sharp (written C[#]5^{1/4}sharp)

There is no C5^{1/4}flat (written D5^{1/4}flat)

There is no C5^{1/4}sharp (written D5^{1/4}sharp)

There is no D5^{1/4}flat (written E5^{1/4}flat)

From D5 (written E5) there is a complete chromatic scale available through to the top of the register.

Quartertones above A5 (written B5) are generally quite weak in timbre and density.

Clarinet Register

Chalumeau:

D3 – E4 [written E3 – F[#]4]; dark, menacing and dramatic, rich and relatively quiet

Throat tones:

F4 – A^b4 [written G4 – B^b4]; as one moves towards the top of the chalumeau range, the timbre grows progressively thinner, but throat tones are quite easy to 'bend'

Break:

A^b4 – A4 [written B^b4 – B4]

Clarinet [Clarino/Clarion]:

A4 – B^b5 [written B4 – C6]; bright, incisive, warm and expressive

High [Altissimo]:

B5 – F6 [written C[#]6 – G6]; shrill and piercing at *forte* and flutelike when played softly

Extreme [Altissimo]:

F[#]6 – B^b6 [written G[#]6 – C7]; dramatic and loud, but with little sonorous value

Contact:

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