Draw a Straight Line and Follow it

Reinterpreting the Palindromic Techniques of Olivier Messiaen

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Palindrome [Palindromic]

- A word or phrase, the letters of which, when taken in reverse order read the same.

- A word or sentence that reads the same forwards and backwards.

- *Greek* Palindromos: Running back again …

Grove Online

- Oxford Grove Online search engine (searching Palindrome) listed the following composers, but no reference to Messiaen:

- Berg, Alban (1885-1935)
- Dutilleux, Henry (1916-2013)
- Górecki, Henryck Mikołaj (1933-2010)
- Hindemith Paul (1895-1963)
- Ives, Charles (1874-1954)
- Janáček, Leoš (1854-1928)
- Kodály, Zoltán (1882-1967)
- Milhaud, Darius (1892-1974)
- Tippett, Sir Michael (1905-1998)
- Webern, Anton (1883-1945)
- Schubert, Franz Peter (1797-1828) *Die Zauberharfe* (1820)

Simple Clarity

- Draw a straight line and follow it …

- An infinite circle is a straight line …

$$z_{n+1} = z_n^2 + c$$

Score Preface

- The Palindrome Triptychs
- For violin, clarinet, violoncello and percussion
- Commission and initial premise
- Messiaen's Modes of Limited Transposition
- A Triptych of Triptychs (all in three movements)
- Part Two includes most Messiaenic references
- Matryoshka Principle: Matryoshka form and pitch organisation.
- Palindromic design from the micro to the macro.
- AIT – ATH – SI AITN
- 5-35 – 6-35 – 7-35 – An alternate Modal Palette

My Ends are My Beginnings

- *Sacsayhuaman* for large orchestra.
- Starting point of Acoustic Saturation.
- Orchestral tutti marked at **fff**.
- This research literally reverse-engineers the starting point for *Sacsayhuaman* working backwards from the macro to the micro.
- Elliott Carter's Symmetrically Inverted All-Interval Twelve Note Chords (SI AITN).
- SI AITN Chords are vertically symmetrical palindromes (linear symmetrical twelve-tone rows).
- Euclidean Space – Panoptic Space.
- What SI AITN Chords to use?

SI AITN Chords

SI AITN 60:

minor 7th

Major 7th

minor 6th

Major 6th

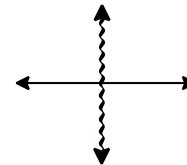Perfect 4th

Tritone

Perfect 5th

minor 3rd

Major 3rd

minor 2nd

Major 2nd

Transposable Root ⟶

Pitch Organisation

- See PDF Document
- Messiaen's Modes of Limited Transposition
- The single note as a micro palindrome
- Intervals as palindromes
- Trichords, Tetrachords and pitch-class sets
- All-Interval Tetrachords
- All-Triad Hexachords
- Symmetrically Inverted AITN Chords
- Matryoshka Cells

Palindromic Form

- Non retrogradable rhythms
- Butterfly wings and mirror reflections
- Alternate planes of reflection (Da Vinci)
- Non symmetrical palindromes (proportional)
- Repetition (duplication)
- Augmenting and diminishing rhythms
- Self-similar replication (nature and evolution)
- Mirror Reflections (Opposites)
- Mirror Inversions
- Shifting central axis (draw a straight line)
- Flexible growth from any given note or duration

Palindromic (Non-Retrogradable) Rhythms and Fractals – God's Thumbprint

- Mandelbrot and Julia sets

$$z_{n+1} = z_n^2 + c$$

- What this means is that from any [z] you will figure a new [z] based on multiplying the old [z] by itself and adding the constant value [c]. There are three possibilities for this sequence of z values:

- 1. The values increase without bound (towards infinity)
- 2. The values collapse (to zero)
- 3. The values change, but do not seem be either (1) or (2)

Conclusion

- Palindromes are theoretically infinite, both infinitely large and infinitely small. Most people conceive palindromes as symmetrical absolutes that reflect perfect mirror symmetry (mirror opposites, mirror repetition) and read from a central axis expanding outwards on the vertical plane, but true palindromes should expand into panoptic space or at least into Euclidean space and palindromes do not always have to be symmetrical, they can be proportional in augmentation or diminution.

- As palindromes are theoretically infinite and potentially perfectly proportionate within a panoptic space (eternal universe), it is easy to see why they have long been considered spiritually significant and achieved the status of folkloric religious iconography. Palindromes are both infinitely large and infinitely small; they are theoretically eternal and timeless.

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