

Compositional Technique in Schoenberg's Mature Twelve-Tone Works

(an introduction)

Hexachordal Inversional (IH) Combinatoriality - A property of certain hexachords such that under inversion and at some odd transposition none of the original pitches are preserved. For example, the row from Schoenberg's *Fourth String Quartet* holds the IH-Combinatorial property. P-0 is D C# A Bb F Eb E C Ab G F# B. I-5 is G Ab C B E F# F A C# D Eb Bb. If either of the corresponding hexachords of these two rows are combined a new row (one not part of the matrix) is formed. In the example below, the combining of the first two hexachords of P-0 and I-5 creates an aggregate in the first two beats. The combining of the second two hexachords of P-0 and I-5 creates an aggregate in the last two beats. In each case, when the hexachords are combined all twelve pitch classes are represented.

Schoenberg : *Fourth String Quartet*, mvt. 1, m.4.

The only manner in which two row forms are stated simultaneously in the mature works (Op.30ff) is if the rows are IH-Combinatorial. In these works, a row is either stated by itself, texturally partitioned, or stated with its IH-Combinatorial partner. Also, note that when IH-Combinatorial rows occur in linear succession, the conjoined hexachords do not form an aggregate. The second hexachord of the first row will be identical in pitch class content to the first hexachord of the second row. The beginning of the second row will therefore sound like a reordering of the pitches that ended the statement of the first row. See the example below.

Schoenberg's *Fourth String Quartet*: P-0 and I-5 presented linearly
(This is not a score example)

Invariants - Relationships of a set preserved under a given operation. Schoenberg constructed rows so that at a particular transformation of a row some segment of the original would be held fixed in content, though not necessarily in the original order.

The hexachords may also be distributed texturally so that the invariant property is made clear.

Aggregates - An aggregate is a collection of twelve different pitches with each pitch class represented once and only once. Schoenberg was concerned with the simultaneous production of aggregates both linearly (melodically) and vertically (harmonically).

from Schoenberg : *Von Heute auf Morgen*, mm. 335-338

aggregate

The image shows a musical score for Schoenberg's *Von Heute auf Morgen*, measures 335-338. The score is in 3/4 time and consists of four staves: Bass, Treble, Treble, and Grand Staff. A box highlights the first measure of the Bass staff. Below the Grand Staff, four brackets labeled P-0, R-0, RI-5, and I-5 indicate the pitch class sets for the first four measures.

Linear Set Presentation - The straightforward linear thematic presentation of a row form. In Schoenberg's music, this occurs infrequently and is reserved mainly for the articulation of formal structure. The linear presentation of a row may occur at the beginning or the end of a formal section. Usually, the initial linear row statement is that of P-0 and, in some works, the IH-Combinatorial partner as well. [see *The Fourth String Quartet* mm. 1, 62, 66, and 165.]

Partitioning - Partitioning of row statements refers to the manner in which the pitches of a row are distributed texturally. A row may be segmented into equal or unequal parts among the various instruments or lines. A vertically partitioned row will result in secondary set relationships: melodies or harmonies that may not represent the consecutive order positions of the original row. Explicit relationships between non-adjacent pitches of a row may be developed. Isomorphic partitioning involves the identical partitioning of two different row forms. The example below illustrates isomorphic partitioning.

The image shows a musical score illustrating isomorphic partitioning. The score is in 6/8 time and consists of four staves: Treble, Treble, Bass, and Treble. The first staff has notes numbered 4, 5, 7, 8. The second staff has notes numbered 3, 10, 11. The third staff has notes numbered 2. The fourth staff has notes numbered 1, 9. The notes are distributed across the staves to illustrate isomorphic partitioning.