

## Twelve-Tone Serialism

- 
1. Schoenberg and the twelve-tone method
  2. Series (also called row)
  3.  $P_0$ 
    - a. Movable-zero notation
    - b. Fixed-zero notation [C=0]
  3. Twelve-tone operations (TTO)
    - a. Transposition (P)
    - b. Inversion (I)
    - c. Retrograde (R)
    - d. Retrograde inversion (RI)
  4. The 48 series forms
    - a.  $P_x$
    - b.  $I_x$
    - c.  $R_x$
    - d.  $RI_x$
  5. Twelve count
    - a. Choosing  $P_0$
    - b. Series form identification
    - c. Order numbers (1-12)
    - d. Series form presentation
      - i. Perle *Category A* - Passage is derived from a single series form
      - ii. Perle *Category B* - Passage is derived from two or more series forms presented simultaneously
    - e. Overlap technique
  6. Babbitt square (also called a 12x12 matrix)
  7. Series structure
    - a. Adjacent interval structure
      - i. opci
      - ii. ic
    - b. Discrete subsets
      - i. Discrete trichords
      - ii. Discrete tetrachords
      - iii. Discrete hexachords
    - c. Invariant subsets
    - d. Derived series
      - i. unordered
      - ii. under order operations
    - e. 'Tonal orientation' of the series
    - f. All-interval series
- 
- Advanced topics**
8. Schoenberg and hexachordal combinatoriality
  9. Webern and fixed registration, *Klangfarbenmelodie*, pointillism, registral center of balance, symmetry
  10. Integral serialism (also called total serialization)
- 

### Series Structure Overview

#### Series from Schoenberg's *String Quartet No. 4*, Op. 37

	D	C#	A	Bb	F	Eb	E	C	Ab	G	F#	B
opci:	11	8	1	7	10	1	8	8	11	11	5	
ic:	1	4	1	5	2	1	4	4	1	1	5	
Discrete trichords:	(D, C#, A)		(Bb, F, Eb)		(E, C, Ab)		(G, F#, B)					
	3-4 (015)		3-9 (027)		3-12 (048)		3-4 (015)					
Discrete tetrachords:	(D, C#, A, Bb)			(F, Eb, E, C)			(Ab, G, F#, B)					
	4-7 (0145)			4-4 (0125)			4-4 (0125)					
Discrete hexachords:	(D, C#, A, Bb, F, Eb)					(Eb, E, C, Ab, G, F#, B)						
	6-16 (014568)					6-16 (014568)						

Special properties: Series is hexachordally combinatorial: i.e., I-comb. at  $I_5$

### For Study

Schoenberg, *String Quartet No. 4*, Op. 37; *Variations for Orchestra*, Op. 31; *Piano Piece*, Op. 33a  
 Webern, *Variations*, Op. 27, II  
 Berg, *Violin Concerto* and *Lyric Suite*  
 Boulez, *Structures*, Ia  
 Stravinsky, *Fanfare for a New Theatre*

### Reference

Reginald Bain, *Twelve-Tone Assistant*, Available at: <<http://reginaldbain.com/software/>>.  
 Joseph Straus, *Introduction to Post-Tonal Theory*, Third Edition (Upper Saddle River, NJ: Prentice Hall, 2004).