MHL 603 - 12-TONE – 2
SERIALISM

1. Serialism

Often used as a synonym of 12-tone, but we can and should be more precise

Serialism according to Harvard Dictionary is: "music constructed according to permutations of a group of elements placed in a certain order or series"

Thus 12-tone music is a particular type of serialism - the "group of elements" is the 12 notes of the chromatic scale

A lot of music that fits the definition above isn't 12-tone – e.g. mensuration canon, or the Mozart duet where 2 violinists read the same page from different sides

How is the Webern Cantata 1st movement "serial"?

Permutations of 12 notes in certain order

canons

rotation of harmonies by superimposed rows

2. Anton Webern – First Cantata (1939)

I'll cover 1st movement only

Webern goes in the opposite direction from Schoenberg – Instead of emphasizing connections between 12-tone music and classical-romantic music, he emphasizes differences

Some typical Webern techniques:

Choose rows for their formal properties rather than for how they sound as melodies

Use a lot of octave displacement

Distribute row among many instruments (Klangfarben technique)

Avoid dance rhythms or any regular rhythms

Vertical sonorities constructed with counterpoint and canon rather than harmonies

The result is that Webern is harder to listen to than either Schoenberg or Berg and was played less in the 30s – But he was much admired by the postwar serialist composers like Stravinsky and Boulez – and his works became very fashionable in the 60s

Text by Hildegarde Jone – Austrian poet (woman) – close friend of Webern – from the mid-1920s on Webern set only her poetry – This poem is about the how creative force of Nature = the creative force of God's word - READ

The row – HANDOUT of choral entrance

Each voice sings a row form from beginning to end – Identify from magic square: Soprano = P_0; Alto = I_{11}; tenor = P_{10}; bass = I_9

Alternates between chords in sets of 3 – 1st and last chords are identical (though rescored) – middle chord features open 5ths – This is produced almost mechanically by properties of the row

Effect is to create a harmonic expectation (like melodic expectations above)

PLAY – listen for row at vocal entrance - Listen also for "lightening" in m. 13

Row characteristics – HANDOUT magic square

Dominated by 3rds and half-steps – Thirds are occasionally heard as 6ths, half steps often as 7ths and 9ths –

Inversion sounds very similar (because of 3rds)

Inversion is a transposed retrograde – $R_0 = I_5$ ($P0 = RI_5$) – Therefore there are really only 24 versions of the row

Result is that melodies and harmonies begin to sound very uniform over course of the piece – you begin to form an expectation

PLAY beginning again

Klangfarben (sound colors)

Webern moves the row from instrument to instrument – Thus sound color of the row is

continually changing

HANDOUT – You hear 4 row forms, each played by several instruments

PLAY begininng again

Note also symmetry of 3 chords at beginning and 3 at end, with row back in original locations – Symmetry is very characteristic of Webern

Thus, although we probably don't "hear the row" or its transformations – both melody and harmony begin to sound "right," even during a very short piece, because expectations are created and fulfilled

3. Milton Babbitt (1916-)

Trained as mathematician - Music professor at Princeton since 1948 - very influential, particularly in U.S. -- Influence exerted through essays and teaching as much as through composition

First to consider rows as "sets" in formal logic and to investigate their properties systematically -- Schoenberg and Webern had discovered many properties empirically, but their approach was intuitive and non-mathematical - Babbitt's formalizations included: "all combinatorial sets," "all interval sets" -- The P0, p1 . . . terminology, the 12x12 matrices, etc. etc. were all his inventions

3 Compositions for Piano (1948) - #1 -- HANDOUT

This is early, more primitive and more schematic than B's other pieces - but it's very often used as an example because it's so straightforward

Row and several permutations shown in example -- Line 1 is P-0 in left hand with P-6 in right, then RI-1 with R-0, then I-7 (m.5 - left hand) with RI-7 (right), then R-6 (m.7) with I-1 -- Note stiff separation into groups of 6 - also -- So far this is standard Schoenberg stuff

Serialization of durations - "Durational set" takes 12 16th notes and divides them 5-1-4-2 -- This can be retrograded (2-4-1-5), inverted (1-5-2-4) etc. --

Durational sets related to pitch sets as follows:

P -6 5-1-4-2 (i.e. when Babbitt uses the prime form of the row, in any transposition, he sets it with the rhythm 5-1-4-2)

I -6 1-5-2-4 (NB this is the "inversion" of the previous set, i.e. the sum is 6, as on dice)

R -6 2-4-1-5

RI -6 4-2-5-1

Different ways to realize durational sets:

Grouping – last note in group is longer or followed by rest (handout)

accents - running 16ths with first note in group accented (next line after handout)

single notes vs. chords

Serialization of dynamics:

Prime associated with mezzopiano;

R with mezzoforte;

I with forte;

RI with piano

Similar serialization of chord voicing - HANDOUT

PLAY – It amazes me that this sounds as good as it does

Does Babbitt's extension of serialism make all compositional decisions in advance? Are there artistic choices left for Babbitt to make?

Yes, there are choices – But the bar has been raised, the choices are more constrained – If Babbitt decides (say) to use I-7 in bar 5 (bass), then at the same time he's made a decision about the cynamics, the rhythm etc.

Compare the constraints in a fugue – It does seem to limit expressive possibilities, but it doesn't limit interest or possibilities for beauty

4. Messiaen *Turangalila*

A. Life

- reknown organist
- strong Roman Catholic faith
- obsession with birdsong & colors
- famous piece, *Quartet for the End of Time,* incorporates faith, birdsong, colors
- written in a concetration camp near the end of WWII
- studied with Webern and came to be seen as his heir

B. Serial and non-serial elements

1. Harmony
   - never very interested in 12-tone harmony
   - instead, explored 'modes of limited transposition'
     - -these are scales/modes that can only be transposed a few times before their notes are duplicated in transposition
     - -*for ex:* the whole tonescale can only be transposed a half step before its pitches are duplicated
     - -play a whole-tone scale on the piano and try this
     - -octotonic scale also is a 'mode of limited transposition

2. Rhythm
   - in the same way that Messiaen used scales with limited transpositional properties, he used 'non-retrogradable rhythms'
   - a non-retrogradable rhythm is the same both forward and backward (like a palindrome :)
   - non-Western influences, such as gamelon and birdsong, make Messiaen's rhythm striking and unique

3. Dynamics / texture
   - Messiaen focused most of his serial procedures on dynamics, texture, and rhythm
   - remember that serialism is a systemmatic ordering of specific parameters — so just because a piece is not 12-tone does not mean it is not serial

3. Form
   - as with rhythm, his interest in non-Western music (from gamelon to birdsong) resulted in an unusual approach to form
   - sometimes, as in Turangalila, his forms are highly static and non-developmental
   - sometimes they are rooted in numerology and Christianity (for ex, repeating a section three times as an hommage to the Holy Trinity)

4. *Turangalila* (1948)
   - based on myth of Tristan and Isolde
   - title derived from Sanskrit words, roughly translating to *love song of joy, time, death*
   - large orchestra which includes 8-10 percussionists and *ondes martinot,* a kind of French theremin (an electronic instrument controlled by magnetism)
   - like many Messiaen works, the piece features lots of solo piano
   - note the highly repetitive form, punctuated by sudden breaks