Lecture 7.1 Post-Tonal Music

MUS 20 Exploring the Musical Mind

Summer Session II 2025

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Serialism

Twelve-tone Technique

- The twelve-tone technique is a means of ensuring that all 12 notes of the chromatic scale are sounded equally often in a piece of music while preventing the emphasis of any one note through the use of tone rows, orderings of the 12 pitch classes. All 12 notes are thus given more or less *equal importance*, and the music avoids being in a key.
- Twelve-tone serialism is a 20th-century method of musical composition invented by *Arnold Schoenberg* in which the twelve notes of the Chromatic scale are organized into a series or a tone row. This row can be transposed, inverted or played in retrograde. Serial music is highly dissonant.
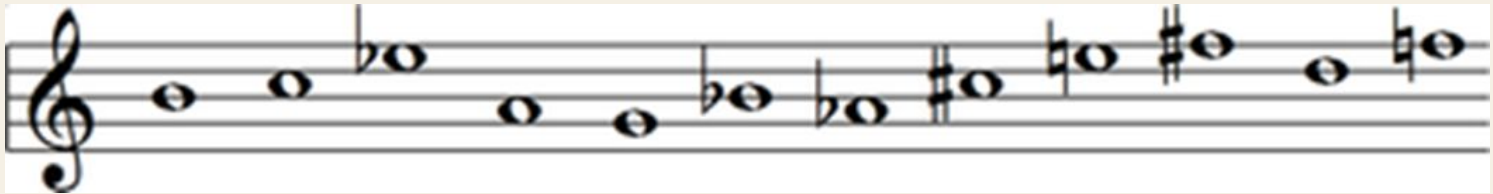
Tone Row – A serial of 12 notes. Each note is a different note of a chromatic scale
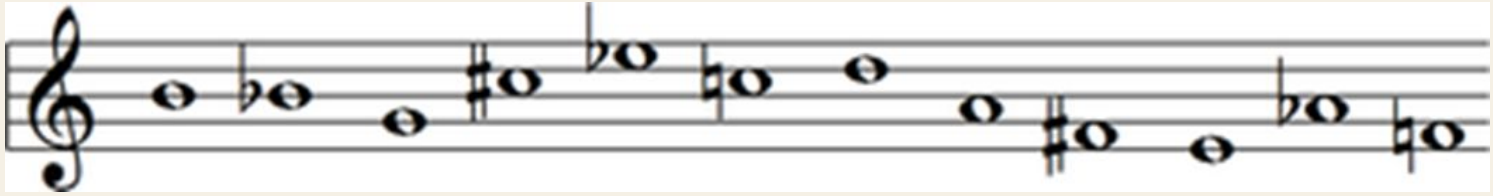
Retrograde – Playing a melody backwards

Inversion – Playing a melody upside down

YouTube Video: [12 Tone Serialism](#)

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Sprechgesang

- Another technique adopted by *Schoenberg* and *Berg*.
- This is a technique used in vocal music where the singer is required to use the voice in an expressive manner half-way between singing and speaking.

YouTube Video: [How does Berg use Sprechgesang in Wozzeck? (The Royal Opera)](#)

Polytonality

The use of two or more keys played or sung at the same time, e.g. *the melody may be in the key of C major whilst the accompaniment might be in E major*.

Holst Terzetto

Milhaud Darius - Le Boeuf Sur Le Toit

Since the breakdown of tonality (Wagner to Schoenberg) and the emergence of ethnomusicology, musicologists have been reluctant to define music, since definitions always depend on historical, cultural, and academic context. But these historical developments merely showed that music need not be tonal and that the distinguishing features of Western music should be absent from a general definition. They also drew attention to the different meanings of "music" and its translations in different cultures and periods. Today's theories of the origin(s) of music differ in part because researchers still have different implicit definitions of music.

Defining Music as a Step Toward Explaining its Origin, Richard Parncutt, University of Graz, Austria, SMPC, 2011

Electronic Music: Musique Concrète

Poème électronique (1958); The Art of Sounds Documentary (2007)

- Musique concrète is a type of music composition that utilizes recorded sounds as raw material.
- Sounds are often modified through the application of audio signal processing and tape music techniques such as cutting, playing backwards, slowing down and speeding up, and may be assembled into a form of sound collage.
- It can feature sounds derived from recordings of musical instruments, the human voice, and the natural environment, as well as those created using sound synthesis and computer-based digital signal processing.
- Compositions in this idiom are not restricted to the normal musical rules of melody, harmony, rhythm, and metre. (YouTube video: Musique Concrète)

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Pierre Schaeffer (1910-1995)

Solfège de l'objet sonore (1967)

- The theoretical basis of _musique concrète_ as a compositional practice was developed by French composer _Pierre Schaeffer_ beginning in the early 1940s.
- It was largely an attempt to differentiate between music based on the abstract medium of notation and that created using so-called _sound objects_.
- Music is based on acoustics/ mathematics AND it is a psychological and sociological phenomenon.
- Sum of the psychological phenomena of perception which constitute the sound object.
- Understanding of sound morphology and a musical typology.
- Value of objects within a musical composition.

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MATTER CRITERIA		
MASS Perception of "noiseness"	HARMONIC TIMBRE Bright/Dull	GRAIN Microstructure of the sound
SHAPE CRITERIA		
DYNAMICS Intensity evolution	ALLURE Amplitude or Frequency Modulation	
VARIATION CRITERIA		
MELODIC PROFILE: pitch variation type	MASS PROFILE Mass variation type	

Table 2: Schaeffer' *Solfege* of sound objects

Karlheinz Stockhausen (1928-2007)

Kontakte (1960); Karlheinz Stockhausen explains "Kontakte"

- Stockhausen describes *Kontakte* as follows: "A series of forms of contact brings together electronic music and instrumental music. (…) The electronic sound categories establish relationships and transitions between the instrumental timbres, fusing with them and departing from them towards hitherto unknown regions of sound." (*Wörner, 1973: 46*).
- The Four Criteria of Electronic Music
    a. Composition in the musical time continuum.
    b. The decomposition of sound.
    c. Composition of several layers in space.
    d. The equality of musical sound and noise.

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Kontakte: Example I in the creation of contacts

[Karlheinz Stockhausen's Kontakte and Narrativity](#) **by John Dack (1999)**

- At the beginning of Kontakte the the pianist slowly rubs around the edge of a large tam-tam in the centre of the stage with a thin metal rod to produce a metallic resonance. Simultaneously an electronic "metal resonance" is heard from the front-left loudspeaker.
- The contact between the electronic and instrumental worlds is established due to similarity of spectra but as the tam-tam fades into silence the diverging spatial locations reveal the artificiality of the electronic resonance.
- Different spatial locations (which is a part of Stockhausen's third criterion) interrupt a strong correspondence.

Kontakte: Example II in the creation of contacts

Karlheinz Stockhausen's Kontakte and Narrativity by John Dack (1999)

- at 39.3 seconds there is a seven second subsection in which resonated electronic impulses mix with antique cymbals and notes played in the high register of the piano.
- Stockhausen ensures this group occupies a narrow register. Thus their pitch content and spectral behaviour make a contact inevitable.
- This time it is supported by the spatial location as the electronic impulses emerge from a loudspeaker location immediately behind both the pianist and percussionist.

Post-tonal Musics

More Music Genres and Compositional Techniques

- Noise Music: [Noise threshold: Merzbow and the end of natural sound](#)
  - YouTube Video: [The Brutal World of "Noise Music"](#)
  - [The Art of Noises](#) by Luigi Russolo
- Remix: [Remix Defined (Remix Theory Website)](#)
  - [Machine Learning and Remix: Self-training Selectivity in Digital Art Practice](#) by Navas
- [Algorithmic Composition: Algorithmic Composition Paradigms of Automated Music Generation](#)
- Experimental Music: [Towards (a Definition of) Experimental Music](#) by Nyman
- Ambient Music: [Ambient Music](#) by Brian Eno

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