

EXPLOSION OF MUSICAL STYLES ON THE TWENTIETH CENTURY

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During the twentieth century the aesthetic and practice of music have witnessed a virtual explosion of different, even antithetical styles. The purpose of this essay is to explore two of the most important and opposite movements: Serialism and Indeterminacy.

At the beginning of the century, German Romanticism was evolving into the next step on melodic manipulation. Tonality, the way it was known, finally dissolved into deep chromaticism after Wagner, Richard Strauss and Mahler. This search for a hyper-chromaticism eventually found no way for a natural renewal. The solution came with the twelve-tone music (serial or dodecaphonic music) in the hands of the Second Viennese School of composers (Schoenberg, Webern and Berg). Between 1917 and 1923 **Arnold Schoenberg** (1874-1951) devised the method that would give order to the compositional process when using the twelve notes. It was his *Serenade*, Op. 24 for piano the first piece to introduce serial procedures.

"Inclusive of all tonalities" or pantonality, as called by Schoenberg, was the object of this new method: there was no 'center of gravity' within the twelve notes of the spectrum, as opposed to tonal music. With Schoenberg's method, this goal is attained by the creation of a row containing the twelve pitches of the chromatic scale, without any repetition and in any order desired by the composer. This primal row is called "original" (O) -or "prime". The manipulation by the composer of this prime row is done by following procedures that derive different forms of the row:

Retrograde	The row is built starting on the last pitch of O and continues toward the first pitch.
Inversion	All the intervals between the notes are inverted, obtaining a "mirror" image of O.
Retrograde Inversion	A "mirror" image of the retrograde of O.

In order to have at once all the versions of the row the composer devises a box with 144 boxes called a *matrix* . This box contains the retrograde, the inversion and the retrograde inversion of all the transpositions of the prime row.

Thus, a twelve-tone composition contains some or all the variants of the row. However, two ways exist in which the composer might choose to include the material:

Category A	A version of the row is used before introducing a new one.
Category B	Two or more versions of the row at the same time. In order to avoid unwanted repetition of pitches or group of pitches, composers have used combinatoriality and set theory.

Schoenberg also introduced other techniques in order to expand the composer's possibilities:

Repetition	Individual notes or groups of notes can be repeated due to musical intention.
Overlapping	One version of the row with another.
Anticipations	Use of coming material in a given time.

A generation of composers after Webern, who transcended in his influence on them because of the thorough use of serialism, was interested in extending the possibilities of the twelve-tone techniques to other than pitch manipulation. Composers like Babbitt, Messiaen, his disciples Boulez, Stockhausen, and others accomplished such search for total serialism. In *Variations for Piano*, Op. 27 Webern paved the way for these young composers in 'serializing' the dynamics of the piece.

America felt the most influence of serialism. As early as 1948 American composers were interested in further use of serialization. **Milton Babbitt** (b.1916) is perhaps the most important of these. Since early in his career he has been occupied in extending Schoenberg's and Webern's combinatorial sets and the use of mathematics in the process of music composition. In fact, mathematical terms like 'pitch class', 'combinatoriality' and 'source set' were first introduced into musical language by Babbitt. His first piece using total serialism is *Three Pieces for Piano* composed in 1947. In this work Babbitt derives the pitch content using combinatorial principles. Dynamics and rhythm (based on the proportions

5:1:4:2) are also serialized. Babbitt, who champions the idea that a composer is fully responsible for every event in the composition, achieves a “higher degree of determinacy” in later works like *Composition for Four Instruments* and *Composition for Twelve Instruments*, both from 1948. Each instrument in these works has its own set over different time spans, their completion determining the sections and the form of the work. In the 1950s Babbitt became interested in electronic music and its applications in serialism. *Composition for Synthesizer* (1961) is his first totally synthesized work. This work and his later ones show Babbitt’s intention of achieving a degree of precision previously unattained by live performances.

Messiaen’s work *Mode de valeurs et d’intensités* for piano, written in 1949 was the first European work in which total serialism is achieved. However, it was *Structures* (1952) for two pianos by Pierre Boulez that has the broadest use of serialism: Derived from the matrix, Boulez devised twelve dynamics, twelve modes of attack and twelve durations; also from the matrix is derived the overall form and the duration of the series in the sections.

It is very interesting the fact that the very same style opposing serialism was championed by musicians that initiated their careers as serial composers. Creators like Cage, Stockhausen, Berio and Nono composed serial music or were influenced by it at one stage of their musical careers (in fact, Cage studied with Schoenberg himself).

Serial music became excessively complex and originated problems that have to be solved for performance and did not have a satisfactory expressive return. On the other hand, even though the ways approached by serial composers were very different, works tended to deliver basically the same results for the audience. Indeterminacy came to the scene during the 1950s both in America and Europe and as relatively unconnected movements that eventually converged.

The concept of indeterminacy can be traced a long way back in history: when composers -say during the Baroque or even before- let the performer make decisions on how a piece of music has to be performed, there is an element of indeterminacy in the process of music making. It is the need for

musical contrast during the middle of the twentieth century that indeterminacy became a musical concept of its own with particular aesthetic principles.

Different types of indeterminacy are found:

Composer Indeterminacy	What is composed contains elements of indeterminacy but the actual performance has to be planned ahead
Performer Indeterminacy	Instructions from the composer are very detailed but the way in which the piece is going to be performed is relatively not known until the actual performance.
Composer-Performer Indeterminacy	At no time during the process of music making there is a predictable outcome.

Of course, there are elements of the three types in some of the works on this style.

Music of Changes and *Imaginary Landscape No. IV* by **John Cage** (1912-1982) were the pieces that united European and American movements when the composer visited Europe in 1958. It can be said that John Cage was the father of indeterminacy and chance music. The pieces above are based on the I Ching, or the Book of Changes; in tossing the coins in order to make musical decisions, the music becomes “free of individual taste and memory (psychology) and also of the literature and ‘traditions’ of the art.”¹ Cage’s first compositions like *Six Short Inventions* (1953) and *Composition for Three Voices* (1934) used twelve-tone techniques. Instrumental experimentation is the main characteristic of Cage’s middle stage in his musical career; the series of *Constructions* for different types of ensembles and soloist with prepared instrument and *Imaginary Landscape No. III*, are fine examples of this period.

His view about music changed when he moved to the East Coast and discovered the music and philosophy of the Far East during the early 1950s. Adapting to music his beliefs about life: “Now structure is not put into a work, but comes up in the person who perceives it himself. There is therefore

¹ John Cage. *Composition*. (1952)

no problem of understanding but the possibility of awareness.”² The piece that epitomizes this view is *4’33”* (1952) for any kind of instrument or ensemble. The important contribution to music is that the process of music making becomes art in itself, not the actual, finished piece of music -as opposed to the serialist movement. Later on, theater and indeterminacy in almost all the elements of music occupied John Cage. The *Concert for Piano and Orchestra* (1957-58) is the most ambitious of his pieces: with no master score, parts for each instrument of the orchestra were written using change methods and each player selects from his part any numbers of pages to play in any sequence. The role of the conductor is that of giving the time span of the piece using his arms as clock needles.

While the evolution of the early movement of indeterminacy in America developed from almost naïve procedures to more complex and defined ones, the movement in Europe derived from the simplification of serial and free twelve-tone music. One of the most important composers of the European avant-garde, **Karlheinz Stockhausen** (b. 1926), disciple of Messiaen is a composer who has been interested in developing serial procedures since the 1950s. The piece *Kontra-punkta* (1953) for ten instruments is an example of this search in serialization of timbre and dynamic values.

An established composer of *musique concrète* and *electronische Musik*, Stockhausen evolved far away from post-Webern serialism into experimental music, thus changing his aesthetic philosophy. His incursions on indeterminacy were the natural outcome of this process. His first piece using indeterminacy was *Zeitmasse* (sometimes translated as ‘Tempi’) written in 1956 for woodwind quintet. Using extremely complex notation, Stockhausen allows for indeterminacy regarding time. It was his piece *Klavierstück XI* (1956-57) one of the first European composition in which form itself was open: nineteen fragments of music called ‘events’ that can be played in any order, leaving to the performer decisions like tempo, dynamics and attack. ‘Events’ or ‘moments’ are sections of rigorously notated music that have no determinate place in the sequence and have to take different orders on different performances. Another example of this technique is *Moment* for soprano, four choral groups and thirteen instrumentalists. He wrote: “Unity and continuity are less the outcome of obvious similarities than of an immanent concentration on the present, as uninterrupted as possible.”³

² Watkins, Glenn. *Soundings*.

³ Potter, Keith. “Stockhausen”. In *Contemporary Composers*.

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