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Stravinsky's Serial Games

ABSTRACT

Background

Numerous scholars have demonstrated through analyses of sketches and published scores that most of Igor Stravinsky's later serial works, from *Movements* of 1958–59 through the unfinished work of 1966(–67?), depend heavily upon the composer's innovative rotational arrays for their pitch resources (Babbitt 1986, 1987; Caulfield 2001; Morris 1988; Phillips 1984; Rogers 2017; Rust 1994; Straus 2001; Tucker 1992). These arrays, and the systematic but idiosyncratic manner in which Stravinsky derived and employed them, exemplify what Joseph Straus identifies as Stravinsky's approach to musical composition: a game in which the player was also the inventor of the rules (Straus 2001, 44). For the composer's late music, this approach influences not only the rotational arrays, but also the creation and application of other elements of serial pitch organization.

Stravinsky's rotational arrays result from the rotation and transposition of segments —typically hexachords— from his basic forms of a twelve-tone series. A standard rotational array based on a hexachord yields a 'square' containing six six-note rows. His standard practice was to move in order through the pitches of a given row. He often began with the first row of an array and worked his way through its rows from top to bottom or the opposite, exhausting one array before moving to another. Stravinsky also used the columns of the arrays as harmonies, which he termed 'verticals'. (For essential information about Stravinsky's rotational arrays and their employment, see Straus 2001 or Straus 2016, 328–32.)

Aims and repertoire studied

In this presentation, I hope to add to current knowledge of Stravinsky's serial procedures by offering a behind-the-scenes look at some of the composer's currently unrecognized practices. I offer instances of Stravinsky's serial 'games' that, in their experimental aspects, go far beyond what are now considered the composer's standard serial methods.

For example, evidence from analyses of the published scores of *The Flood* (1961–62) and *Abraham and Isaac* (1962–63) and from the composer's sketches for these works suggest that for some passages Stravinsky disregarded the individual rows of the array and instead used the entire array as a kind of compositional gameboard on which to perform 'moves' regulated by rules of his own devising.

Sketches for the unfinished work of 1966(–67?) imply a serial game that differs from those cited above. Instead of offering a new way to use a hexachordal rotational array, it introduces a new procedure for creating one. This procedure manipulates not a single hexachord but instead nearly an enti-

re twelve-tone series to create a six-by-six array. The resulting array exhibits properties different from those in Stravinsky's standard arrays. Documenting an even earlier compositional stage, sketches for Stravinsky's composition of his *Requiem Canticles* (1965–66) imply an algorithm for generating a new twelve-tone series from forms of an existing series.

All of these serial games depend upon invented procedures or sets of rules, from which the composer could derive in a systematic —if often Byzantine— manner new pitch combinations from his standard arrays and new pitch resources from those already established. In this way, he could create the sounds presumably desired for composition but that were unavailable through his usual procedures or within existing pitch structures.

Methods

To tease out the rules of Stravinsky's games and to analyze pertinent musical passages, my approach calls upon two established methodologies: the long tradition of sketch study developed first for Beethoven and other composers of tonal music, and the current understanding of Stravinsky's serial practice, including his rotational arrays and how he employed them. Significant adjustments to these methodologies are necessary to identify and account for newly discovered compositional strategies and their repercussions. More extensive analysis addresses the musical outcomes of his experiments within the works.

Implications

This research uncovers some of Stravinsky's hitherto unknown compositional procedures, solves analytical puzzles posed by passages in the late serial music whose pitch structures could not be explained through analysis of the published scores alone, and characterizes Stravinsky's compositional 'game-playing' more generally. It also notes when Stravinsky's serial games are at their most intricate and examines how the functions and effects of the resulting pitch configurations justify their complex gestations.

In addition, the compositional practices that my presentation will examine find an historical precedent in *The Rite of Spring*, in which Stravinsky's mechanical generation of metrical schemes from intervallic series (McDonald 2010) and his algorithmic approaches to melody harmonization (Rogers 2017) demonstrate a career-long compositional tendency toward games and rules in the creation of distinctive sounds.

Keywords

Stravinsky, serialism, rotational array, compositional process, sketches

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