CREATIO EX MATERIA

A graduate project submitted in partial fulfillment of the requirements for the degree of Master of Music in Music Composition

By

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Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copyright</td>
<td>ii</td>
</tr>
<tr>
<td>Signature Page</td>
<td>iii</td>
</tr>
<tr>
<td>Abstract</td>
<td>v</td>
</tr>
<tr>
<td>Creatio ex Materia (score)</td>
<td>1</td>
</tr>
</tbody>
</table>
Abstract

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Master of Music in Music Composition

Introduction

Creatio ex Materia is a two-movement composition for chamber ensemble that attempts to uncover unique timbres and rhythmic consequences through the use of contemporary concepts and techniques. It employs nontraditional combinations of instruments and blending of extended techniques to craft innovative sounds, while trying to express abstract principles such as the transfer of energy and the illusion of parts influencing and “learning from” one another. Additionally, this piece pursues the implications of joining aleatoric methods and graphic notation with more stringent approaches like mathematical process and standard notation.

Inception

Endeavoring to achieve new sounds with traditional instruments, Creatio ex Materia began as an unlikely trio of oboe, cello, and chimes. This odd combination alone would make for a bold musical statement, however there were obvious balance issues from the outset. An experimental session with a set of chimes and various striking implements led to the use of knitting needles in place of traditional mallets throughout most of the piece. In this manner, the inherent power of the chimes was decreased significantly, resulting in a more uniform mix.
The initial sketch included a list of possible extended techniques to use, a proposed instrumentation that built upon the original trio, ideas for creating random aspects and graphic notation, and a pitch set from which to build upon, which was based on the decision to use harmonic partials of the pitch E. Also included within the plan was a double-stop idea for the cello, a skeleton of a melody line for the oboe, and specific adjectives that could describe ways to perform certain random rhythms. Once the piece began to conglomerate, choices were made by sticking close to the guidelines in the sketch.

Notation

The decision to use graphic notation for some of the score stemmed from the idea that individual performers would interpret the symbols differently, thus creating randomness. And while text descriptions like “Vertical, circular scraping,” as in the beginning of the first movement, may suffice, the accompanying graphic symbol gives the performer a more tangible idea of shape. In addition to the swirling scraping cues, rectangles were used to enclose parts of the first movement; the phrases within are to be repeated at random speeds, and at the performers discretion. Additionally, the ~ symbol that lies between certain notes within the rectangles suggest a ‘bridge’ of sorts; the performer uses the bridge to arrive at the next note at a random pace. At a point in the first movement where the Chimes player is instructed to strike the top of the rack, random jagged lines fill the staves that follow. Again, the idea here is to create a visual reference for the performer. Additional graphic cues are used in section C of the second movement; sloping, jagged lines in the Vibraphone and Chimes parts indicate rakes, while circular shapes in the Cymbal part signify random scrapes and bows. In conjunction with the
graphic notation is yet another visual oddity; at certain points parts do not line up vertically, which attempts to establish variable cues form the conductor, as well as irregular entrances by the performers. An example of this can be seen on page two of the first movement, with staggered entrances in the Flute, Oboe, Chimes, and Cello. Text descriptions are also found throughout the score, which attempt to deepen the performers’ understanding of what to play. Phrases like “uneven, jagged (throughout 1st and 2nd mvmt.), match vibrato to vibes (Cello, 1st mvmt. at 3:10), and emulate typing” (Chimes, 1st mvmt. at 2:30), are all efforts to achieve the desired sound with minimal external instruction. Odd usages of traditional notation are used as well to create certain effects, as with the Cello double-stop in m. 3 of the second movement; the unorthodox, almost impossible rhythmic notation is written purposely to throw the cellist off-kilter and create the desired jagged line.

Abstract Ideas

One main goal of Creatio ex Materia is to express certain abstract ideas, such as the transfer of energy and the illusion of parts influencing and “learning from” one other. The first notion is expressed at several points throughout the piece; as one part fades, it sheds its energy, which in turn is absorbed into another. The first instance of this comes about on the second system of the first page. As the initial scraping sounds become louder and more furious, the energy starts to shift to the Flute, Oboe, and Cello as they enter at the Accelerando. This energy continues to build and eventually brings about the interesting Chimes part at 2:30. At this point the Chimes player is instructed to strike the top of the rack in such a manner as to imitate the rhythm and energy of the previous section, almost as if taking it from the other instruments. This idea continues, without
pause, into the second movement, where the jagged double-stop in the Cello takes over. The next transferal transpires in section B of the second movement; the Cello quickly sheds its energy with 16th note bursts, which then bleeds into the flutter-tongued crescendos in the Flute and Oboe parts. At section C the energy gets diffused, almost shattered, amongst all of the instruments. Section D brings about a refocusing and revival of energy that drives forward until the end.

To create the illusion of parts influencing and “learning from” one another, great care was taken throughout the piece to systematically build upon the connecting elements. As an example of this, the Oboe melody that begins at section A of the second movement allows the Flute to imitate its line, then plays it again but alters some of the pitches. In this way the piece is slowly developing, staying close to materials that have previously been introduced and carefully building upon this knowledge.

*Analysis*

Movement one commences with scraping in the Vibraphone, Chimes, and Cymbal parts, which crescendos gradually. At 1:00 the pitches played by the Flute, Oboe, and Cello outline the first 19 harmonic partials of the pitch E. They start on pitches C, Eb, and F# respectively, and follow the subsequent intervalllic formula: *up a m3, down a m2, up a M3, down a m2, up a m3, and down a m2, repeat.* In this manner, none of the parts arrive at the pitch E during this section. This method, however, does produce a C# in the Cello part, which serves as a curious outlier that resurfaces later in the piece. The instruments repeat at random within their respective rectangles, creating a rhythmic uneasiness. This unsettling rhythm, joined with the lack of an aural tonal center is meant to generate an unfocused, insecure sound.
At 1:45 the Vibraphone suddenly stumbles upon the E, which in turn excites its accompanying harmonic partials at the *Presto* marking. At this point, only the Oboe realizes the significance of the E, and thus includes it in its flurry of notes. The Chimes, struck with knitting needles, join the mix with fast, staccato figures fixated on a major seventh interval (Bb to A). The Suspended Cymbal enters at the *Presto* as well, performing graduated swells to increase tension.

The Vibraphone celebrates the discovery of the E at 2:30, this time using a bowed technique. This drone signals the Flute, Oboe, and Cello to halt their melodic bursts, whose energy is immediately absorbed by the Chimes. The Chimes emulate the previous rhythmic material by striking the top of the rack, producing a metallic ‘clicking’ sound. The Horn finally enters at 3:10, swelling the newfound E, while the Cello attempts the E but misses by a half step. The Oboe reinforces its knowledge and echoes an E at 3:25, and soon after (3:40) the Horn returns with an E, almost prideful. A low Cymbal roll and the Chimes’ incessant ‘clicking’ continues throughout, sustaining their existence even into the second movement; this space allows the other instruments some time to ruminate.

Now that the individual instruments have a vague idea of the pitch system, movement two seeks to solidify their knowledge and to have them work together to form melody and harmony, and to explore rhythmic material as well. A 6/4 meter was chosen, first to accommodate the long arch of the Oboe melody, and second to retain some of the rhythmic uneasiness of the first movement. As the percussion parts fade, however, the Cello enters in m. 3 and offsets this meter immediately with its uneven rhythm.
As the Cello is still a bit tentative of the E, an F# and G are played together as a double-stop to create a dissonant drone; this provides a harmonic bed for the ensuing Oboe melody that begins at m. 5, and also represents the first effort to build a chord. The Oboe enters confidently, descending from an E and reusing many of the harmonic partials. It also includes the C# that was previously introduced in the Cello part, which is accentuated in mm. 9-10. As the Oboe attempts to repeat its melody line, it gets frozen on a high D, which is a precursor to a slow shift that moves toward E minor. A C# in the Horn and bowed Vibraphone clash with the D that is played in the Oboe and Flute, however this is representative of a more collective attempt to create harmony. As this chord dies away, the Chimes and Cello decide upon an ominous descending line that leads to F.

As the F drones, the Flute gains confidence and gives the melody a try, however the line is abbreviated. The drone then shifts to a G, and the Flute performs the shortened melody again. This section represents the instruments trying desperately to work with one another, struggling to make melody and harmony fit together using their limited knowledge. At m. 22 the drone shifts to a D and the Oboe returns with the melody, however the original C# in transformed into a C, which further leans toward E minor. As the Oboe holds its C in m. 25, the Flute enters with an A# and the Vibraphone enters with an F#; this creates the first triadic chord, albeit a dissonant one. The chord at mm. 25-26 rouses the Flute, Oboe, and Cello, so much so that the woodwinds play a unison flutter-tongue technique while the cello dives from an A through a glissando.

Section C represents another period of contemplation, during which the instruments reflect upon what they have learned thus far and begin to express themselves
as individuals through extended techniques. The woodwinds perform multiphonics, interrupting the given pitches with a sung drone. The Horn plays muted swells, while the Vibraphone and Chimes perform random rakes. The Cymbal scrapes and bows, while the Cello performs an open harmonic glissando to create motion and height. Originally these extended techniques were to be used individually at varying points of the piece, however it seemed appropriate, and perhaps a bit precarious, to join them as one. The effect that is created is quite astonishing, unstructured and cunning at once.

Once the instruments have had some time to explore their own voices, section D arrives with a structured 4/4 meter. The Flute, Oboe, and Cello reuse the melodic lines from their initial entrances in movement one, however organize them into two-measure phrases. There are four two-measure phrases in total, which are used and repeated intentionally in the following order through m. 49:

- Flute: Phrase I, Phrase IV, Phrase III, Phrase II
- Oboe: Phrase II, Phrase I, Phrase IV, Phrase III
- Cello: Phrase III, Phrase II, Phrase I, Phrase IV

The rhythmic figures within these phrases are specifically arranged to create a dizzying contrapuntal effect, as well as to disguise the 4/4 meter.

Concurrently at section D, two players flank either side of the Chimes, playing aggressive, random rhythms on the upper rack and tubes with knitting needles. This serves as a pseudo pulse for the rest of the ensemble, and creates tension that builds throughout the entire section. The Horn enters assertively at m. 49; growing tired of the dissonance and confusion, it attempts to put together a sensible melody. To achieve this, notes are borrowed from the other instruments to construct mm. 50-57, but the ensuing
result is still dissonant. The Horn decides to move gallantly to E minor in m. 58, and holds fast to this decision through m. 66. From measure 50 to 65 the Flute continues repeating its two-measure phrases in the same order, however the Oboe and Cello phrases are dissected and moved around to create more complex counterpoint.

Measures 60 to 62 bring about an ‘accidental sweep,’ wherein all accidentals except for F# are removed in the following manner: Flute m. 60, Oboe m. 61, and Cello m. 62. This successive conversion to E minor is complete by m. 62, and allows the E minor Horn melody to exist tonally for four measures. The Cello alone is chosen to drone the E at the end, proving that it finally accepts the pitch as significant.

**Conclusion**

*Creatio ex Materia* is an immersion into the wondrous process of music composition wherein all ideas, tangible or not, can exist and blur with one another. Among these ideas are the exploration of innovative sounds, the expression of abstract principles, and the coexistence of aleatoric and structured entities. There are few environments that can accommodate such disparate boundaries, and it is within this boundless realm where creation can originate and flourish, born from inspiration or calculation.
Creatio ex Materia

Ralph D'Ignazio

II

Flute

Oboe

Horn in F

Vibrphone

Chimes

Cymbals

Cello

Uneven, jagged, keep bow moving (approximate rhythm)

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Repeat section until conductor cue

bow/ scrape randomly

Repet section until conductor cue
continue w/ varied rhythms