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Mal_Functions for String Quartet and Live Electronics

Lupp

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Mal_Functions
For String Quartet and Live Electronics

by

Elliott Andrew Lupp

A thesis submitted to the Graduate College
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Thesis Committee:

Lisa Coons, Ph.D., Chair
Maria Cristina Fava, Ph.D.
Carter Rice, D.A.
Mal_Functions
For String Quartet and Live Electronics

Elliott Andrew Lupp, M.M.
Western Michigan University, 2019

Mal_Functions is a four-movement work for string quartet and live electronic that takes as its subject the timbrally rich and expansive acoustic capabilities of a string quartet and twists, warps, and expands upon them with the addition of the live electronic processing. The addition of electronics acts as only an extension of the performer, and therefore, appears to be generated by the performers themselves - as opposed to the computer. The overall goal of this piece is to take a well-established object of the musical past (the string quartet) and add to it something from the present day (live electronic processing).
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Score ......................................................................................................................... 34

Mvt. IV

Score ......................................................................................................................... 60
Independent Signal Processors: Each instrument has its own effects chain given the cue.
Performance Notes

<table>
<thead>
<tr>
<th>Bridge</th>
<th>Play directly on bridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSP</td>
<td>Molto Sul Ponticello</td>
</tr>
<tr>
<td>Ord.</td>
<td>Ordinary Bow Placement</td>
</tr>
<tr>
<td>MST</td>
<td>Molto Sul Tasto</td>
</tr>
<tr>
<td>Clb.</td>
<td>Col Legno Battuto</td>
</tr>
<tr>
<td>Ct.</td>
<td>Col Legno Tratto</td>
</tr>
<tr>
<td>SH</td>
<td>(Shakey hand) Your bowing should be shaky, inaccurate, and like that of someone who has barely played your instrument.</td>
</tr>
<tr>
<td>NH</td>
<td>(Normal hand): Control your right hand as you normally would.</td>
</tr>
</tbody>
</table>

Hold the bow normally.

Slant the bow at a vertical angle, with your elbow slightly pressed into your body. The frog should be closer to you.

Slant the bow at a vertical angle, with your elbow slightly extended from your body so that the tip is closer to you than the frog.

Slant the bow at an extreme vertical angle, with your elbow as close to your body as possible and the bow is nearly parallel to your instrument.

Slant the bow at an extreme vertical angle, with your elbow as far away from your body as possible and the bow is nearly parallel to your instrument.

Transition evenly between two bow positions. When this is not indicated, the transition between positions should be as abrupt as possible.

Circular bowing

---

Ricochet into arco MORE CONTROL: allow the bow to bounce with some pressure applied and transition into arco

Ricochet into arco LESS CONTROL: allow the bow to bounce freely and transition into arco

Jete (ricochet): fully controlled

---

Accented overpressure: overpressure should be brief

Bow behind the bridge

Sub tones (scratch)

Vibrato contour: perform with vibrato according to contour

As fast as possible

As high as possible

Gradually transition from one effect to the other

Gradually apply overpressure

---

All Tremolos are very dense EXCEPT:

- When measured tremolos are given, bow speed changer should be gradual.
- Pitch successions without articulations or slurs are to be played quasi legatissimo (one note to a bow).
Elliott Lupp

Mal Functions
For String Quartet and Live Electronics

Adagio \( \frac{\text{b}-40}{\text{b}} \)

Violin I

Violin II

Viola

Cello

full bow (bow as needed)
as still and steady as possible

full bow (bow as needed)
as still and steady as possible

full bow (bow as needed)
as still and steady as possible

full bow (bow as needed)
as still and steady as possible

ppp

pp

pp

pp

pp

MSP

MSP

MSP

MSP

MSP

MSP

MSP

MSP
full bow (bow as needed)
as still and steady as possible

Vln. I

Vln. II

Vla.

Vc.

Elec.
slowly transition to natural harmonic while glissing (E → E♭)
improv occasional burst of tremolo
as steady as possible
begin a slow “tremolo”
and overtime build up speed
eventually reaching an extreme tremolo
with great stress and aggression
Ord.

improv occasional burst of tremolo
with great stress and aggression
Ord.

improv occasional burst of tremolo
begin a slow “tremolo”
and overtime build up speed
eventually reaching an extreme tremolo
Ord.

improv occasional burst of tremolo
begin a slow “tremolo”
and overtime build up speed
eventually reaching an extreme tremolo
Ord.

with great stress and aggression
Ord.

with great stress and aggression
Ord.

with great stress and aggression
Ord.

with great stress and aggression
Ord.

with great stress and aggression
Ord.

with great stress and aggression
Ord.

with great stress and aggression
Ord.
Vln. I

Vln. II

Vla.

Vc.

Elec.
try to match bowing of another performer
DO NOT accent re-bows
try to match bowing of another performer
DO NOT accent re-bows

as high as possible

hold for 10 sec.

try to match bowing of another performer
DO NOT accent re-bows

as high as possible


as steady as possible

mfppp

mfppp

bridge

frantic - non-exact

Vln. I

Vln. II

Vla.

Vc.

Elec.
Vln. I

Vln. II

Vla.

Vc.

Elec.

measured trem. (1)

one bow per note

RIH. to \( \frac{d}{d} = 60 \)

MSP (still 6+)

measured trem. (3)

measured trem. (1)

(1)to Ord.

Measured trem.

(1)to Ord.

(2)to MSP

(3)to MSP

(1)to Ord.

(2)to Ord.
accel.

Vln. I

Vln. II

Vla.

Vc.

Elec.
like walking on thin ice  \( \cdot \) = c. 50

rubato sempre

full bow (bow as needed)
as steady as possible
MST (flautando)
no vib. (stasis)

bow rhythm legato

violin I

violin II

viola

cello

electronics
\begin{verbatim}
Vln. I
\(\text{frantically}\)  
\(\text{MST (flautando)}\)

Vln. II
\(\text{frantically}\)  
\(\text{MST (flautando)}\)

Vla.
\(\text{frantically}\)  
\(\text{MST (flautando)}\)

Vc.
\(\text{frantically}\)  
\(\text{MST (flautando)}\)

Elec.
\end{verbatim}
like walking on thin ice  \( \mathbf{\frac{4}{4}} \) c. 50

\begin{align*}
Vln. I & \quad \text{MST (flautando)} \\
Vln. II & \\
Vla. & \\
Vc. & \\
Elec. & \end{align*}

\begin{align*}
& \text{rit.} \\
& \text{Ord. to MST} \\
& \text{to MST} \\
& \text{keep bow position still}
\end{align*}
D a tempo

Vln. I

Vln. II

Vla.

Vc.

Elec.
slowly become less precise

frantically (not exact)

MSP

frantically (not exact)

MSP

frantically (not exact)

MSP

frantically (not exact)

MSP

frantically (not exact)

MSP

frantically (not exact)

MSP

slowly become less precise
Vln. I

Vln. II

Vla.

Vc.

Elec.

frantically
frequently/randomly switch bow angles
producing scratch tones
Vln. I
mp  pppp  mf  pp  ff

Vln. II
fff

Vla.
ff

Vc.
pp  f

Elec.

\textit{frequently randomly switch bow angles}
producing scratch tones

\textit{norm arco}
Vln. I

Vln. II

Vla.

Vc.

Elec.

frequently/randomly bow a harmonic
as rhythmically precise as possible

rit.

Vln. I

Vln. II

Vla.

Vc.

Elec.
like walking on thin ice $c. 50$

Vln. I

Vln. II

Vla.

Vc.

Elec.
frequently/randomly bow a harmonic

frantically (rhythm is fingered)

full bow (bow as needed)
to MST (flautando)

To MSP

MSP

To MST (flautando)

To MST

MST

MSP

MST

MSP

MST

MSP

MST

MSP

MST

MSP
increase circular bow speed with dynamic

create steady pulse with circular bowing
follow rhythm

create steady pulse with circular bowing
follow rhythm

increase circular bow speed with dynamic

increase circular bow speed with dynamic

MSP

MST (flautando)
Vln. I

Vln. II

Vla.

Vc.

Elec.

full bow (bow as needed)

pppp

mf

pppp

mf
increase circular bow speed with dynamic

frantically

increase circular bow speed with dynamic

increase circular bow speed with dynamic

increase circular bow speed with dynamic

increase circular bow speed with dynamic

increase circular bow speed with dynamic

increase circular bow speed with dynamic

arco

arco
Vln. I

- **MSP**
- **MST**
- **MSP**
- **MST**

- **as steady as possible**
- **full bow (bow as needed)**

Vln. II

- **MSP**
- **MST**
- **MSP**
- **MST**

- **as steady as possible**
- **full bow (bow as needed)**

Vla.

- **as steady as possible**
- **full bow (bow as needed)**

Vc.

- **as steady as possible**
- **full bow (bow as needed)**

Elec.

- **as steady as possible**
- **full bow (bow as needed)**
OUT OF TIME (15 - 20 seconds)

CUE TOGETHER

Improvise as chromatically as possible with aggressive, quick, and pointillistic gestures.
Use pizzicato, harmonics, quick glissandi and the full range of your instrument.

Moderato \( \frac{\frac{1}{4}}{\text{c. 108}} \)

CUE TOGETHER

Improvise as chromatically as possible with aggressive, quick, and pointillistic gestures.
Use pizzicato, harmonics, quick glissandi and the full range of your instrument.

CUE TOGETHER

Improvise as chromatically as possible with aggressive, quick, and pointillistic gestures.
Use pizzicato, harmonics, quick glissandi and the full range of your instrument.

CUE TOGETHER

Improvise as chromatically as possible with aggressive, quick, and pointillistic gestures.
Use pizzicato, harmonics, quick glissandi and the full range of your instrument.
occasional clb.

Vln. I

Vln. II

Vla.

Vc.

clb.

Elec.
occasional clb.