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### Title

Notation as a compositional tool : three exemplary pieces

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Notation as a Compositional Tool: Three Exemplary Pieces

A dissertation submitted in partial satisfaction of the requirements for the degree  
Doctor of Philosophy

in

Music

by

Daniel Arthur Tacke

Committee in Charge:

Professor Rand Steiger, Chair  
Professor Charles Curtis  
Professor Michael Davidson  
Professor Sheldon Nodelman  
Professor Jane Stevens

2012

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The Dissertation of Daniel Arthur Tacke is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

University of California, San Diego

2012

To my family.

NHSD

## TABLE OF CONTENTS

Signature Page.....	iii
Dedication.....	iv
Table of Contents.....	v
List of Figures.....	vi
Acknowledgements.....	vii
Vita.....	viii
Abstract.....	ix
Composition I: <i>Concert Music N.5</i> .....	1
Composition II: <i>Solo Music N.5</i> .....	13
Composition III: <i>Chamber Music N.5</i> .....	30
Essay: “Thought – Labor – Influence: Notation and Secrets as Compositional Impetus in My Recent Music”.....	102
Introduction: On Notation.....	103
General Overview of the Dissertation Project and Analysis of the Visual Architecture.....	108
<i>Concert Music N.5</i> .....	117
<i>Solo Music N.5</i> .....	127
<i>Chamber Music N.5</i> .....	138
Figures.....	151

## LIST OF FIGURES

Figure 1: <i>Visual Architecture</i> – Original drawing.....	152
Figure 2: <i>Visual Architecture</i> – Preliminary modifications.....	153
Figure 3: <i>Visual Architecture</i> – Final modifications.....	154
Figure 4: Natural harmonic pitches on the conventionally-tuned contrabass.....	155
Figure 5: <i>Chamber Music N.5</i> – Primary motive.....	156

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Thanks to all of my teachers over the years, for your dedication and for leading by example.

Deepest thanks to my family, for your love, encouragement, and patience.



## VITA

- 2006 Bachelor of Music in Composition, Oberlin Conservatory of Music
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#### Studies in Musicology

Professor Jane Stevens

ABSTRACT OF THE DISSERTATION

Notation as a Compositional Tool: Three Exemplary Pieces

by

Daniel Arthur Tacke

Doctor of Philosophy in Music

University of California, San Diego, 2012

Professor Rand Steiger, Chair

The relationship between imagination and image has significant influences on a composer's engagement with musical creation. There is more to this than simply recognizing notation as an outlet for creative energy: it is also a process that is not without certain resistances, simultaneously freeing and limiting one's imaginative capacities. On the one hand, musical expression and meaning might be compromised

by the visual concreteness that is necessarily a part of notational processes; on the other hand, notational images might carry the potential for previously unimaginable musical possibilities.

Throughout the history of Western music, composers have dealt with the creative potentialities of notation—that is, the complex relationship between sound and image—in a variety of ways, balancing the freedoms and limitations of imagining and drawing to different degrees. My own compositional endeavors have tended toward fairly dynamic relationships between visual- and sonorous-based streams of decision-making, generally shaped into an overall process that begins with two entirely independent sets of ideas—one visual and one sonorous—and then works toward a dialectical resolution of this fundamental abstraction, always with the manual labor of notation forming an essential component of the decision-making process.

This dissertation consists of three examples of such process: three individual works for varying instrumental forces that all began with the same visual impetus – a pencil drawing that functions as an abstract notation. The processes of decision-making that branch out from this starting point lead to three independent sonorous works, exploring issues of translation while simultaneously opening up a vast potential for depth of compositional engagement and richness of final product. The uniqueness of each work is evidence of the creative power of notational labor as both instigator of musical imagination and solidifier of musical structure and material.

Composition I: *Concert Music N.5*

For the accompanimental ensemble of Olivier Messiaen's *Couleurs de la Cité céleste*:

3 clarinets in B-flat

Trumpet in D

3 trumpets in B-flat

2 horns in F

3 trombones

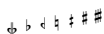
Bass trombone

7 percussionists

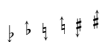
Duration circa [7:00]

REGARDING THE WORK:

GENERAL:



Progression of quarter-tone accidentals. For the clarinets, these should be accomplished with specific fingerings whenever possible. The horns should produce the given sonority with half-muting (see below).



Non-precise microtonal inflections. These might be accomplished with fingerings or with embouchure for the clarinets. The horns should produce the given sonority with half-muting (see below).



*Crescendo / decrescendo* from / to niente.



Sudden (i.e. rhythmic) choking of instrumental sonority / resonance.

CLARINETS IN B $\flat$ :

Clarinet multiphonics are all taken from Phillip Rehfeldt's book *New Directions for Clarinet* (Scarecrow Press, 1994). Fingerings are not included in the score, but are provided here (in concert pitch):

Given the problematic nature of these sonorities, performers may in cases of extreme instability simply play the pitches indicated by the larger noteheads of any given multiphonic sonority as single notes. It should be understood, however, that a sense of fragility and instability is in fact desirable, and it is perfectly acceptable if multiphonics do not speak "well" provided they remain within the given dynamic contour. No attempt should be made to "balance" the clarinet sonorities with the dynamic levels of the chorus of brass instruments.

BRASS:

The chorus of brass instruments is intentionally marked at a louder dynamic level than the clarinets or percussion for the majority of the work. Moments of clarinet and / or percussion material will occasionally "shine through" the wall of brass, but these should be allowed to come and go of their own volition. No attempt should be made to "make room" for the fragile and unstable sonorities of the quieter instrumental forces.

The horn notation utilizes the following symbols for muting:



open horn      stopped horn      half-stopped horn (used to inflect the pitch downward microtonally)

PERCUSSION:

- Instrumentation: Player 1: xylophone
- Player 2: xylorimba
- Player 3: marimba (a five-octave instrument is assumed)
- Player 4: almglocken (see range at right)
- Player 5: tubular bells (see range at right)
- Player 6: four gongs (high to low)
- Player 7: two tam-tams (large and *very large*)

Written almglocken range:  
(sounding an octave higher)

Tubular bell range:

Notation:



Medium mallets



Rattan



Large tam-tam beater



Hands (knuckles)

The percussion material is almost always inaudible, but this reality should not interfere with the integrity of performative gestures. Each sound is special, even if the player is the only one able to hear it.

# Concert Music N.5

Score in C

D. Tacke

♩ = 48 (♩ = 1 semper)  
1 [like a landscape]

Clarinet in B♭ 1  
Clarinet in B♭ 2  
Clarinet in B♭ 3  
Trumpet in D  
Trumpet in B♭ 1  
Trumpet in B♭ 2  
Trumpet in B♭ 3  
Horn in F 1  
Horn in F 2  
Trombone 1  
Trombone 2  
Trombone 3  
Bass Trombone  
Xylophone  
Xylorimba  
Marimba  
Aloglocken  
Tabular Bells  
Gongs  
Tamtams

2/4 15/8 6/4 5/4 4/4 5/8 6/8 5/8

overall: p

Musical score page 4, featuring orchestral instruments and dynamic markings.

**9**

Bb-Cl. 1

Bb-Cl. 2

Bb-Cl. 3

*pppp* *n*

**6** **5** **4**  
**8** **4** **4**

D Tpt.

*pppp*

*p* (smooth overlapping)

Bb-Tpt. 1

*p* *n* *n*

Bb-Tpt. 2

*n* *p* *n*

Bb-Tpt. 3

Hu. 1

Hu. 2

*p*

Tbn. 1

*p* *pp*

Tbn. 2

*pp*

Tbn. 3

(smooth overlap) *n* *p* *pp*

B. Tbn.

*pp*

**6** **5** **4**  
**8** **4** **4**

Xyl.

*p pass.* *pp pass.*

Mrb.

*pp pass.* (*non dim.*)

Alm.

*pp pass.*

T.B.

*pp pass.*

Gongs

*pp pass.*

T.T.

19

B♭-Cl. 1

B♭-Cl. 2

B♭-Cl. 3

1 7 2 4 5 5  
4 8 4 4 8 4

19

D Trpt.

B♭ Trpt. 1

B♭ Trpt. 2

B♭ Trpt. 3

Hrn. 1

Hrn. 2

Tbn. 1

Tbn. 2

Tbn. 3

B. Tbn.

1 7 2 4 5 5  
4 8 4 4 8 4

19

Xyl.

Xylorim.

Mrb.

Alm.

T.B.

Gongs

T.T.



31

B.C. 1 *pppp* *n* *n* *pp* *pppp* *n* *n* *ppp* *n*

B.C. 2 *pppp* *n* *n* *pp* *pppp* *n* *n* *ppp* *n*

B.C. 3 *pppp* *n* *n* *pp* *pppp* *n* *n* *ppp* *n*

5/4 4/4 5/8 6/8 6/4 6/8 5/8 6/8

31

D.Tpt. *ppp*

B.Tpt. 1 *p* *mute*

B.Tpt. 2 *pp*

B.Tpt. 3 *pp* *mp*

Hr. 1 *pp* *p* *pp* *p* *n*

Hr. 2 *pp* *ppp* *p* *n*

Tbn. 1 *p* *p* *n*

Tbn. 2 *pp* *p*

Tbn. 3 *p* *pp* *pp*

B.Tbn. *p* *p* *pp* *pp* *pp*

5/4 4/4 5/8 6/8 6/4 6/8 5/8 6/8

31

Xyl. *pposs. (non cresc.)* *loco* *pposs.*

Mrb. *pposs. (non cresc.)* *pposs. (non cresc.)* *pposs.*

Alm. *pposs. (play an octave higher if necessary)* *pposs.*

T.B. *pposs.*

Gongs *pposs.*

T.T. *pposs.*



51

B♭ Cl. 1

B♭ Cl. 2

B♭ Cl. 3

7/4      4/4      1/4      4/4

51

D Tpt.

B♭ Tpt. 1

B♭ Tpt. 2

B♭ Tpt. 3

Hr. 1

Hr. 2

Tbn. 1

Tbn. 2

Tbn. 3

B. Tbn.

7/4      4/4      1/4      4/4

51

Xyl.

Nylorim.

Mdb.

Alm.

T.B.

Gongs

T.T.

G1

B-C1.1  
B-C1.2  
B-C1.3

$\frac{1}{4}$   $\frac{4}{4}$   $\frac{1}{4}$   $\frac{3}{8}$   $\frac{1}{4}$   $\frac{4}{4}$

G1

D Tpt.  
B-Tpt. 1  
B-Tpt. 2  
B-Tpt. 3  
Hn. 1  
Hn. 2  
Tbn. 1  
Tbn. 2  
Tbn. 3  
B. Tbn.

$\frac{1}{4}$   $\frac{4}{4}$   $\frac{1}{4}$   $\frac{3}{8}$   $\frac{1}{4}$   $\frac{4}{4}$

G1

Xyl.  
Xylorim.  
Meb.  
Alm.  
T.B.  
Gongs  
T.T.







Composition II: *Solo Music N.5*

For contrabass

Duration circa [14:00]



SOLO MUSIC N.5 IS WRITTEN ENTIRELY FOR OPEN HARMONICS ON THE CONTRABASS. PITCHES ARE NOTATED AT THEIR SOUNDING REGISTER.

INDICATIONS ARE GIVEN FOR THE STRING UPON WHICH EACH PITCH IS TO BE PLAYED AS WELL AS THE PARTICULAR NICHES IN THE OVERTONE SERIES IT HAPPENS TO OCCUPY. AS AN EXAMPLE, THE PIECE OPENS WITH THE 15<sup>TH</sup> SOUNDING PARTIAL ON THE OPEN D-STRING, SO "15/15" APPEARS BENEATH THE NOTE.

PARTIALS MAY BE ACCESSED FROM ANY OF THEIR SOUNDING POINTS ALONG THE STRINGS, THOUGH CONSIDERATION SHOULD BE GIVEN TO CLARITY OF PITCH (DESIRABLE, EVEN THOUGH THE PERFORMANCE SITUATION IS WROUGHT WITH PERIL), BEAUTY OF SOUND (WHICH MIGHT DIRECTLY INTERFERE WITH THE FIRST CRITERION), AND ELEGANCE OF PHYSICAL MOVEMENT (THOUGH THIS DOES NOT AT ALL IMPLY ABSENCE OF PHYSICAL MOVEMENT).

ONLY TWO UNCONVENTIONAL NOTATIONAL SIGNS ARE USED:

$\nabla$  CHANGE BOW DIRECTION HERE!

→ DO NOT CHANGE BOW DIRECTION HERE!

SOMETIMES CONVENTIONAL SIGNS ARE USED IN UNCONVENTIONAL SITUATIONS, THOUGH NOT NECESSARILY WITH UNCONVENTIONAL MEANING. REMEMBER THIS WHEN FACED WITH THINGS THAT ARE IMPOSSIBLE.

IT IS UP TO THE PERFORMER WHETHER OR NOT HE WANTS TO PLAY THE ENTIRE PIECE WITH A MUTE. IF HE DOES, IT STAYS ON, AND IT SHOULD BE A PRETTY ONE.

THESE WORDS ARE NOT PROGRAM NOTES.

ST

~~2018~~

Solo music NS

♩ = 48 BEATPPE

\* ALCO COL CANGE QUASI SILL  
FOUR (FOR CLARIN)

COL LESAO

COL CANGE

STILL

STILL

STILL

STILL

\* PITCHES SOUND AT VARIOUS REGISTERS

M CELLO, GRACEFUL  
 \*\*  
 + 2p/12  
 2p/7  
 2p/8  
 pp BOUNCE  
 3.1  
 3.2  
 3.3

3.1  
 3.2  
 3.3  
 3.4  
 3.5  
 3.6  
 3.7  
 3.8  
 3.9  
 3.10  
 3.11  
 3.12

21  
 22  
 23  
 24  
 25  
 26  
 27  
 28  
 29  
 30  
 31  
 32

THE LEFT HAND BETWEEN EACH PITCH IN LOWER VOICE - MAINTAIN CONTINUITY IN UPPER VOICE

Musical score for measures 25-28. The notation includes various fingerings and bowings. Measure 25 starts with a double bar line and a fermata. Measures 26-28 contain complex rhythmic patterns with slurs and accents. The score is written on a single staff.

Musical score for measures 29-32. Measure 29 begins with a double bar line and a fermata. Measures 30-32 feature intricate rhythmic figures with slurs and accents. The score is written on a single staff.

Musical score for measures 33-36. Measure 33 starts with a double bar line and a fermata. Measures 34-36 contain rhythmic patterns with slurs and accents. The score is written on a single staff.



First system of musical notation, measures 48-52. Includes performance markings such as *pp*, *mf*, and *sf*. Measure numbers 48, 51, and 52 are indicated.

Second system of musical notation, measures 53-57. Includes performance markings such as *pp*, *mf*, and *sf*. Measure numbers 53, 56, and 57 are indicated.

Third system of musical notation, measures 58-62. Includes performance markings such as *pp*, *mf*, *sf*, and *espress.*. Measure numbers 58, 61, and 62 are indicated.

32  
 33  
 34  
 35  
 36  
 37

con. Legato  
 con. Legato  
 pp  
 pp

47  
 48  
 49  
 50  
 51  
 52

Legato y Crane  
 pp  
 pp  
 (pp) - AS MUCH AS POSSIBLE

75  
 76

(pp)

This musical score consists of five systems of staves, each with a double bar line at the end. The notation includes various string techniques and dynamics:

- System 1:** Starts with a dynamic marking of *pp* (pianissimo).
- System 2:** Features a *SUBITO* marking, a *TR. VIB.* (trilling vibrato) marking, and a *LEGATO (BASSOVI)* marking. Dynamics range from *f* (forte) to *ppp* (pianississimo).
- System 3:** Includes a *CRINIC* marking and a *LEGATO* marking. Dynamics include *pp* and *ppp*.

The score is written for a string ensemble, with specific markings for trilling vibrato and legato playing in the bassoon part.



101 AS THROUGH MOUNTAINS (LEGATO)

102 "LOW PASS" - SUN COL. CELESTE

103 "SUN'S FORM" - CELESTE

104

105

106

107

108

109

110

111

112

113

114

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1000

125

(p poss. - as static as possible)

This musical system contains measures 125 through 128. It features a single staff with a treble clef and a 4/4 time signature. The music is written in a minimalist style, consisting of a series of horizontal lines with occasional small notes and rests. The notes are primarily placed on the middle lines of the staff. The system is marked with a piano dynamic (p) and the instruction '(p poss. - as static as possible)'. The measures are separated by vertical bar lines, and the system concludes with a double bar line.

127

This musical system contains measures 127 through 130. It features a single staff with a treble clef and a 4/4 time signature. The music is written in a minimalist style, consisting of a series of horizontal lines with occasional small notes and rests. The notes are primarily placed on the middle lines of the staff. The system concludes with a double bar line.

128

This musical system contains measures 128 through 131. It features a single staff with a treble clef and a 4/4 time signature. The music is written in a minimalist style, consisting of a series of horizontal lines with occasional small notes and rests. The notes are primarily placed on the middle lines of the staff. The system concludes with a double bar line.

125

SOTTO CAMPANELLE  
CEL. CRESC.

ppp p pp

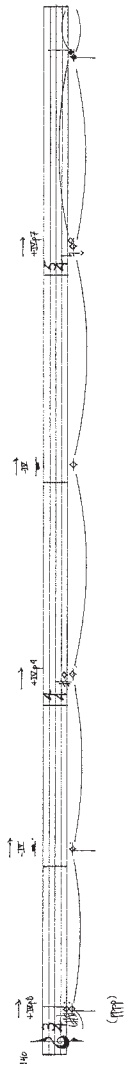
131

DELICATE (MILANSKAE)

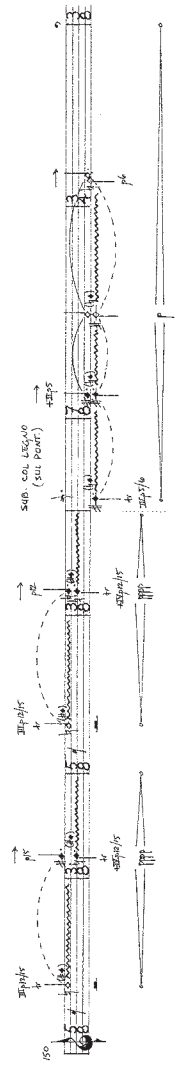
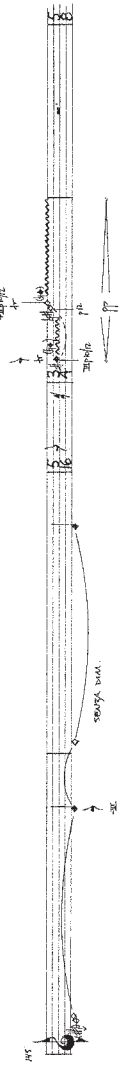
ppp pp p sf

137

ppp p



SUB. ANCHET. SUB. DOUR. (same instrument)



157 (LEGNAP SILL POINT)

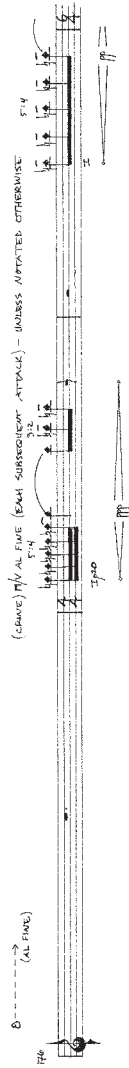
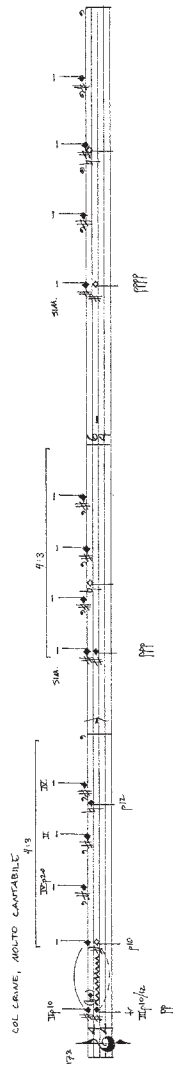
Musical score for 'LEGNAP SILL POINT' (measure 157). The score is written on a single staff with a treble clef and a 2/4 time signature. It features a series of eighth notes with slurs and dynamic markings such as *pp*, *f*, and *pp*. There are also some handwritten annotations and a small diagram below the staff.

165 SHE. ARLO CAL CRUIE (UNSA) SILL POINT: (AS THE BEGINNING)

Musical score for 'SHE. ARLO CAL CRUIE (UNSA) SILL POINT: (AS THE BEGINNING)' (measure 165). The score is written on a single staff with a treble clef and a 2/4 time signature. It includes various musical notations such as slurs, dynamic markings (*pp*, *f*), and a section marked '(pp)'. There are also some handwritten annotations and a small diagram below the staff.

165 COL LEGNAP

Musical score for 'COL LEGNAP' (measure 165). The score is written on a single staff with a treble clef and a 2/4 time signature. It features a series of eighth notes with slurs and dynamic markings such as *pp*, *f*, and *pp*. There are also some handwritten annotations and a small diagram below the staff.



Musical score system 1, featuring a grand staff with two staves. The left staff begins with a treble clef and a common time signature. The right staff begins with a bass clef and a common time signature. The music consists of two measures, each containing a complex rhythmic pattern of eighth and sixteenth notes. The first measure is marked with a dynamic of *pp* and a tempo of *Andante*. The second measure is marked with a dynamic of *pp* and a tempo of *Andante*. The system concludes with a double bar line.

Musical score system 2, featuring a grand staff with two staves. The left staff begins with a treble clef and a common time signature. The right staff begins with a bass clef and a common time signature. The music consists of two measures, each containing a complex rhythmic pattern of eighth and sixteenth notes. The first measure is marked with a dynamic of *pp* and a tempo of *Andante*. The second measure is marked with a dynamic of *pp* and a tempo of *Andante*. The system concludes with a double bar line.

Musical score system 3, featuring a grand staff with two staves. The left staff begins with a treble clef and a common time signature. The right staff begins with a bass clef and a common time signature. The music consists of two measures, each containing a complex rhythmic pattern of eighth and sixteenth notes. The first measure is marked with a dynamic of *pp* and a tempo of *Andante*. The second measure is marked with a dynamic of *pp* and a tempo of *Andante*. The system concludes with a double bar line.

265 CAL CAWNE

265

266

267

*p*

*p*

*p*

f.s.

267

268

269

*p*

*p*

*p*

6-11



Composition III: *Chamber Music N.5*

For string quartet

Duration circa [21:00]

– regarding the notation –

most of the piece is incredibly quiet – this is to be taken quite seriously, and will occasionally (if not often) result in some distortion of the material, especially given the fragility of sonority inherent in the designated timbral manipulations and realities of performance (fatigue, coordination, etc.)

when a dynamic is followed by a long dash (i.e. *p* *pass.*—), the dynamic level should be maintained for the length of a gesture, phrase, etc.

the instruments are to be muted for almost all of the piece – considerable care should be taken over the choice of mutes (wood, leather, etc.), given the prominence of this sonority throughout the work

when mute changes do occur, the significations to remove or affix the mutes are given in quasi-strict rhythm to try and avoid the sound (and theatre) of mute changes during silences – some of these are rather hurried and pose some difficulty, but as long as the actions are carried out gently and swiftly there ought to be little threat (sonorous or theatrical) to the music's sense of quiet confinement

some clarification regarding the use of *quasi sul ponticello* is probably in order: this is often paired with harmonics as a way of gaining some edge and clarity to the speaking sonorities, and should not stray too far into the brightness of a conventional *sul pont.* sound – contrastingly, *molto sul pont.* indications (and *molto sul tasto*, for that matter) should be played as severe distortions to pitch content



richochets should always be sustained for the full length of the specified duration, though some change of dynamic and attack rate is perfectly acceptable

an array of vibrato indications is used in the notation (*vibrato ordinario*, *poco vibrato*, *senza vibrato*, etc.) – these should be varied in both speed and interval size at the performer's discretion, but do keep in mind that most of the time the use of vibrato is meant as a sort of fleeting glimpse of more conventionally expressive string sonority, and should therefore never be too drastic

*vibrato espressivo* indicates a fluid range of size and speed, as suggested by the expressive energy of other local contours (pitch, rhythm, timbre, dynamics, etc.) – this should be shaped at the performer's discretion

most of the open harmonics of the piece are notated with touchpoints at the actual sounding position of the note on the string (many are beyond the fingerboard) – this is primarily to ensure as much pitch clarity as possible, especially given the quiet dynamic level of most of these sounds, but it is easier and/or more reliable for the performers to produce these harmonics at alternate nodal points on the open string (without resorting to stopped harmonic sonorities!) they may certainly do so provided the resulting pitches speak clearly

finally, the following symbols are used frequently in the notation:

(*v* *f*) change bow direction (given as an occasional reminder in the absence of bow or phrase markings)

→ maintain bow direction

⊕ choke all strings in specified rhythm

⋯ let vibrate (sometimes *al niente*)

# chamber music n.5 for string quartet

d. taekle

$\text{♩} = 52$

Violin I: *con sordino*

Violin II: *con sordino*

Viola: *con sordino*  
*col legno tratto, quasi flautando, poco vibrato*  
( $\text{V}/\text{P}$ )  
*p poss.*  
3:2  
5:4 (sibito)  
(non cresc.)

Cello: *con sordino*  
*col legno, quasi sul pont.*  
7:8  
Ilp3  
*p poss.*

The musical score on page 33 consists of four staves. The first three staves are empty. The fourth staff contains musical notation. It begins with a treble clef and a 5/4 time signature. The notation includes a series of notes with stems, some marked with accents. Above the staff, the dynamic marking *sim.* is present. Below the staff, the dynamic marking *(p pass.)* is indicated. The staff concludes with a double bar line and a 5/4 time signature. A dashed line extends from the end of the fourth staff to the right, where it meets a vertical line. To the right of this vertical line, there is a circled cross symbol. Below the staff, the dynamic marking *(non dim.)* is written.

*poco accel.* ----->

The score consists of four staves. The first staff is a treble clef with a key signature of one flat. The second staff is a bass clef with a key signature of one flat. The third and fourth staves are a grand staff (treble and bass clefs) with a key signature of one flat. The music features complex rhythmic patterns with triplets and quintuplets. Performance instructions include *col legno tratto, quasi flautando, poco vibrato* and *p poss.*. Dynamics range from *p* to *g/iss.*. A dashed arrow at the top indicates a tempo change to *poco accel.*

*col legno tratto, quasi flautando, poco vibrato*  
(V/V) *p poss.* *g/iss.*

*col legno tratto, quasi flautando, poco vibrato*  
(V/V) *p poss.* *g/iss.*

*col legno tratto, quasi flautando, poco vibrato*  
(V/V) *p poss.* *g/iss.*



*subito a tempo*

16

*sim.*  
(*p poss.*)

3:2 5:4

*sim.*  
(*p poss.*)

5:4 3:2

*sim., crine*  
(*p poss.*)

5:4

*col legato tratto, quasi sul tasto*  
(*V/M*)  
*p poss.*

5:4 3:2 3:2 5:4

(*quasi sul tasto*)

3:2 5:4

The image displays a musical score for a string instrument, likely a violin, consisting of several staves of music. The score begins with a treble clef and a 2/4 time signature. A first ending bracket labeled "21" spans the first two staves. The music is characterized by complex rhythmic patterns, including triplets and sixteenth-note runs. Performance instructions include *poco accel.*, *ritard.*, *col crine, molto cambiabile (poco vib.)*, *vib. ord.*, *gliss.*, *legno*, *crine*, *crine, senza vib.*, *crine, senza vib.*, *ppp*, and *molto sul pont.*. The score concludes with a section marked *(non cresc.)*.

*poco accel.* ----- *ritard.* -----  
col crine, molto cambiabile (poco vib.) ----- *vib. ord.* -----  
21 -----

*5:4* *3:2* *3:2* *5:4*  
*crine* *5:4* *3:2* *3:2* *3:2* *3:2*  
*gliss.* *legno* *crine* *5:4* *3:2* *3:2* *3:2* *crine, senza vib.*  
*3:2* *5:4* *3:2* *5:4* *3:2* *3:2* *5:4* *3:2* *crine, senza vib.*  
*ppp* *ppp*  
----- *molto sul pont.* -----  
*(non cresc.)*

-----> a tempo

26

sub. senza vib. 3:2 5:4

*ppp* *morendo*

legno

Vp2

legno, quasi sul pont.

Ilp3

legno sul tasto (senza vib.) 5:4

*p poss.*

legno ord. 3:2

crine, quasi sul pont. - "pure"

Il&IIp4

*p poss.*

Detailed description: This page of a musical score covers measures 26 to 30. It features five staves: Flute (Fl), Clarinet (Cl), Bassoon (Bs), Violin 2 (Vp2), and Cello/Double Bass (Ilp3). Measure 26 begins with a woodwind entry marked *ppp* and *morendo*, with fingerings 3:2 and 5:4. The woodwinds play a melodic line with a slur. The Vp2 staff has a whole note chord. The Ilp3 staff has a whole note chord. Measure 27 continues the woodwind melody. Measure 28 shows the woodwinds playing a triplet of eighth notes. Measure 29 features a woodwind entry marked *legno, quasi sul pont.* and *p poss.*, with fingerings 1&IIp4. Measure 30 continues this entry. The woodwinds play a melodic line with a slur. The Vp2 staff has a whole note chord. The Ilp3 staff has a whole note chord.



31

*sul pont.*  $6:4$

*poco vib.*  $5:4$  *...senza*  $3:2$  *...poco*  $5:4$  *...senza*  $5:4$  *(sul pont.)*  $5:4$  *(senza vib.)*  $5:4$  *ord.*

*crine y legno, sul tasto*  
*poco vib.*  $3:2$   $5:4$  *ord.*  $3:2$   $5:4$  *ord.*  $3:2$

*p poss.*

*(p poss.)*

Detailed description: The image shows a musical score for a string instrument, likely a violin or viola. It consists of a main staff and a lower staff. The main staff begins with a treble clef and a measure number '31'. The first measure is marked 'sul pont.' with a time signature of 6:4. The music continues with various performance instructions: 'poco vib.' (poco vibrato) with a 5:4 time signature, '...senza' (senza vibrato) with a 3:2 time signature, '...poco' (poco vibrato) with a 5:4 time signature, and another '...senza' (senza vibrato) with a 5:4 time signature. A large bracket spans several measures, with '(sul pont.)' above it and '(senza vib.)' below it. The time signature changes to 5:4. The piece concludes with 'ord.' (ordine) and a 5:4 time signature. The lower staff contains a section titled 'crine y legno, sul tasto' (crinets and wood, on the fingerboard), starting with 'poco vib.' (poco vibrato) and a 3:2 time signature, followed by a 5:4 time signature. This section includes a triplet of notes and is marked 'ord.' (ordine) and '3:2'. The lower staff ends with a long horizontal line and the instruction '(p poss.)' (poco possibile).

The musical score is written on a grand staff with five staves. The first staff begins at measure 36 and contains the following instructions: *sul tasto* (3:2), *ord.* (6:4), *sul pont.* (5:4), *ord.* (3:2), *sul tasto*, *poco vib.*, and *senza vib.* (indicated by a dashed arrow). The second staff includes *col legno, molto sul tasto* and *pppp*. The third staff has *sul tasto* (5:4) and *pppp*. The fourth staff features *pppp* and *(quasi sub.)*. The fifth staff is marked *pppp*. The score includes various musical notations such as notes, rests, and dynamic markings.

41

*legno, quasi sul pont.*  
1Vp4  
**p** *poss.* —

*crine*  
1Iln3  
**ppp** —

*legno, quasi sul pont.*  
1Vp4  
**p** *poss.* —

*crine*  
1Iln3  
**ppp** —

Detailed description: The image shows a musical score for four staves. The first two staves are empty. The third and fourth staves contain musical notation. The third staff has a treble clef and a dynamic marking of **p** (piano) with the instruction *legno, quasi sul pont.* and *1Vp4 poss.* below it. A note is marked with an accent (>). The fourth staff has a treble clef and a dynamic marking of **ppp** (pianissimo) with the instruction *1Iln3* below it. A note is marked with an accent (>) and the word *crine* is written above it. The notation continues across the staves with various dynamics and performance instructions.

46

*crine, quasi sul ponti.*

*ppp*

*crine, quasi sul ponti.*

*ppp*

*legno 3:2*

*ppp*

*pp*

*pp*

- STILL -

Detailed description: This page contains a musical score for strings, measures 46 through 49. Measure 46 features a treble clef with a whole note chord consisting of G4, B4, and D5. Measure 47 has a similar chord. Measure 48 begins with a 'legno 3:2' instruction, showing a triplet of eighth notes (G4, B4, D5) followed by a half note G4. The dynamic is *ppp*. Measure 49 continues with a half note G4, then a whole note chord of G4, B4, and D5, with a dynamic of *pp*. The score includes performance instructions: 'crine, quasi sul ponti.' above measures 46 and 47, and '- STILL -' centered between measures 47 and 48. The dynamics *ppp* and *pp* are placed below the notes in measures 46, 47, 48, and 49 respectively. The string parts are represented by five staves each.

51

(senza dim.)

*p* poss.—

IVp4

(senza dim.)

*p* poss.—

legno, molto sul pont.

III&IVp8

*p* poss.— (non cresc.)

legno, molto sul pont.

3,2

*p* poss.— (non cresc.)

- GP -

- GP -

- GP -

- GP -

Detailed description: This musical score page contains four systems of staves. The first system shows a treble clef staff with a measure containing a note with a fermata and a dynamic marking of *p* poss.—. Above the staff, there are performance instructions: "(senza dim.)" and "IVp4". The second system is similar, with "(senza dim.)" and "*p* poss.—" above the staff. The third system features a woodwind staff with a dynamic marking of *p* poss.— (non cresc.) and the instruction "legno, molto sul pont." above it. The fourth system is similar, with "legno, molto sul pont." and "III&IVp8" above the staff. On the right side, there are four vertical labels: "- GP -", "- GP -", "- GP -", and "- GP -".

55

legno ord.  
senza vib. → poco vib. 3:2

crine, sul pont.  
senza vib. 3:2

*p* poss.

crine

crine, sul tasto, senza vibrato

sempre *p* poss.

crine, sul tasto, senza vibrato

sempre *p* poss.

double g/iss.

double g/iss.

crine

III&Vp5  
I&IIp3

sempre *p* poss.

5:4

The image shows a musical score for a piece titled "crine". It consists of four systems of music. The first system is for woodwinds, with a part for "legno ord." (woodwind) and a part for "crine, sul pont." (crine, sul ponticello). The woodwind part starts at measure 55 and includes a dynamic marking of *p* poss. and a vibrato instruction "senza vib." that changes to "poco vib." with a 3:2 ratio. The crine part also has a 3:2 ratio and a dynamic marking of *p* poss. The second system is for strings, with a part for "crine, sul tasto, senza vibrato" and a dynamic marking of *p* poss. The third system is for strings, with a part for "crine, sul tasto, senza vibrato" and a dynamic marking of *p* poss. The fourth system is for strings, with a part for "crine" and a dynamic marking of *p* poss. The crine part in the fourth system includes fingering instructions: III&Vp5 and I&IIp3. There are also two instances of "double g/iss." (double glissando) markings. The score ends with a 5:4 ratio marking.

60

*ord., poco vib.*  
*senza vib.*  
3:2  
*p poss.*

*double g/fiss.*

*(non cresc.)*

III&Vp7  
I&IIp2  
III&Vp5

→ sul pont.  
→ poco vib.  
65

legno, sul pont.  
senza vib.

ord., poco vib.  
5:4

*p* poss.

(non dim.)

double gliss.

double gliss.

quasi sul pont.  
(stopped pitches)

III&IV p4





70

crine, ord.  
senza vib.

poco, senza vib.

5:4

*ppp*, *p* poss.

- STRIKING -

legno, ord. (battuto)

crine

legno, sul pont.

crine, ord.

3:2

sempre *p* poss.

arco col legno

pizz.

1Vp2

arco col legno

pizz.

IIIp2

sempre *p* poss.

75

*legno, sul pont.*  
*(senza vib.)*

*ord., poco vib.*  
5:4

*pppp*

*(legno)*  
3:2

*p poss.*

*legno*  
5:4

*legno*

*pizz.*  
3:2

*arco crine*  
3:2

*legno*  
3:2

*crine*

*legno, sul pont.*

*molto sul tasto*  
3:2

*pizz.*

*arco crine*  
*ord. - - - - - pont.*

*crine ord.*

*arco, legno*  
*sul pont.*

*pizz.*  
3:2

*arco crine*  
*ord. - - - - - pont.*

*crine ord.*

*IIp2*

*I-Vp2*

80

*(legno sul pont. senza vib. 5:4 poco vib. 3:2)*

*crine ond. senza vib. 5:4*

*pppp*

*p poss.*

*legno*

*legno*

*legno*

*legno*

*crine ond. 5:4*

*crine ond. 5:4*

*arco pizz. crine 1*

*pizz. ond.*

*crine ond. pont.*

*pizz.*

*arco col legno battuto*

*legno battuto*

*crine ond. pont.*

*(single hit)*

*(single hit)*

*(let ring beyond length of attack)*

III p3 IV p2 IV p2

Detailed description of the musical score: The score is written for four staves. The first staff is a woodwind part (likely flute or piccolo) with notes and rests. Above it are performance instructions: '(legno sul pont. senza vib. 5:4 poco vib. 3:2)' and 'crine ond. senza vib. 5:4'. The second staff is a woodwind part with notes and rests. Above it are instructions: 'legno', 'crine ond. 5:4', 'arco pizz. crine 1', and 'pizz. ond.'. The third staff is a string part with notes and rests. Above it are instructions: 'pizz.', 'arco col legno battuto', and 'legno battuto'. The fourth staff is a string part with notes and rests. Above it are instructions: 'legno', 'crine ond. pont.', and '(let ring beyond length of attack)'. The score includes dynamic markings 'pppp' and 'p poss.', and fingering indications 'III p3', 'IV p2', and 'IV p2'. The number '80' is at the beginning of the first staff.

85

*poco vib.*  $\frac{3:2}{5:4}$  *legno, sul pont. senza vib.* *p poss.* *ppp*

*arco col legno*  $\frac{3:2}{5:4}$  *ppp*

*crine, ond.*  $\frac{3:2}{5:4}$  *pizzo, sul tasto poss.* *p poss.*

*double gliss. + ricochet* *ppp*

*crine, ond.*  $\frac{3:2}{5:4}$  *pizzo, sul tasto poss.* *p poss.* *ppp*

*double gliss. + ricochet*

Detailed description: The image shows a musical score for a string instrument, likely a violin or viola, across four systems. The first system (measures 85-86) features a tremolo (poco vib.) and a woodblock-like effect (legno, sul pont. senza vib.) with a ppp dynamic. The second system (measures 87-88) continues with arco col legno and ppp dynamics. The third system (measures 89-90) introduces crine, ond. and pizzo, sul tasto poss. with p and ppp dynamics. The fourth system (measures 91-92) features crine, ond. and pizzo, sul tasto poss. with p and ppp dynamics, and includes double gliss. + ricochet techniques. The score is written in a single staff with a treble clef and a key signature of one flat (B-flat).

90

*crine ord.  
senza vib.*

*legno, sul tasto  
senza vib.*

*ppp*

*p poss.*

*5:4*

*5:4*

*5:4*

*5:4*

*arco  
pizz. (crine)*

*p poss.*

Detailed description: This is a musical score for a string instrument, likely a violin or viola, covering measures 90 to 93. The score is written on a single staff with a treble clef. Measure 90 begins with a dynamic marking of *ppp* and includes the instruction *crine ord. senza vib.* above the staff. The first two notes of measure 90 are marked with a *3:2* ratio. Measure 91 features a *p poss.* dynamic marking and a *legno, sul tasto senza vib.* instruction. A large slur spans across measures 90 and 91. Measure 92 contains a *5:4* ratio marking above the staff. Measure 93 includes a *5:4* ratio marking, an *arco pizz. (crine)* instruction, and a *p poss.* dynamic marking. The score concludes with a fermata over the final note of measure 93.

95 *ond.*  
*senza vibrato* → *poco vib.* → *senza vib.* → *poco*  
*ppp* *p* *ppp*  
*5:4* *3:2* *5:4*  
*(crine)*  
*senza vib.* → *poco vibrato* → *senza vibrato*  
*ppp* *p* *ppp* *p poss.*  
*5:4* *3:2* *5:4*  
*legno*  
*arco col legno, molto sul pont.*  
*(//) (•)* *3:2* *etc.*  
*ppp*  
*pizz. arco* *pizz.* *pizz.*  
*3:2* *5:4* *3:2*  
*sim.* *arco* *pizz.*  
*3:2*

100

legno, vib. ord. 3:2 ppp

crine 5:4 (ppp)

subito legno, molto sul tasto senza vibrato 3:2 ppp sub. p poss.

crine, molto sul pont. poco vib. (V/M) 5:4 p poss.

vib. ord. sub. senza vib. 3:2 ppp sub. ppp

5:4 3:2 Np4 sim. ppp

crine, ord. 5:4 ppp

pizz. al niente

Detailed description: This musical score is for a woodwind instrument, likely a bassoon or clarinet, and is divided into four systems. The first system (measures 100-103) features a woodwind line with a tremolo (vib. ord.) and a woodwind part (legno) playing a triplet (3:2) of eighth notes. The second system (measures 104-107) continues the woodwind line with a tremolo and a woodwind part (crine) playing a quintuplet (5:4) of eighth notes. The third system (measures 108-111) shows the woodwind line with a tremolo and a woodwind part (crine) playing a triplet (3:2) of eighth notes. The fourth system (measures 112-115) features a woodwind line with a tremolo and a woodwind part (crine) playing a quintuplet (5:4) of eighth notes. The score includes various dynamic markings (ppp, pp, p) and performance instructions such as 'subito legno, molto sul tasto senza vibrato' and 'crine, molto sul pont. poco vib.'. The piece concludes with a 'pizz.' (pizzicato) instruction and 'al niente' (fading out).

105

*crine poco vib.*

*legno senza vib.*

*p*

*sub. pp*

*pppp*

*GP-*

(set down bow)

*GP-*

*GP-*

*GP-*

*pizz.*

*arco col crine*

*al niente*



109

*crine ord. → pont.*

*legno, sul pont.*

*p poss.*

*pizz. sul tasto senza arpeggio poss.*

*5:4*

*sempre p poss.*

*legno, sul pont.*

*(V/II)*

*pp*

*3:2*

*5:4*

*crine*

*1&1p2*

*p poss.*

*sim.*

*legno, sul pont.*

*(V/II)*

*pp*

*3:2*

*crine*

*III&IVp7*

*pppp*

*p*

(pick up bow)

114

*crine*

legno, sul pont. *p poss.*

III&IV<sup>7</sup> *p poss.*

arco col legno, sul pont. *p poss.*

*crine, ord.*  
*poco vib.* *mp*

legno, sul pont. *p poss.*

*crine, sul pont., molto flautando* *mp*

legno *p* *ppp*

*poco vib.* *mp*

sul tasto, vib. ord. *ppp*

*mp*

118

*pizz., sul tasto*  
5:4

*sim.*

*arco col crine, ord.*

*p poss.*

*G1V62*

*p poss. - al niente*

*3:2*

*5:4*

*pizz., sul tasto*

*p poss.*

*ppp*

*subito col legno, sul tasto, non flautando (gramy)*

*p poss.*

*crine, sul tasto, flautando*

*3:2*

*5:4*

*p*

*pp*

*ppp*

*pizz., sul tasto*

*p poss.*

*ppp*

122

(V) (p poss.)

sub. legno, poco vib.

ppp p

ppp

123

pizz. ord. 3:2

arco col crine

legno, molto sul pont.

p poss.

ppp

124

legno, molto sul pont.

(non dim.)

ppp

125

pizz. ord. 3:2

arco col crine, sul pont.

ppp

ppp

ppp

127

*legno, ord. - molto cantabile*  
*vib. ord.*

*(non dim.)*

*pppp* *p* *pppp*

3:2 5:4 5:4 9:8

*crine, ord. - molto cantabile*  
*vib. ord.*

*(non dim.)*

*pppp* *pppp*

3:2 5:4 3:2

*crine, ord.*

*pp* *pp* *pp* *pp*

*crine* *crine* *crine*

*sim.* *p poss.* *p poss.*

*pppp* *pppp*

*crine* *crine*

*p poss.* *p poss.*

Detailed description: The image shows a page of a musical score for measures 127-130. It features four staves. The top staff is for woodwinds (legno, ord. and vib. ord.) with dynamics pppp, p, and pppp. The second staff is for strings (crine, ord. and vib. ord.) with dynamics pppp and pppp. The third staff is for woodwinds (crine, ord.) with dynamics pp and ppp. The bottom staff is for strings (crine) with dynamics pppp and pppp. Various articulation marks like accents and slurs are present. Measure numbers 127, 128, 129, and 130 are indicated at the beginning of their respective staves.

132 crine

*p poss.*

*pppp*

*molto flautando*

3:2 5:4 9:8 3:2

*sempre p poss.*

crine, quasi sul pont.

*p poss.*

5:4 3:2

*pppp*

IIIp3 IVp2 IIIp4

*sempre p poss.*

crine, quas sul pont.

*p poss.*

IIIp6 IVp7 IIIp7 IVp7

*sempre p poss.*

crine, quas sul pont.

*p poss.*

IIIp7 IVp8 IIIp4 IVp8

*sempre p poss.*

136

crine sul pont. *p poss.* *pppp* sub. *p poss.*

legno

sul tasto pizz.

arco col legno

legno

*p poss.*

quasi sul pont.

senza sord.

sul tasto poco vib.

IVp4

(non dim.)

flecting

pizz. sul tasto

arco col crine

senza sordino

IVp7

ppp

sul pont. (rich)

flecting

pizz. sul tasto

arco col crine

senza sordino

IIIp6 IVp7

IIIp7 IIIp6 IIIp7

IVp8

ppp

sul pont. (rich)

sim.

sim.

crine, ord.

1-40

IV

3:2

5:4

3:2

5:4

II

3:2

5:4

7

III

3:2

5:4

crine

*pppp*

crine

con sordino

*p poss.*

crine

con sordino

*p poss.*

crine

*p poss.*

- GP -

- GP -

- GP -

- GP -

*p poss.*

Detailed description: This is a musical score for a string quartet, specifically for the 'crine' (violin) part. The score is written on four systems of staves. The first system includes a treble clef with the number '1-40' above it. The notation is in 4/4 time and features complex rhythmic patterns with various rests and notes. Performance markings include 'crine, ord.', 'pppp', 'con sordino', and 'p poss.'. There are also four 'GP' (Grand Pause) markings, one at the beginning of each system. The score includes various musical notations such as slurs, accents, and dynamic markings. The page number '61' is located in the top right corner.



The image shows a musical score for a string instrument, likely a violin or viola, with a main staff and three empty staves below it. The main staff contains the following elements:

- Staff 1 (Main):** Contains the primary musical notation. It starts with a treble clef and a key signature of one sharp (F#). The score includes various notes, rests, and articulation marks. Key performance instructions include:
  - legno, sul tasto* (written above the staff)
  - crine ord.* (written below the staff)
  - sul pont.* (written below the staff with a dashed arrow pointing to the right)
  - ppp* (written below the staff)
  - p poss.* (written below the staff)
- Fingerings:** Roman numerals I, II, III, and IV are placed above or below notes to indicate fingerings. Specific fingerings include 3-2, 3-2, 3-2, and 5-4.
- Articulation:** A dashed oval encloses a group of notes, and a dashed arrow points to the right from the *sul pont.* instruction.
- Staff 2:** An empty treble clef staff.
- Staff 3:** An empty bass clef staff.
- Staff 4:** An empty treble clef staff.

150

*legno*

V

senza sordino

*ppp ppp*

(*con sord.*)

*legno, quasi sul pont*

-III

III&IV p4

*p poss.*

(*con sord.*), *legno*

IV p2

*ppp*

(*non dim.*)

155

(senza sord.)  
legno, sul tasto

con sordino

legno

IVp2

*pppp*

*p poss.*

legno, sul tasto

*pppp*

legno, sul pont., senza vib.

9-8

*p poss.*

legno ord. sul pont.

5-6 5-4

con sordino

crine

senza sordino

IVp3

*pppp*

*p poss.*

legno ord. sul pont.

5-6 5-4

con sordino

crine, ord.

IVp7

*pppp*

*p poss.*

sim.

sim.

sim.

sim.

Detailed description: This page contains a musical score for woodwinds and strings, measures 155-160. The score is written in treble clef with a 3/4 time signature. It features five staves. The first staff is for woodwinds (legno) and strings (crine), with dynamics ranging from *pppp* to *p poss.*. The second staff is for woodwinds (legno) and strings (crine), with dynamics ranging from *pppp* to *p poss.*. The third staff is for woodwinds (legno) and strings (crine), with dynamics ranging from *pppp* to *p poss.*. The fourth staff is for woodwinds (legno) and strings (crine), with dynamics ranging from *pppp* to *p poss.*. The fifth staff is for woodwinds (legno) and strings (crine), with dynamics ranging from *pppp* to *p poss.*. The score includes various performance instructions such as 'con sordino', 'senza sordino', 'legno, sul tasto', 'legno, sul pont., senza vib.', and 'legno ord. sul pont.'. It also includes fingering numbers (5-6, 5-4) and bowing/playing techniques (sim., 9-8).

160

*crine, sul pont.*  
7-6  
**p** poss.

**p** poss.

*legno*  
*ord.*  
4,3  
**p** poss.

*crine, sul tasto*  
**pppp**

*crine, ord., con vib.*  
**p** poss.

*crine, sul pont.*  
*sim. sul tasto*  
*quasi sul pont.*  
1Vp7

*crine, sul pont.*  
*legno, sul tasto*  
*poco vib.*  
5-6  
**pppp**

*crine, sul pont.*  
1Vp7  
**pppp**

*crine, sul pont.*  
1Vp7  
**p** poss.

165 *senza sordino*

166 *(con sord.) ord., poco vib.*  
*(V/II) 5:4* *p pass.* 3:2

167 *(con sord.) ord. (with warmth)*  
*ppp* *(V/II) 5:4*

168 *(senza sord.) ord.*  
*(V/II) 5:4* *IVp6 sim.* 3:2 *p pass.*

170 *p* *quasi sul pont.*  $\left(\frac{3}{4}\right)$  5.4 188 1p7 *p poss.*

*sim.* 5.4 *legno* *senza sordino* 5.4 *sub. ppp* *senza vibrato until notated otherwise*

*ppp* *senza sordino*

*sim.* 5.4 *legno* 5.4 *sub. ppp* *senza vibrato until notated otherwise*

175

(without faltering)

*crine, sul tasto*

*con sordino*

*ppp*

*legno, sul pont.*  
*flautando*

*p pass.*

*crine, sul tasto*

*ppp*

*legno, sul pont.*  
*flautando*

*p pass.*

*con sordino*

180

(con sord.)  
crine, sul tasto

senza sordino

IVp2  
**p** pass.

(senza sord.)  
legno, sul tasto

crine, sul tasto

**p** pass.

crine, sul tasto

pppp

pppp

III&IV/p4



185

*quasi sul pont.*  
IV p2  
**ppp**

[con sordino]

*quasi sul pont.*  
I&II p2  
**ppp**

190

con sordino

(con sord.) crine, sul tasto

*p* poss.

(senza sord.) legno, sul tasto

*p* poss.

The image shows a musical score for piano, oriented vertically. It consists of four staves. The first three staves are empty, with the number '190' written to the left of the first staff. The fourth staff contains musical notation for a piano passage. Above the first two notes of this staff, there is a box containing the text 'con sordino'. Below the first two notes, there is a line of text: '(con sord.) crine, sul tasto'. Below the last two notes, there is another line of text: '(senza sord.) legno, sul tasto'. The dynamic marking '*p* poss.' appears twice, once below the first two notes and once below the last two notes. The notes are beamed together in pairs, with a slur over each pair.

195

(con sord.) crine, ord. *pppp* *legno, sul tasto* [senza sord.] . . . . . (not here!)  
 (con sord.) crine, ord. *pppp* *legno quasi sul pont.* *crine sul tasto poss.* *IV* *pppp* *p poss.*  
 [con sordino] *legno quasi sul pont.* *sim. 3:2* *pppp* *III&IV/IV* *p poss.*

200

(senza sord.) crine, ord. *ppp*

sul tasto *p* poss.

ord. 3:2 *ppp*

[con sord.] (not here!) *p* poss.

legno, quasi sul pont. *p* poss.

(con sord.) crine, sul tasto *p* poss.

legno, sul pont. 3:4 *p* poss.

quasi sul pont. *p* poss.

[con sord.] (senza sordino) *p* poss.

sim. 3:2 *ppp*

legno, sul pont. 5:4 *p* poss.

(senza sord.) crine, ord. *ppp*

IVps  
IIIb3

205

(...wait until here) *senza sord.* *crine, ord.* *pp* *sul tasto* *p pass.* (...wait until here) *con sord.*

(no faltering)

(con sord.) *crine, ord.* *pp* *sim.* *il & illo 2 ppp*

(no faltering)

*crine, ord.* *con sord.* *sul tasto* *p pass.* *sim.* *ppp*

210

(tutti con sordino al fine)  
con sordino

legno, sul pont.  
5:4  
**p** poss.

legno, sul tasto  
sempre **p** poss.

legno, sul pont.  
5:4  
**p** poss.

legno, sul tasto  
sempre **p** poss.

215

The musical score consists of four systems of staves. The first system (measures 215-216) features a *crine, ord.* part with a *p poss.* dynamic. The second system (measures 217-218) features a *legno, quasi sul pont.* part with a *p poss.* dynamic. The third system (measures 219-220) features a *crine, ord.* part with a *p poss.* dynamic. The fourth system (measures 221-222) features a *crine, sul tasto* part with a *p poss.* dynamic. The fifth system (measures 223-224) features a *legno, ord.* part with a *p poss.* dynamic. The sixth system (measures 225-226) features a *legno, ord.* part with a *p poss.* dynamic. The seventh system (measures 227-228) features a *crine, sul tasto* part with a *p poss.* dynamic. The eighth system (measures 229-230) features a *legno, ord.* part with a *p poss.* dynamic. The score includes various musical notations such as notes, rests, and dynamic markings.

*crine, ord.*  
*p poss.*

*legno, quasi sul pont.*  
*p poss.*

*crine, ord.*  
*p poss.*

*crine, sul tasto*  
*p poss.*

*legno, ord.*  
*p poss.*

*legno, ord.*  
*p poss.*

*crine, sul tasto*  
*p poss.*

*legno, ord.*  
*p poss.*

220

legno, ord.  
poco vib.

3:2

$\diamond$

*p*

*ppp*

crine, ord.  
senza vib.

sim., poco vib.

3:2

$\diamond$

*p*

*ppp*

crine, ord.  
senza vib.

sim., poco vib.

$\diamond$

*p*

*ppp*



225

legno, molto sul pont.  
 III&IVps  
 p. poss.

crine, ord.  
 sempre p. poss.

crine, ord.  
 sempre p. poss.

legno, sul pont.  
 3,2  
 p. poss.

legno, sul pont.  
 3,2  
 p. poss.

legno, molto sul pont.  
 III&IVps  
 p. poss.

sim  
 IIIp?  
 IVp?  
 p. poss.

(non cresc.)

(non cresc.)

230

crine, quasi sul pont.

legno ord. — pont.

*p* poss. —

*llp4* (*p* poss.)

legno (single bow) 3:2

crine, ord. 5:4

*p* poss. —

*sim.* 5:4

legno, molto sul pont.

*lll&Vp5* (*p* poss.)

*llp7* *llVp8* (*p* poss.)

legno, molto sul pont.

*crine, ord.*

legno (non cresc.)

*crine, ord.*

*llp7* *llVp8* (*p* poss.)

*sim.*

legno

*crine, ord.*

*llp7* *llVp8* (*p* poss.)

legno 3:2

*crine, ord.*

*lll&Vp4* (*p* poss.)

legno, ord. (gentle)

*lll&Vp4* (*p* poss.)

*sempre p* poss.

Musical score for measures 234-237, featuring crine and legno parts. The score is written for two systems, each with a crine and legno part. Measure 234 includes a crine part with a *p* dynamic and a *legno, ord.* part. Measure 235 features a *legno* part. Measure 236 includes a *legno (legno)* part. Measure 237 features a *crine* part with a *p* dynamic. The score includes various musical notations such as slurs, ties, and dynamic markings.

234 *crine, ord.*  
*p* poss.—

*legno* *5:4*  
*(non cresc.)*

*crine* *3:2*  
*(p* poss.)

*legno*

*crine* *3:2*  
*(p* poss.)

*legno (legno)* *3:2*

*crine* *3:2*  
*(p* poss.)

crine, sul pont.   
 arco, sul tasto poss. senza vib.   
 p poss. —

crine, ond.   
 pizz. 5:4   
 arco 3:2   
 pizz., con vib. 5:4   
 p poss. —

ppp

legno 5:4   
 quasi sul pont.   
 flautando   
 (legno) ond.   
 crine 5:4

legno 5:4   
 quasi sul pont.   
 flautando   
 (legno) ond.   
 crine 5:4

legno   
 sempre p poss. —

arco col legno   
 molto sul tasto   
 poco vib.   
 (p poss.)

244

legno, ord.  
poco vib.  
**p poss.**

crime, sul tasto  
poco vib.  
**p poss.**

legno, poco vib.  
3:2  
**(p poss.)**

legno, ord.  
poco vib.  
**b**  
crime  
llp3  
**p poss.**

(legno) ord.  
poco vib.  
3:2  
**(p poss.)**

249

senza vib.

*pp*

*ritard.*

legno

*p poss.*

*(p poss.)*

*ppp*

*(p poss.)*

*ppp*

legno

flp3

*p poss.*

Detailed description: This musical score page contains four staves. The first staff is a treble clef with a 249 measure marker. It features a woodwind instrument (legno) with a dynamic of *pp* and a *senza vib.* instruction. A *ritard.* instruction with a dashed arrow points to the right. The second staff is also a treble clef, with a woodwind instrument (legno) playing a *p poss.* note. The third staff is a bass clef, with a woodwind instrument (legno) playing a *(p poss.)* note and a string instrument playing a *ppp* note. The fourth staff is a treble clef, with a woodwind instrument (legno) playing a *p poss.* note and a string instrument playing a *ppp* note.

254

$\bullet = 44$  (*al fine*)

*cantabile*  
*vibrato espressivo*

*p* poss.

*p*

*vibrato espressivo (very rich)*

*p* poss.

*cresc. vibrato espressivo (very rich)*

*p* poss.

*poco*

*poco*

259

*(p poss.)*  $\overbrace{5:4} \quad \overbrace{3:2} \quad \overbrace{4:3} \quad \overbrace{4:3} \quad \overbrace{3:2}$  *p poss.*

*cantabile*  
*crine*  
*vibrato espressivo*

*p poss.*  $\overbrace{3:2} \quad \overbrace{5:4}$  *p poss.*  
*(p poss.)* *ppp* *poco a poco cresc. a misure 268*

*p poss.* *(p poss.)* *ppp* *poco a poco cresc. a misure 268*

*p poss.* *(p poss.)* *ppp* *poco a poco cresc. a misure 268*



264

*molto espressivo*

*(p poss.)*

*pp*

*molto espressivo*

*pp*

*molto espressivo*

*pp*

*molto espressivo*

*pp*

Detailed description of the musical score: The score consists of two systems, each with a treble and bass staff. The first system (measures 264-267) features a treble staff with a triplet of eighth notes (3:2) and a slur over a phrase. The bass staff has a long note with a slur. The second system (measures 268-271) continues the treble staff with triplets (3:2) and slurs, and the bass staff with a long note. Dynamic markings include 'molto espressivo' and 'pp' (pianissimo). A dashed arrow points from the first 'pp' marking to the second.

209

*espressivo*  
*ppp*  
*poco*  
5:4 3:2 5:4 3:2  
*cold*  
*col legno*  
*sub. p poss.*

*espressivo*  
*ppp*  
*poco*  
5:4 3:2 5:4 3:2  
*cold*  
*col legno*  
*sub. p poss.*

*espressivo*  
*p* (*sub. pp*)  
*sub. p poss.*  
*ppp* *sub. pppp*

*espressivo*  
*p* (*sub. pp*)  
*sub. p poss.*  
*ppp* (*rich*) *sub. pppp* IVp3 *p poss.*

274 (V/♩) 5:4 3:2

(V/♩) 5:4 3:2

cold  
col legno  
*p poss.*

cold  
col legno  
*p poss.*

II&IIIp2

- GP -

very warm  
col crine  
*ppp*

(non cresc.)

- GP -

very warm  
col crine  
*ppp*

(V/♩)

very warm  
col crine  
vibrato espressivo

*ppp*

poco a poco cresc. a measure 283

very warm  
col crine  
vibrato espressivo

- GP -

*ppp*

poco a poco cresc. a measure 283

279

5:4 3:2

5:4 5:4

3:2 5:4

(non cresc.)

pp

pp

pp

284  
very cold  
(♯)

*p* poss.—

subito col legno, quasi sul pont.  
subito senza vibrato

sim., molto sul pont.

sub. *p* poss.

subito col legno, quasi sul pont.  
subito senza vibrato

sim., molto sul pont.

sub. *p* poss.

289

(non cresc.)

*crine, quasi sul pont., poco vib.*  
5:4 3:2  
senza vib. 5:4  
*legno, poco vib.* 5:4

*sempre p* poss.

*crine, quasi sul pont., poco vib.*  
5:4 3:2  
senza vib. 5:4  
*legno, poco vib.* 5:4

*sempre p* poss.

*crine, quasi sul pont.*  
5:4  
*sempre p* poss.

204

crme. ord.

*p* mos.

3.2

5.4

3.2

*ppp*

209

legno

3:2

crine

5:4

*ppp*

*p* poss.

Detailed description: This musical score page contains measures 209 through 212. Measures 209, 210, and 211 are for woodwinds (labeled 'legno') and consist of rests. Measure 212 is for strings (labeled 'crine') and contains a triplet of eighth notes followed by a quarter note. The triplet is marked with a '3:2' ratio and the dynamic 'p poss.'. The quarter note is marked with a '5:4' ratio and the dynamic 'ppp'. The page number '209' is at the top left, and the page number '93' is at the top right.



The image shows a musical score for a woodwind instrument, likely a flute or clarinet, with a vocal line. The score is oriented vertically on the page. The vocal line is on the right, and the woodwind line is on the left. The vocal line has lyrics "crime" and "p poss." and includes a 3:2 ratio marking. The woodwind line has markings "legno" and "p poss." and includes three sets of five vertical lines representing fingerings. The number "304" is written vertically on the left side of the woodwind staff.



309

*pizz. sul tasto poss.*  
sempre **p** poss.

*arco quasi sul pont.*  
**p** poss.

*crine, ord.*  
sempre **p** poss.

*pizz. sul tasto poss.*  
sempre **p** poss.

*legno*  
**ppp** *p* poss.

314 *sul tasto poss., senza vib.*  
*p poss.—*

312 *sul tasto* *—* *sul pont.*  
*poco vib.* *—* *senza vib.*  
*p poss.—*

*arco col legno, quasi sul pont.*  
*p poss.—*

The image shows a musical score for a string instrument, likely a violin or viola, in 3/4 time. The score is divided into two systems. The first system, starting at measure 314, features a melodic line on a single staff with a dynamic marking of *p poss.—* and the instruction *sul tasto poss., senza vib.*. The second system, starting at measure 312, shows a more complex texture with two staves. The upper staff has a dynamic marking of *p poss.—* and instructions *sul tasto* and *sul pont.*, with a *poco vib.* marking above the first measure and *senza vib.* above the second. The lower staff has a dynamic marking of *p poss.—* and the instruction *arco col legno, quasi sul pont.*. A dashed line connects the two systems, indicating a continuation of the piece.

319 *crine, ord.  
senza vib.*

*p poss.*

*crine, sul pont.  
senza vib.*

*poco vib.*

*p poss.*

*5:4*

*5:4*

322

5:4 5:4 5:4 5:4 5:4 5:4 5:4 5:4 5:4 5:4

3:2 3:2 3:2 3:2 3:2 3:2 3:2 3:2 3:2 3:2

ord. sul ponticello

quasi sul pont. (senza vib.)

p poss.

legno, sul pont. p poss.

The musical score is written for a string quartet and woodwinds. The string parts are in the upper staves, and the woodwind parts are in the lower staves. The score is in 4/4 time and features a variety of rhythmic patterns and articulations. The woodwind parts enter later in the piece, with specific performance instructions.

326 *p*

*crine, quasi sul pont.*

*p*

*p pros.*

*sim., molto sul pont.*

*p pros.*

5/4

The image shows a musical score for a piano piece. The score is oriented vertically on the page. It begins with a treble clef and a key signature of one flat (B-flat). The first measure contains a half note G4, followed by a half note F4 in the second measure, a half note E4 in the third measure, and a half note D4 in the fourth measure. Each of these four notes is marked with a piano dynamic (p). The notes are connected by a long, continuous slur that spans the entire vertical staff. Below the first measure, there are three empty staves, each with a treble clef, indicating a continuation of the piece on the next page.

336

sub. poco vib. (cantabile)

(p poss.)

8:4

3:2



Thought – Labor – Influence

Notation and Secrets as Compositional Impetus in My Recent Music

## Introduction: On Notation

The written portion of this dissertation is primarily intended as a commentary on the portfolio of compositional works that forms its core, guiding the reader through the intricacies and salencies of the notations (especially taking into account the absence of recordings) while providing relevant information concerning the processes of composition. Nonetheless, given the fact that each of these works is founded on a recurring set of notational principles, a rough outline of my philosophical stance toward the art of notation would be beneficial before moving into any detailed accounts of the technical manifestations of my ideas. These fundamental tenets are centered around notation's unique abilities to foster particular creative energies when one is engaged with the imagination and realization of musical sonority, and are addressed in some detail in the essay on notation written as a portion of my qualification examination; for the purposes of this document I shall simply highlight the essential points.

It is easy to view notation merely as an essential pragmatic tool in Western musical practices – one of communication, typically between composers and performers, and representation, typically of precise sounds. After all, the origins of notation lie with its ability to function as a mnemonic device for recalling musical information that had previously been committed to memory. As notational practices gained variety and complexity, however, and in many cases were codified into widely accepted conventions, the documentary act of notation gradually turned into a more

dynamic process, separating it from its initial mnemonic purpose. In short, rather than functioning as a visual reminder of *actual* sonorous experience, notation eventually came to be used as representation of *imagined* sonorous experience as well – notation became, in and of itself, a way of engaging creatively with musical sonority, of composing. This independence also has ramifications in the realization of notated sonorities, especially when such realizations are made in live performance. For if the creative potentialities of composition-as-notation are rooted in making (and subsequently reconsidering and enriching) visual entities, the responsibility of deciding on the precise sonorous realization of a work is delegated to the innate musicality of a performer. Musical outcomes now exist as potential to be realized rather than concrete sonority to be recalled. In the course of performing notations, musicians rely largely upon a subjective arsenal of musical tendencies—that is, their own ability to imagine sonority based on past experience—to translate notational images into physical actions that lead to sound, inflecting the “absolute” qualities of codified notations into nuanced interpretations. This is the paradigm that we are most familiar with today.

In this light, all notations can be viewed as interplay between sonorous and visual meanings; composing with notation also involves certain elements of mediation. Notation makes thought “real” just as performance makes notation “real” – these are both translations of sonorous potential facilitated by subjective musical engagements. Returning to the concept of notation as a tool for capturing imagined sonorities, we can now qualify this statement by suggesting that the relationship between imagination

and image has significant influences on a composer's engagement with musical creation. There is more to this than simply recognizing notation as an outlet for creative energy: it is also a process that is not without certain resistances, simultaneously freeing and limiting one's imaginative capacities. Notation is so finite, so absolute – the need for specificity in making real the unsounded depths of imagination also imposes limitations on the unbounded potential of nebulous thought. Yet this situation is likewise not without certain merits. On the one hand, musical expression and meaning might be compromised by the visual concreteness that is necessarily a part of notational processes; on the other hand, notational images might carry the potential for previously unimaginable musical possibilities. The obvious example here is the concept of editing or revising a musical work based on an engagement with its notation, but it is also true that similar reconsiderations are present all throughout a compositional process. Even from the very outset of creative activity, every notational act recontextualizes the unfolding musical work and pilots the composer further and further down the stream of decisions that shape the total creative experience. Essentially, the blank page functions as a point of departure rather than arrival, a transfer point between abstracted ideas and specific sounds, whether imagined or real.

In claiming that the process of notation might be a singularly important factor in a composer's creative engagement with real or imagined sonorous material, we are not at all limiting this understanding to the results of notational labor (that is, the images themselves). Rather, the very act of drawing—the physical application of a

writing implement unto a sheet of paper—affords a wondrous, tactile experience that, in and of itself, forms a significant component of the creative power of notation.

There is a special richness in the physicality of translating musical ideas from nebulous thought into physical images, one made all the more meaningful and profound given the innate resistances of the act: the fallibility and limitation of paper and writing tools amplify the psychological resistances and richnesses of creative decision making. At the same time, the physicality of drawing lends itself readily to spontaneity, continuity, and development.

Throughout the history of Western music, composers have dealt with the creative potentialities of notation—that is, the complex relationship between sound and image—in a variety of ways, balancing the freedoms and limitations of imagining and drawing to different degrees. My own compositional endeavors have tended toward fairly dynamic relationships between visual- and sonorous-based streams of decision-making, generally shaped into an overall process that begins with two entirely independent sets of ideas—one visual and one sonorous—and then works toward a dialectical resolution of this fundamental abstraction, always with the manual labor of notation forming an essential component of the decision-making process. The three works of this dissertation are not only examples of such process, but in fact are also all derived from engagements with the same visual impetus – a pencil drawing with its own set of notational resistances and enrichments. The next portion of this commentary will focus on this “visual architecture,” as I came to call it, with a description of the drawing itself, various aspects of inspiration and decision-making

that led to its composition, and some potential ramifications for the subsequent inspirations and streams of decision-making involved in the composition of the three sonorous works.

## General Overview of the Dissertation Project and Analysis of the Visual Architecture

The three pieces that comprise the present portfolio—each the fifth installment in a respective series of works (*Concert Music N.5*, *Solo Music N.5*, and *Chamber Music N.5*)—stem from what we might refer to as a purely visual creative endeavor, but it would be inaccurate to claim that there were no traces whatsoever of sonorous potential in this activity – rather there exist in the conception and realization of the graphic entity distinct possibilities for translations into structural and material components of sonorous works. This is because the initial graphic entity does not exist as a kind of generative model or abstract inspiration, but as a notational work in and of itself, one that contains its own meaningfulness, its own *musicality*. The drawing is, in a very real way, the first draft of each of the three compositions, though the subsequent workings-out of the individual pieces would ultimately lead in entirely unique directions. In the introduction it was stated, “In the course of realizing notations as physical sound, musicians rely upon a subjective arsenal of musical tendencies—that is, their own ability to imagine sonority—to translate notational images into physical actions that lead to sound, inflecting the ‘absolute’ qualities of codified notations into nuanced interpretations.” The essential point here is that a similar “performance”—that is, mediation of a concrete notational entity (in this case, the visual architecture) by a subjective, human musicality (in this case, the ongoing compositional activities of the present writer)—characterizes the translation of the

drawing into sonority in time, which is in itself largely fueled by the uniquely tangible experience of notational decision-making.

The drawing was made using pencil on paper; more precisely, a fine mechanical pencil with rather soft lead brought into contact with the surface of a large sheet of heavyweight, cream-colored paper (approximately 11 by 24 inches – actually two pages joined together near the middle). The initial conception of the image was of a series of small right-angle enclosures arranged into fluctuating constellations of density and connected unsystematically with a variety of vertical and horizontal lines. Partly in reaction to the limited expressivity of this plan, an additional degree of variety was included in the form of an array of sizes of enclosure. Other parameters, however, became more and more confined as the drawing came into being, especially a preference for wide enclosures over tall ones and the development of invisible boundaries setting upper and lower limits to the verticality of the total image. Finally, a need to unite the entire drawing into a holistic entity led to a uniform shading of all the enclosures in a lighter tone than the lines that enclosed and connected them. Thus the entire process of visual/manual-based renegotiations of the imagined outcome was fueled by the desire to achieve a particular balance between static and developing elements – an organicism of growth within limited expressive means that is evidenced by the final result, given as Figure 1.

The drawing does suggest some sonorous corollaries, not the least of which is of a sounding music with similar regard for development and constraint. Additionally, if viewed as a progression of events from left to right (which is appropriate, given the



drawing's status as "notation"), the lengths of enclosures suggest precise ratios of duration, and the recurring downward migrations of enclosure constellations suggest a certain developmental structure (one that is made of smaller trajectories laced with certain elements of return). Beyond this, there is much in the way of resonance between the drawing and general qualities of musical behavior, including potentialities for energy pacing and saturation (manifested in the drawing by horizontal and vertical proximities of enclosures), connectivity between certain musical ideas and/or events (the connecting lines between enclosures) or a lack thereof, and simultaneous soundings of different layers of activity (the vertical alignments of two or three enclosures). There are, of course, many details that evade any sort of conventional parallels in composed sound; in fact, a need to discover the precise nature of such unknowns is one of the main attractions of working in such a fashion, both for its potential to lead to otherwise unimaginable sonorities as well as the cultivation of a necessary concentration. This sense of experimentation also has important resonances in the particular aesthetic convictions that have characterized my music of late, and before we move on to discuss subsequent modifications made to the visual architecture let me offer some brief comments pertaining to this work.

I am quite attracted to the idea of music having secrets. What I mean is this: with many of my recent pieces I have attempted to cultivate a kind of hidden richness in the music, which only becomes evident upon sufficiently careful listening, or in retrospect, or perhaps only with repeated hearings. In order for this to work, a certain amount of deception has to take place, and I have found that introducing some amount

of resistance to the fundamental concepts or sonorous ideas of a work is helpful in encouraging the concentration necessary for such listening. The resisting factor generally takes the form of a beguiling surface layer or experiential paradigm that has its own decided richness of sonority and/or structure immediately upon hearing: a red herring that—while it certainly affords a valid and meaningful experience in and of itself—ultimately distracts from the intended true meaningfulness of the musical experience, but not in such a way as to obscure it entirely. This way the hidden streams of meaning, if discovered in listening, take on a particular saliency, a richness that would not have been otherwise possible. This general concept and the ways in which it has been designed and implemented will become clearer as we move into more specific discussions of the three works (all of which exemplify it in their own fashion), but for now it is advantageous to focus on one particular archetype that is connected to the creative engagements of realizing the present visual architecture – a process that I have come to refer to as “memory architecture” or “ghost architecture.”

One of the most rewarding ways in which issues of “resistance” and “richness” have been addressed in my compositional work has been to fashion a system of self-reference within a given piece, whereby various materials are quoted as superimposed windows into other locations within the overall structure as recapitulations or foreshadowings. This creates a potential for moments to be retained in memory and then noted at their reappearance, but the complexity and detail of the material often get in the way of perceiving this. As a result, most of the repeated or referenced material is inaudible as a direct quotation, existing only as a faint resonance in memory – a

“ghost.” Thus the secrecy of such “memory architectures” comes by way of the superimposition itself. But it also stems from the fact that the music quotes itself in windows determined not by local content but rather by a set of abstracted decisions pertaining to the durational structure, which remains hidden, as it were, beyond the veil of translation. In fact, such decisions are generally worked out in a visual domain, as we shall see in a moment is true for the current portfolio. All of this is bound up with the process of using notation to move back and forth between sonorous and visual arenas of creative engagement, and the kinds of mediatory decisions that must be made as a result (especially considering the technical limitations of a given ensemble in performing two simultaneous presentations of the same music) afford additional creative impetus in that they become a series of conflicts that must be resolved. Much mediation is called for in engineering superimpositions that are both possible and musically satisfying, which lends its own enriching qualities to the intellectual processes of composition. It is also a creative provocation that is quite receptive to notational work – an invitation to test and possibly expand the limits of technique by discovering solutions through manual labor. The results of such notational explorations not only make possible the system of fleeting self-reference, but also enrich the local materials in ways that were unimaginable in previous stages of sonority-based imaginative effort.

Returning to the drawing, we can now trace the initial stage of visual-sonorous translation somewhat further. As outlined previously, the drawing does possess certain innate musical qualities pertaining to density, duration, and development. The

first step in bridging the gap between this abstract notation and the more specific musical notations necessary for composing sonorous materials was to superimpose a time-grid and solidify the relationships between visual entities on the page by fashioning a system of scaffolding to precisely gauge the vertical and horizontal distances that set them apart. This is demonstrated by Figure 2, which also includes some early notes pertaining to potential sonorous qualities (“dolciss. e cantabile,” and “sempre *p* possibile,” among others). Another aspect of ongoing compositional activity is evidenced by the four instances of “3x” appearing in boxes. These mark certain anomalies in the density of the drawing in which there are three vertically coinciding enclosures, a discovery that was to have especially important ramifications in the final modifications that ushered in the project’s “ghosts.”

Figure 3 shows a later appearance of the drawing, now with two important additions. First of all, a series of horizontal grids have been added that segregate the enclosures into even vertical spans of quarters (the finely dashed lines) and thirds (the lines with a larger dash-dot pattern). This not only clarifies the verticality of the enclosures—their overall “placement” in what might be viewed as a registral space—but also offers some potential for parsing the structure into distinct zones of particular musical behaviors by grouping enclosures based on their vertical placement as opposed to the lines connecting them. Secondly, this image includes a series of windows that function as the cues for a memory architecture. It is worth stating again that these decisions were made prior to any musical material and are rooted solely in an engagement with the visual qualities of this abstracted notation – in this case, the

unique “triads” of enclosures not only trigger the presence of a window, but also determine its duration. The original enclosures were measured in increments of  $1/32$  inches, with  $1/16$  inches ultimately serving as the standard counting unit (one unit equals  $1/16$  inch and one-half unit equals  $1/32$  inch). The onset of each of the four triggers was measured in this fashion from the beginning of the notation, and these distances were calculated by dividing the amount of “delay” before each trigger by the total duration of the notation (which is 340 units) and then translated back into counting units by rounding to the nearest percent and treating this number as a duration in and of itself. For instance, the first trigger occurs at 32.5 units of measurement, which, when divided by 340, yields .096. This rounds to 10% of the total duration and thus is allotted 10 units of duration. The remaining triggers occur at 108.5 units, 237 units, and 270.5 units, which yield approximately 32%, 70%, and 80%, respectively. Given the desire to maintain a fleeting quality in the reference-superimpositions, these durations were deemed too long and halved to yield, as a final set of durations: 5 units, 16 units, 32 units, and 40 units. As previously noted, the triggers themselves served as the onsets of these sections of “ghost” activity (given in Figure 3 as the large enclosures made with ticked lines), and their corresponding sources (given in the same figure as the large enclosures made with lighter dashed lines) were arranged throughout the total duration of the notation as a mirror image (though not an exact one, as the *onsets* of the superimpositions—rather than their entire spans—were placed at mirroring points to the original sources, with the ensuing timeframes opening to the right). This achieves a certain amount of structural balance,

including a differentiation of focus that carries distinct ramifications for the subsequent creation of material (especially at the point where two windows of “ghost” activity overlap, at approximately [6:30] in Figure 3).

With this accomplished, the collection of more precise “realizations” of the notation could take place – that is, the composition of three sonorous works of varying scope. The decision to write a large ensemble piece, a solo piece, and a chamber piece was not an arbitrary one; rather, each of these works was to be the “next step” in three different series of works that I have been pursuing that address the aesthetic convictions I outlined above in different ways (fundamentally, these are issues of concentration in composing, performing, and listening), and so as a final word of introduction I shall briefly describe the basic tenets of the three respective collections. The *Concert Music Series* has primarily been concerned with presenting music that addresses issues of resistance and richness in overtly dramatic ways, ideally to a large audience. The *Solo Music Series* addresses the concentration of a single performer and the relationship this individual has to his or her instrument, and in some ways strives to present the musician realizing the notation with the same resistances and secrets that would confront a listener. Finally, the *Chamber Music Series* has focused on cultivating careful listening relationships between the members of the ensemble. Consequently, these works have also tended to be somewhat private as artistic statements, yet provide—at least in my view—some of the richest opportunities to address experiential paradigms of listening, both in terms of material and structure. Of

the three types of music here, this is the subtlest, the most resistant, but potentially the most expressive and meaningful as well.

*Concert Music N.5*

The first of the three works not only grew from an engagement with the visual architecture but also from another “abstract” impulse in the form of a request for a work from Steven Schick and the Palimpsest New Music Ensemble, which prescribed several of the sonorous realities of the piece: the instrumentation, the approximate duration, and—to some extent—a context for experiential meaningfulness given that it was intended to be a concert companion to Messiaen’s *Couleurs de la Cité céleste*. Messiaen’s composition revolves around a piano solo of remarkable virtuosity, supported by an accompanimental ensemble of three B-flat clarinets, trumpet in D, three trumpets in B-flat, two horns, three trombones, bass trombone, xylophone, xylorimba, marimba, almglocken, tubular bells, and a collection of gongs and tam-tams. The piece lasts approximately fifteen minutes and, while it features an array of sonorous textures that span quite a dynamic range of energy and density, the primary soundscape is quite loud and rhythmically active, with the instruments providing a skeletal framework for the piano’s soloistic materials. In writing a companion piece, I was asked to omit the piano (the soloist was not inclined to learn two concertos instead of one), halve the duration to approximately seven minutes, and—in some subjective way—compose a “response” to Messiaen’s colorful and overstated piece.

The last of these stipulations presented me with something of a dilemma. It should be clear even from my brief description of aesthetic interests above that the dynamic energies of the Messiaen were a far cry from the subtleties of experience that



had come to fascinate me as a composer, and the thought of relating my processes of creation and labor to something so distant was both intimidating and frustrating. Nonetheless, after some preliminary philosophizing over the nature of “response” and some further probing into the qualities of my own musical thinking, the solution—which the reader has probably already guessed—finally presented itself: I would compose a music that was, at least on the surface, reminiscent in some way of the raw sonority and simplistic structuring of the Messiaen work, yet which was actually wrought from secret layers of structural and expressive meaningfulness. The clearest path toward a sort of “imbalance” that would facilitate this layering of activities was for me to turn to the idiosyncrasies of the instrumentation: the brass presented the perfect opportunity for sounds that were both assertive and unassuming in their “conventional” stability—especially when treated as a chorus—while the clarinets and percussion were full of potential for understated, fragile sounds that could drift unheard beyond the sonic wall of brass materials.

Given the brief duration of the project and a relatively short timeframe for completion, I decided on a straightforward process of mapping the structural and expressive potentialities of the drawing into sonorous form. I also wanted to construct a fairly modular approach to the multiple domains of decision-making that would need to be addressed in crafting the desired experiential realities of listening to the piece. To that end, the first stage of compositional work beyond the initial conceptions of behavior and sound that had solidified as a response to *Couleurs* was to realize the visual architecture as a series of brass sonorities – these would not only form the

skeletal core of the work as an outgrowth of the visual architecture, but also serve as the “surface layer” underneath which the real expressiveness of the piece could exist. After an initial decision to treat each visual enclosure as single-note sonorities and vertical layers of enclosures as chordal sonorities, I began the process of translating visual material into sonorous material. This involved a literal mapping of enclosure length onto duration (in fact, this was to remain a largely straightforward component of subsequent translations as well), and a quasi-literal mapping of vertical placement onto registral and pitch constructs and of enclosure height onto differentiations of “sonorous depth,” which will be explained momentarily.

The first of these categories merits little or no explanation – given the fact that all of the enclosures of the original drawing fit into a particular unit of measurement, their precise lengths on the page were readily translatable into beats (1/16 inch) and half-beats (1/32 inch) of material. Due largely to this strict conversion, rhythm in the piece encompasses a wide spectrum of durations, from .5 beats to 54 beats for a single sonority. Obviously, the longer sonorities are impossible for single instruments to play, and instances such as the 54-beat note (which occurs in measures 52-67 in the trombones) needed to be scored as several overlapping sonorities. Nonetheless, the precision of the original ratios of duration is preserved throughout the piece in ways unmediated by personal taste or additional creative decision-making.

The latter two categories of visual-sonorous mapping, however, present more subjective aspects of the translation process, evidence of the innate musicality of the human being engaged in the process of realization. While the translation of vertical

enclosure placements into particular sonorous registers was informed by the overall registral span of the ten instruments comprising the brass chorus, the expressive pitch content (that is, moment-to-moment fluctuations of pitch arranged into expressive gestures) is founded on a personal attraction to certain kinds of intervals – primarily diatonic structures, but not without certain chromatic influences as well. And so, while great effort was undertaken to maintain the differentiations of vertical distance in the drawing, the process of translating this information was filtered in such a way as to produce a sonorous landscape largely populated by major seconds, fourths, and fifths. Chromatic intervals tend to modulate the material rather than enrich the interval palette, such as the shift evidenced in measure 26, where the largely F-sharp minor collection gives way to something that is much more reminiscent of D minor. Microtones are also a part of the pitch language of the piece, occasionally serving as manifestations of the smallest vertical distances of the visual architecture (such as the composite trombone melody of measures 37-39, which corresponds to the small cluster of enclosures near the low vertical border in the visual architecture – just after the [3:00] marker in Figure 2). They are also used to address the final category of translation: the fluctuations in enclosure size as aspects of “sonorous depth.” This stream of decision-making addressed the richness of individual sonorities by way of differentiations in scoring. In some places, as we have noted, particular scorings were implemented to facilitate long durations. Yet most of the time the subtle details of instrument assignments and doublings contribute to the expressivity of the foundational brass chorus by incorporating elements of inharmonicity, adding

fluctuating degrees of experiential “edge” to the sonorities by way of acoustic beating between instruments. Thus the narrowest enclosures are generally voiced by a single brass instrument playing a single pitch, but the thicker visual sonorities are presented as more complex sonorities, such as the composite trombone “tone” of measures 15-18, which corresponds to the thickest enclosure in the visual architecture, appearing just before [1:30] in Figure 2. Note also how the complexity of this sonority contributes to the sense of distance between the trombones and the trumpets: the interval of an eleventh is not especially large, but the nuances of scoring produce two simultaneous sounds with distinct timbral focus.

It was also at this stage of composition that I addressed the “memory architecture” superimposed over the original visual architecture. Given the overall simplicity of the material thus far, the implementation of the quotations was a fairly straightforward endeavor, with durations and locations of source activity and recapitulatory activity again taken literally from the visual architecture and applied to the corresponding locations in the sonorous material. Because the generous resources of the ten instruments were so under-utilized in composing the initial materials, such a process of literal mapping could take place without mediation; that is, the relatively large reservoir of instruments was able to accommodate all of the original material alongside the “ghost” material without compromising either set of materials. The results of this procedure were twofold. First, the complexity of the materials was greatly increased with the addition of multiple layers of sonority. Measures 84 and following provide a good example here. Before the superimposition of materials taken

from much earlier in the piece (measure 84 corresponds, approximately, with measure 18), this section had contained only the low brass materials, the B-natural sonority in measures 88-89, and the ensuing A-natural in the high trumpet. All of the other activities (the held C-sharp in the trumpets and the additional tones of measures 91 and following) are superimpositions of earlier material. Of course, the expressive profile of the superimposed activity here is relatively low (with the exception of the long C-sharp sonority), which brings us to the second result of the superimposition process: making certain moments of exceptional significance available for meaningful recognition upon re-hearing. Given the limited materials of the piece, very few moments are sufficiently salient to achieve such recognition, but a handful of potential examples present themselves. The high A-natural trumpet note of measures 80 and following appears fleetingly in measures 9-10. The isolated C-sharp tone shared by the trumpets in measures 15 and following reappears—as we just noted—in measures 84 and following. Also, the unique contour played by the trombones in measures 37-39 reappears in measures 81-83 (though in different instruments). These sonic “ghosts” are certainly not immediately accessible in listening, but for me they are one of the most meaningful facets of the piece’s structural foundation as voiced by the brass chorus.

I knew even from the initial decisions pertaining to the piece’s sonic landscape that materials for the three B-flat clarinets and array of percussion would be subtle and delicate, even fragile. And so the first step in addressing their role in the piece was to determine a basic vocabulary of activity that would not only behave in a purposefully

understated manner but also communicate in a way that was easily hidden by the foundational brass materials. To that end, I determined that the clarinets would play only soft tones and multiphonics and the percussion would largely be played with bare hands and rattan rather than mallets. I also knew, in response to the organicism of the visual architecture, that I wanted to preserve some sort of relationship between the secret and surface materials of the piece, and therefore decided that the expressive energies of the hidden materials would largely mimic the energy contours of the brass. Finally, I knew that there was still one element of the visual architecture to be addressed in sound: the vertical and horizontal connecting lines between enclosures. These, I decided, would be “orchestrated” as a kind of resonance between brass sonorities, made up of fluctuating densities of clarinet and percussion activity. All of these general qualifications not only provided momentum in approaching the final module of creative decision-making, but also acted as guidelines that freed me to approach the task in a much more natural way than the initial stages of work, one that relied more readily upon my sonorous imagination.

The first task was to address the connectivity of enclosures in the visual architecture. I decided that the horizontal lines would be realized as “residue” left over from certain tones – these were realized as sustained sonorities (either a single long duration in the clarinets or a prolonged tremolo or repeated rhythmic pattern in the percussion) that began with or grew out of brass sonorities and were then retained for the durations stipulated by the length of the lines in the visual architecture. This is most clearly demonstrated at the beginning (measures 1-2) and ending (measures 99-

106) where the corresponding connecting lines in the visual architecture are longest and the surrounding materials quite sparse. Vertical connecting lines were interpreted as momentary amplifications of sonorities present in the brass (usually a layered sonority, given that enclosures connected by vertical lines typically occur simultaneously), which translated into multiphonics in the clarinets and short repeated-note punctuations in the percussion. Among the clearest examples of this technique are measures 24-26, which correspond to some of the vertical connectivities occurring between [2:00] and [2:30] in the visual architecture. These two kinds of realization left me with a few delicate connections between the two experiential layers of the piece, although I knew that if I wanted to capture the particular blend of invitation and exclusion that might lead to the “resistant” listening experience I envisioned, the secret materials would need to be enriched and gain a more distinct profile – otherwise they would remain irretrievably masked by the more powerful brass sonorities. Unlike the process of realizing the brass foundation, here was an opportunity to embrace my creative musicality by working more directly with imagined and notated sonority. As a result, the initial materials of clarinet and percussion activity grew into a much more fluid and expressive soundscape of composite densities, structured around the original signposts of visual connectivity. This is exemplified by the percussion activity that blossoms out of the solo clarinet multiphonic in measures 14 and following, and by the interchange of percussion statements in measures 77 and following that was originally triggered by the simultaneity at [6:30] in Figure 3 (which, interestingly, also triggers an episode of “ghost” activity).

The process of generating the secret layer of the work was, like all preceding aspects of the creative process, fundamentally linked to the processes of notation, but unlike the manifestation of the visual architecture in the chorus of brass instruments the notational engagements that led to the finishing touches of the piece—the shading of the enclosures, if you will—required more intense creative concentration. It was, first and foremost, a notational response to precedent notational images (not only the abstracted notation of the connecting lines in the visual architecture, but also the sonorous notations of the brass material). Yet the manual labor of notating the secret materials was also a rich source of creative re-engagement in ways that had not been accessible in previous stages of notational activity. Here the context for the materials was not nearly as directed by systematic labor, and each application of notational imagery onto the page served as a kind of recontextualization, a narrowing in on a musical entity that was defined as much by the manual engagement of its creation as the imaginable potentialities of instrumental behaviors. The secret material of *Concert Music N.5* is wrought from the concentration and labor of intimate notational processes as much as it is a manifestation of desired sonorous outcome.

In conclusion, we can summarize *Concert Music N.5* as a work that engages directly with the general aesthetic statements I proffered in the overview of the portfolio project. It should be clear even from a cursory reading of the score that the majority of the clarinet and percussion materials will not be heard when played simultaneously with the brass materials. If, however, the aim of the piece had simply been to craft a beautiful collection of sounds that were constantly and utterly



demolished by overbearing (at least in the gentle context of the piece's overall sound world) and arguably rather banal sounds (though they are not without an interesting experiential surface), the complicated and often frustrating series of creative tasks would have been highly unnecessary. Instead, the experiential goal in composing the work was to hold out just enough of an invitation for people to peer (aurally, that is) into the secret world of the clarinets and percussion. In some cases this is made possible by the sheer densities of covert instrumental behavior which, when sounding together, are loud enough to penetrate the wall of brass. More crucial, though, are the occasional moments when there appear gaps in the wall itself. Measures 2, 29, 31, 43, 46, 72, 100, and 105 are all instances when the brass chorus becomes entirely silent; several of these arrive and depart quite abruptly (especially measures 2 and 43), not only giving sonic glimpses of the beautiful sonorities the brass materials would otherwise be concealing, but lending a certain expressive urgency to the moment as well. This, more than anything else in the piece (including its retreat into an extremely quiet sound world), defines the work as my "response" to Messiaen's own, which for all its brashness is full of nuances of sonority and relationship that are just as inviting as the tutti chords and brash percussion writing are overwhelming. The only difference, really, is that in my piece the beautiful subtleties that comprise the real expressive substance of the work are in a very real way endangered by the clear, structurally-oriented materials, with the intention that they become all the more significant and meaningful given their potential failure to be heard.

*Solo Music N.5*

The second work in this portfolio also grew out of an additional inspiration to the visual architecture: in this case, the request for a solo contrabass piece from a respected friend and colleague, Scott Worthington. Nothing further regarding the nature of the piece was stipulated in this request, though my friendship with Scott and familiarity with his playing allowed me to approach preliminary decisions determining the sonic qualities of the piece with a good deal of information pertaining to the kinds of material that could be incorporated, and with what grace and fluency these instrumental behaviors could be negotiated by the performer. Additionally, I was certainly conscious of the piece's role in comprising a portion of this dissertation, and wanted to find a deeper engagement with the visual architecture than was afforded by the brief, concrete mappings of the initial piece. To address these potentialities, I decided to compose a piece that was made up entirely of natural harmonics on the four, conventionally-tuned open strings of the instrument and to double the duration to approximately fourteen minutes.

Returning to the visual architecture, it was clear that both of these decisions would have certain consequences for the processes of realization that I had invented in the course of composing *Concert Music N.5*. For one thing, the collection of durations implied by the visual lengths of the enclosures was now twice as long, and it would have been absurd to craft another piece that treated each enclosure as a single tone, or as a single musical statement of any kind (the longest enclosure is 54 units of

measurement, which even in the more compact structure of *Concert Music N.5* translated into over a minute of what was essentially a single sonority). While a fourteen-minute piece for single harmonic sonorities played on a contrabass would in all likelihood be quite beautiful, it did not offer much in the way of inspiration for embarking on another series of creative decision-making processes. I wanted more from the instrument's resources, and more from myself as a composer. In essence, I wanted to recapture the same spirit of discovery that had characterized my engagement with *Concert Music N.5*, and so it was clear that utilizing the same mapping process was out of the question.

This realization led to a partial renegotiation of the potentialities for sonorous meaning inherent in the visual architecture. Given the expressivity of constellation densities and fluidity of energy continuities when reading the drawing from left to right (again, as a kind of notation in and of itself), I decided to retain the idea of mapping the vertical length of enclosures onto precise durations of material. Also, I determined that each enclosure would once again constitute a single, self-contained "window" of potential material, though unlike *Concert Music N.5* the nature of this material was not predefined as a single statement. Connecting lines and enclosure thickness were once again understood to indicate a kind of musical residue (though not explicitly defined as sounded activity, as was the case with the previous work) and fluctuations of internal energy levels, respectively. The sonorous possibilities of the remaining parameter of the original drawing, however—the vertical proximities of enclosures—were redefined entirely for *Solo Music N.5*. In deliberating how to utilize

the vertical expressivities of the visual architecture for the current piece, I knew for certain that I wanted to avoid the straightforward mapping of vertical placements onto pitch and register – this had worked sufficiently well for the intentionally simplistic statements of *Concert Music N.5*, but something richer was called for here, especially given the fairly limited pitch content of my chosen instrumental behavior (see Figure 4). I thought that the larger vertical fluctuations of enclosure constellations might have greater significance in the present piece, one that was distinct from the more gestural vertical differentiations between local clusters. This led to a solution that not only addressed the immediate need for a principled realization of the visual architecture, but that also ensured a healthy variety in the behavioral possibilities of the ensuing sonorous material and structured these materials in a meaningful way: I segregated the visual architecture into different vertical zones, each implying a particular type of musical material, and consequently lending a greater structural significance to the unfolding of events in time – one that incorporated elements of “absence” and “return.”

Turning to Figure 3, note once more the addition of a series of horizontal lines (dash-dotted and simple dashed) that divide the total vertical space of the drawing into equal portions of three and four. When composing *Concert Music N.5*, these were superimposed over the visual architecture as a rough means of keeping track of the general pitch migrations implied by the verticality of the enclosures – a way of pacing the overall registral span of the ten brass instruments. Now these visual modifications were given more distinct roles as dividing boundaries between material types. I chose

to utilize the quarter division for this piece (with the idea that I would return to the triple division in the final piece), generating the need for four different material types. These, I decided, would be (in order from highest zone to lowest): repeated note gestures (note the important distinction from the single *sustained* sonorities of *Concert Music N.5*), melody fragments, static dyads, and trills/tremoli. This division has a number of interesting consequences for the structure of the piece, as it not only implies various simultaneities of activity type (or, in some compromised form, influences thereof – see measures 14 and following, for example, which correspond to the simultaneous, multiple-sector-spanning enclosures that begin, with a vertical connecting line, just before [1:30] in Figure 3), but also a fairly uneven balance of material type proportions as well as a significance to the way they unfold. Most salient here is the fact that the visual architecture dips down into the fourth material sector only once, and that only for a short time (between [6:00] and [7:00] in Figure 3). Consequently, the trill material in the piece is relegated to the limited span of measures 148-173, forming a sort of experiential climax – a sudden burst of unprecedented energy that is absorbed fairly quickly back into the status quo of dyads and single notes that end the piece.

One final detail merits some explanation before moving on to a description of the realization process, which is that *Solo Music N.5* does not make use of the memory architecture superimposed over the visual architecture. At the time of making these initial decisions about the piece, I intended to incorporate this procedure at a later stage of composition in the same abstracted manner that I had done with the previous

work (that is, visual rather than sonorous). I ultimately chose not to do this because the stated objective of the system of ghostly quotations—to instill in a work the potential for a richer experience in all aspects of engagement (composition, performance, listening) by introducing elements of resistance and secrecy, but also richness and recognition—was itself realized throughout the imaginative and notational processes of composing the material, which I shall now examine in greater detail.

Unlike the highly regulated process of placing particular pitches and rhythms onto staves associated with specific instruments utilized for *Concert Music N.5*, the translation of the visual architecture into the gestural and structural expressivities of *Solo Music N.5* was an extremely free activity. Aside from the general categories of instrumental behavior outlined above and the limited pitch content afforded by natural harmonics, it was largely a process of open-ended sonorous imagination that was mediated, recontextualized, and enriched by notational activity. The first draft of conventional notation was made moving from left to right through the visual architecture, imagining and notating gestural materials that fit within the durational windows prescribed by the translation process. As noted in the introduction, however, notation itself can never be a straightforward documentation of imagined musical activity. The physical act of drawing not only gives concreteness to nebulous thought, but also characterizes this thought, shapes it, mediating between the sonorous potentialities of the imagination and the visual realities of the page. As stated in the introduction, “Even from the very outset of creative activity, every notational act

recontextualizes the unfolding musical work and pilots the composer further and further down the stream of decisions that shape the creative experience.” Moreover, the accumulation of notational entities also has an effect on the generation of new sonorities in that it forms a reservoir of visual materials that can be reused and reshaped as the piece continues. Thus, the unfolding materials of the piece were captured, evaluated, possibly compromised, but also undoubtedly enriched by the manual labor of writing, and consequently made available for reuse and visual-based development.

Examining the first three systems (page 1 of the score) will illustrate my meaning. The gesture present in the first measure can roughly be described as a single energy contour articulated by pitch, shaped by amplitude, and ornamented with a subtle grouping of neighbor tones as the energy dies away. This is the sort of general understanding that characterized the gesture as an imagined entity – one with specific parameters for the manifestation of the energy shape (pitch, amplitude, ornamentation), perhaps even with some specific understanding of the degrees of fluctuation (intervals, strength of amplitude change, number of ornamental iterations). Nonetheless, as soon as these general qualities were drawn on a staff, other more specific qualities immediately came into being. Even though the number of iterations and their rhythmic relationship were part of the imagined gesture, the exact rhythmic subdivision in this case was suggested by the unfolding notational context; the rhythmic details—especially the fact that the ornamental iterations of the last beat are spread unevenly across a quintuplet—were at least in part a response to the visual

specificity of the other parameters. Similarly, the dynamic peak (in this case, *ppp*) and rhythmic placement of the *crescendo/decrescendo* contour were “discovered” as notational possibilities once the skeletal outline of the gesture entered the notational domain. It is not that these details were arbitrarily chosen in order to fulfill a requisite notational parameter, but rather that the notation caused me to re-imagine the materials in new and more precise ways, which were in turn mediated by more notational labor. This back-and-forth process also led to the remaining materials on the page in question, probably demonstrated most clearly by the overall similarities of gestural content; here again we have the idea that notated materials become available for re-use as a visual palette of possibilities. Furthermore, certain details came into being that were largely fueled by notational work. Note in particular the use of bow indications at measures 5-6, which arose at least in part as a refinement of notational precedent. Also note the fluctuating use of different rhythmic subdivisions, such as the change from quintuplet to normal sixteenth notes in measure 11; the iterations that began this gesture were imagined as being “slightly faster” than those that ended the gesture, yet it was the mediatory process of notation that gave detail to the rhythmic profile.

Needless to say, similar sonorous/visual re-workings characterized the creation of all the subsequent materials in the piece as well, though there is another important aspect to this we have not yet touched on: the fact that such an accumulation of material also forms a context for development. Whether or not future materials grow out of or remain fundamentally related to preceding materials, the task of drawing them will necessarily be influenced by the past experience of making other notational



entities in the piece. In other words, the particular vocabularies of notational possibilities (including fundamental elements such as pitch, rhythm, and amplitude, but also aspects of articulation, ornamentation, phrasing, etc.) encountered in the first thirteen measures of the piece are continually present as a kind of residual influence on the notational vocabularies of the remainder of the work. In *Solo Music N.5*, the materials grew out of the application and re-application of notational images onto the page as much as—if not more so than—sonorous imagination. This sense of connectivity resonates with the holistic qualities of the original drawing. The sonorous result is an extremely organic collection of disparate moments, reminiscent on both accounts of the abstract expressivities of the visual architecture itself.

Of course the realization of the visual architecture was also characterized by other forms of mediation, those that were necessary in engaging with the limitations imposed on the sonic realities of the piece by decisions made early in the compositional process. One such example can be glimpsed through the pitch materials of the work. The pitch language is clearly reminiscent of the initial skeletal workings of *Concert Music N.5*, evidence in its own right of the presence of the composer's subjective musicality – once more the overall possibilities for pitch constructs were filtered through my predilection for diatonic structures when imagining the moment-to-moment materials of the piece. Going even further than this, the limitations of pitch possibilities imposed by the reservoir of open harmonics on the instrument had an important effect on the melodic qualities of the piece as well, and account for a good many of the microtonal inflections in the music. Some of these were intended as

specific melodic contours (such as the gesture in the very first measure of the piece), yet most were originally imagined as diatonic gestures only to be distorted by the limited array of pitches accessible as open harmonics (see Figure 4). Measures 17 and following provide a good example here: the downward inflected D-sharps were imagined as D-naturals, the downward inflected C-naturals were imagined without the inflection, and the upward inflected F-natural was imagined as F-sharp. The result is not entirely distanced from a diatonic sound world, yet the subtle nuances of inflection (really a kind of resistance to my musical intentions) enrich the sonic palette in ways that were previously unimagined. How were these nuances discovered? Through the notational labor of realizing imagined sonorities as concrete images informed by the idiomatic realities of the instrument.

Similar “absolute” limitations also stemmed from engagements with the visual architecture. For instance, enclosure lengths stipulated precise durations for windows of a given activity type, and vertical and horizontal lines between enclosures implied some kind of immediate or latent connectivity between these windows. Occasionally these imposed restrictions to the fluency of my musical thinking by ushering in sudden changes (one example can be seen in measure 30) or unnaturally long pauses in what was intended as a single melodic stream (such as that which occurs in measures 1-3), or by suggesting a combination of simultaneous layers of activity that maintain sufficient independence so as to become somewhat unwieldy in performance and, consequently, quite fragile (measure 18 is a good example here). Both of these realities lead to some idiosyncrasies in terms of the music’s predilection for fragile

elegance – they certainly did not and would not have grown out of the more natural process of imagining and notating material without the aid of abstracted guidelines. Yet even in their quirkiness such moments point to the constant influence of the expressivities of the visual architecture (and in so doing articulate some of the music’s hidden seams). Moreover, they form an important component of the piece’s overall spectrum of expressive energy, contextualizing all the moments of more fluidity, the coalescences between disparate, layered streams of melodic fragments (see especially measures 128 and following, which correspond to the small cluster of enclosures beginning just after [5:30] in Figure 3), and the saliencies of expectation in moments of latent connectivity (see especially measures 93-95: here the shimmering quality of the ornamental filigree introduced in measure 93 dissipates suddenly only to re-emerge as a trigger for the subsequent cluster of melodic fragments; the very ending of the piece is also a good example of an ‘interrupted,’ though still tenable, stream of melodic energy).

As a way of closing this section, let me offer just a few words pertaining to the nature of secrets in *Solo Music N.5*. Earlier I stated that the piece does not utilize the memory architecture engineered for the visual architecture because “the stated objective of the system of ghostly quotations—to instill in a work the potential for a richer experience... by introducing elements of resistance and secrecy, but also recognition—was itself realized throughout the imaginative and notational processes of composing the material.” As also noted earlier, the “hidden richness” afforded by this procedure is fundamentally linked to memory, so that the fleeting recapitulatory

“ghosts” are experienced in a salient and meaningful way. While *Solo Music N.5* does not contain a series of ghostly superimpositions, it does contain a device that holds out similar experiential possibilities. We are quite familiar by now with the relatively narrow span of material types that characterize the melodies of the work, as well as the fact that the notational emphasis of its creation lent itself to particularly organic outcomes via visual recycling. The fact that almost everything is brief, quiet, and often rooted in broken or fragmented energy contours makes for an easy perception of near-repetitions and, consequently, odd or idiosyncratic moments, such as those we noted previously. Yet the piece also contains an assortment of *literal* repetitions, ranging in duration from single measures to several systems, always in close proximity to one another, but extremely subtle in that they are comprised of materials similar to their surroundings. As direct repetitions, these materials are possibly the most striking focus of energy in the entire work. They are, nonetheless, easily missed, covered up by the more beguiling surface energies of passing moments. In fact, they are not even notated as repetitions in the score, and may potentially be missed by the performer himself – considering our earlier description of the *Solo Series* as a group of pieces that “addresses the concentration of a single performer and the relationship this individual has to his or her instrument, and in some ways strives to present the musician realizing the notation with the same resistances and secrets that would confront a listener” this lack of notational clarity is entirely appropriate. *Solo Music N.5* does have its secrets, which arose out of the more natural and prolonged creative processes of composing the piece.

*Chamber Music N.5*

The final work in this portfolio was not composed in response to any particular commission or request; rather it grew solely out of a desire to delve deeper into the methods for engaging with the visual architecture that had been designed for and integrated into the compositional processes of the first two works. The general decisions I made pertaining to the overall qualities of the piece were intended both to refocus my concentration on aspects of visual-sonorous translation (including a return to the memory architecture) and to remove as many technical obstacles as possible that might compromise my ability to engage creatively with the images of the drawing. To that end, I not only chose an instrumentation/idiom with which I was fairly comfortable (the string quartet), but also expanded the total duration out to twenty-one minutes (setting up an overall ratio of durations within the project of 1:2:3). The windows of activity implied by the enclosures of the visual architecture were now three times their original duration, and any realization of these as single, distinct moments—even as gestures within a material type—would render a fairly unimaginative piece. Like *Solo Music N.5*, this work needed to realize the expressivities of the original drawing primarily as structural significances, yet it would also need to take into account the organic qualities of the images in the context of the elongated windows of activity. I decided, therefore, that the piece would be highly motivic – that is, its development would be fueled by a recurring contour of intervals and durations.

This statement merits some immediate qualification. The motive itself (see Figure 5) is intentionally designed in skeletal form, with precise intervals but imprecise durations (the rhythmic information is more indicative of emphasis than of gestural contours). As such, it is not especially prone to development (at least not in the conventional sense, with a focus on minute variations of intervallic and rhythmic contours, embellishments, augmentation, etc.), though this certainly does occur in the piece. Instead, the motive functions primarily as a means of voicing alternate threads of developmental activity as the piece unfolds—ideas of register, timbre, and especially texture—serving as a template that both articulates and regulates expressivities in these streams of growth and coherence. Consequently, the motive undergoes change in that it becomes continually recontextualized by its surroundings. The more palpable energy contours of the piece are continuously coming into contact with it (chipping away at it, in fact) as larger segments of its contour are successively unveiled throughout the work, leading finally to the only complete motivic statement at the very end. All of this also begins to imply certain possibilities for secret layers of meaningfulness in the piece. The motive, as a pragmatic compositional device but also as a historical-cultural phenomenon, is endowed with a significant amount of experiential saliency. Nonetheless, if the parameters of composition I listed above were to be the more substantial carriers of developmental energy, the motive itself would be something of a red herring. In making preliminary decisions about the piece, this idea was available to me as a vague sense of potential, perhaps even inevitability. Yet before embarking on the decision-making process of realizing the

visual architecture as sonorous material, I had to determine some principles for translation, to which this “vague sense of potential” also contributed.

I knew that I wanted to interpret the visual architecture for *Chamber Music N.5* in a manner quite similar to that of *Solo Music N.5*, wherein the large-scale vertical migrations were segregated into distinct zones that would imply certain characteristics of local materials. In the visual domain, these zones were articulated by dividing the overall vertical span of the drawing into thirds (again using the residual measuring devices from the registral pacing of *Concert Music N.5* – i.e. the horizontal dash-dotted lines in Figure 3). Decisions pertaining to the precise characteristics of the materials, however, were partially evaded at this stage, because unlike *Solo Music N.5*, in which differentiations of activity type lend distinction to particular clusters of moments within the disparate total series of moments, *Chamber Music N.5* was destined for a much more fluid structural outcome. To that end, I defined the three sectors not as material types, but rather as certain influences that would be placed on the motive: 1) the highest sector would be characterized by brevity, constraint, and single melodies (possibly in counterpoint), 2) the middle sector would allow some incorporation of basic skeletal harmonies into the sound world, and 3) the lowest sector would focus on more saturated harmonic activity. Glancing over the visual architecture once more (as it appears in Figure 3), the developmental ramifications here are obvious: the piece would “attempt” to move toward harmonic richness, only to “fall” back again (falling upwards, as it were) into fleeting significances. Unlike the previous work, these divisions are not based on instrumental behavior, but on

compositional endeavor, which places their articulation in a fundamentally subjective domain.

The discovery of this particular developmental scheme also changed the way I approached the implementation of the memory architecture. In *Concert Music N.5*, most of the superimpositions take place toward the end of the piece (refer again to Figure 3 for the visual representation), creating an increase of various local energies that together form the “climax” of the piece. Given that the current work already had a salient teleological goal—moreover, one that would require significant instrumental resources and that would, therefore, not fare well if subjected to the compromises of superimposition—I decided to reverse the roles that the “ghost” windows of the memory architecture played in the process of realizing the superimpositions as sonorous material. No changes were made to the particular placements or durations of these windows, but the concentration of superimpositions was shifted to an earlier portion of the piece by reversing the roles of the windows from “source” to “superimposition” and vice versa. The large portion of the visual architecture enclosed in dashed boxes between [1:30] and [3:30] in Figure 3 became the focal point of superimpositional endeavor, which both shifted the structural balance of the piece in a unique way and also cleared the later enclosures (between [6:00] and [7:00] in Figure 3) from any obligations to incorporate quoted material, allowing for more creative freedom in crafting what would appear to be the developmental climax (though this change also potentially obscures the only other portion of the visual



architecture that dips down into the “harmonic” sector – the small constellation of enclosures just before [3:30] are now subject to compromise).

Having made the decisions outlined above, I found myself on the brink of a tremendous span of compositional work to be completed – one that would exercise my abilities to engage meaningfully with both the processes of visual-sonorous translation (which had clearly outgrown the basic paradigms of *Concert Music N.5*), as well as the more personal processes of generating precise materials on paper (the imagination, notation, re-imagination, and re-notation, etc., of specific sonorities and behaviors). For while the significance of the visual architecture had increased, so had a need for creative discovery in order to generate a sufficient amount of material. This was a daunting reality to be faced with, especially when coupled with the potential frustrations of dealing with the implementation of abstract regulations and the compromises of imagined material they would likely entail. Moving forward with this third realization of the original drawing required more reliance than ever before upon the manual labor of notation, with all the creative impetus of its unique resistances and richnesses. To close, I would like to offer a brief commentary on the work as an experiential whole – focusing on particular manifestations of both the “realization” in composition of the visual architecture as filtered by the subjective musicality of my imagination, as well as the “realization” in sound of the saliencies of this compositional work: the music’s capacity for growth and coherence, and its secrets.

*Chamber Music N.5* is, like the other pieces in this portfolio, an engagement with the particular aesthetic convictions outlined in the project overview. Like

*Concert Music N.5*, a memory or “ghost” system is in place, and the work endeavors to establish a certain experiential precedent that obscures a secret layer of meaningful content. In this case, the expectations for development and structural listening ushered in by the use of motive-based material and palpable, large-scale energy contours is a false precedent for the more intimate, discreet expressivities of the piece’s interior that focus on nuances of gesture, sonority, and ensemble coalescence. Unlike the first work, however, this imbalance between saliencies is itself called into question, and ultimately the “secret” beauties of the piece also function deceptively, obscuring the long-range developmental trajectories that lead to the climactic moments of rich harmony. Certain traces of this are present all along, especially in terms of harmonic and registral migrations, yet are also problematized by other subjectively-paced elements that follow independent structural contours through the total duration of the piece, such as dynamics and certain specificities of instrumental behavior pertaining to timbre (especially the use of mutes and indications for various parameters of bowing).

Even from a cursory reading of the score, it should be clear that the piece is somewhat episodic, though in a more sectional manner than the fleeting moments of disparate significances in *Solo Music N.5*. The individualities of enclosures in the visual architecture are here realized occasionally as moments, but more often as links in longer chains of developmental activity. Most of the elements of disconnectivity in the drawing are manifested as subtle changes within a continuous unfolding of information. This suggests a certain kind of engagement in composing and listening to the piece, one that attended more readily to the ongoing structure, which had

particular influences on compositional issues of continuity, growth, and return. This is quite different from the creative engagements of the first two works, though of course there are some similarities as well, most of them stemming from notational endeavor. In the same manner that the sonorous notational images of *Concert Music N.5* and *Solo Music N.5* formed a vocabulary of material for continued use and development alongside and with the imagination of ongoing sonorities, here the formation of discrete portions of material into larger sections of behavior lent itself to self-reference. For instance, it is no accident that the coalescence of motivic fragments into two streams of homorhythmic pitches in contrary motion that first appears in measures 89 and following becomes a recurring token in the overall soundscape of the piece (see measures 95-97, 158, 169-172, and 289-292). It is not only made concrete by the translation of nebulous thought into notational image, but also made available for continued use and development. The iconic quality of the gesture and lengthy separations between its appearances ensure a sense of significance-in-isolation – a kind of momentary stability in what is really a fragmented structural experience, and furthermore a slight glimpse into the secret continuities that are taking place beneath the surface (especially the continued unveiling of the motive).

The long-term developmental trajectory of the piece is not without its own set of experiential invitations, though some of them—most notably the beginning—are intentionally misleading. The work opens, as could be expected, with an initial (though partial) presentation of the motive in the viola and cello. The connectivity implied between the first and second enclosures of the visual architecture is realized

here as a continuation of the melodic stream, yet with a completely flattened profile (the D-natural harmonic played on the cello). When the melodic material picks up again in measure 9, the thickness of the second enclosure is realized as an increase in textural energy by way of counterpoint based on the motive. Ensuing vertical connectivities are also realized as transfers of melodic leadership between the cello's harmonics and the three-part counterpoint of the other instruments. The recurring use of the motivic fragment evidences not only a strong sense of sonorous organicism but also the use of notational labor to fuel development – visual contours are preserved and recycled with or without rhythmic variation. Yet larger-level developmental energies are at work as well, especially evident as the materials build to a climactic moment in measures 24-26 – opening up in register, arriving at a new, hierarchical texture dominated by the first violin, and unveiling the next two pitches of the motive. All of this activity taken together establishes something of an experiential precedent in listening to the piece, one of continuous melody and palpable energy peaks and cadences, and when it is suddenly replaced by the static energies of measures 27 and following the experiential shock is not only caused by the cessation of continuity, but also the cessation of a particular *experience* of continuity. It might seem that, with the disappearance of the conventional agents of long-term development, the long-term development itself is discarded, but in reality it simply becomes disguised, wrapped up in new expressivities by the intimate materials of the piece's interior, which in their own fleeting energies suggest more momentary streams of focus. The development remains, latent, hidden, voiced in unconventional ways but ensured by an adherence to

the structural implications of the visual architecture and the continued use of the motive in creating material. As the piece unfolds, certain clues are given concerning its highly-structured nature: the notationally-driven return of certain behaviors discussed above, distinct sections of particular—if somewhat clouded—harmonic gravitations, and the integration of the memory architecture.

There are four instances of superimposition, as shown by the windows of “ghost” activity in Figure 3. Given the longer total duration of *Chamber Music N.5*, these encompass significant portions of material – the longest spans 40 units of measurement in the drawing, which in the proportions of this piece amounts to more than two minutes of activity. The “ghosts” of *Chamber Music N.5*, then, are not fleeting glimpses of past or future moments intended to resound in memory as single tokens, but gaping portals in the time-structure of the piece, revealing or recalling expansive and potentially quite important stretches of material. If these materials were presented clearly and in their entirety, the particular experiential balance of the unfolding structure would be severely compromised. Rather than do this, the quoted materials themselves were compromised, filtered through a particular collection of instrumental behaviors (namely, *legno* and *crine* “ricochet” gestures and *pizzicato* playing) so that they might retain the ghostly qualities originally intended for their pre- or re-appearances. As noted in the project overview, this sort of decision-making was largely fueled by notational labor: all of the superimpositions were blatantly placed over the local materials and then a solution was worked out on paper, taking into

consideration the limited instrumental resources and the particular qualities of sonority that were desired.

The appearances of these “ghosts” in the score are quite clear because the playing techniques listed above are entirely reserved for this kind of activity (also, the onset of each window of superimpositional activity is marked with a traditional—though here unconventionally utilized—*segno* icon). Looking at the first of these windows the need to filter the quoted materials becomes clearer. The material that is superimposed in measures 71 and following (in the second violin, viola, and cello) is actually taken from what has been posited as the teleological arrival of the entire work: the rich harmonies of measures 257 and following (the chord in measure 71 actually corresponds to the chord in measure 268). This is one of the clearest clues given to the underlying structure governing the piece, all the more so considering the lack of local material – only a violin solo to cover up this tremendous chordal sonority! The goal was to offer only a faint sense of significance, so that the material would be “inaudible as a direct quotation, existing only as a faint resonance in memory – a ‘ghost.’” Given the exact replication of voicing and register, some connection should be perceptible; yet given the distortion of pitch clarity imposed by *col legno battuto* playing, this resonance will be masked. Subsequent instantiations of “ghost” activity are treated in the same way, though additional local materials typically guarantee an appropriate degree of camouflage (while also functioning as notational impetus for mediatory decision-making). The majority of the superimpositional activity in *Chamber Music N.5* occurs before the moment of

structural arrival, with only a single instance of quoted materials recalling an earlier portion of the work. This window begins in measure 309, and recalls the material of measures 27 and following. It is, like the very first appearance of “ghost” material in the piece, exceedingly clear – the local material consists only of a cello solo. Here, however, such clarity is desirable, turning back to one of the early moments in the piece’s total duration with a kind of longing, brought sharply into focus by the starkness of its surroundings as the structure “falls back” from harmonic richness into fragmentation and isolated sonorities. This brings us to the final point of discussion.

Taking all of these descriptions into account, it should be clear that there are multiple conflicting saliencies that might be attended to in listening to this piece: the motive, the developing textures, the coalescences of instrumental behavior, the unfolding harmonic activity, not to mention different ways of experiencing time (teleological versus moment engagements). An experience of listening, we can anticipate, might be quite confusing. What is it all about in the end? What are the “false” significances? The secret “truths?” As stated earlier, the piece suggests a certain experiential imbalance by establishing a precedent for continuity and then dissolving into moment-based expressivity and focus, which obscures some traces of harmonic and registral development that are still active beneath the surface. As previously described, the materials beginning in measure 257 usher in an unprecedented harmonic richness as the final goal in the “development of contexts” in which the motive is presented throughout the piece. Is this a “return” to the hidden meaningfulnesses of motivic development? It would certainly seem so, considering

the clues that have been supplied by the memory architecture, the sense of registral arrival (this low range has been entirely reserved for this moment, with the exception of quotations), and a return to the larger-scale functionality of the opening with the advent of a tonal harmonic language (which was, at the very least, hinted at by the diatonic behavior of the first 26 measures). Moreover, the melodic material fueled by the skeletal motive is lavishly treated with conventional developmental strategies: the basic intervals with which we have become so familiar blossom into a beautiful, rising melody that peaks in the expressive climax of measures 268 and following before the music is gently guided toward the cadential materials of measures 276 and following. It is a point of tremendous significance, especially in the context of introversion and confinement in the music that precedes it. But even this significance is fleeting, demonstrated quite suddenly as the piece shifts in measure 284 (with a lingering “resolution” of the preceding harmonic materials) to an energy type reminiscent of the disparate, fragmented moments of the interior, although really the starkness of this material is more severe than anything heard thus far.

The piece appears to end in such desolation – at least this is the surface that we are presented with. But in reality, the true saliency of the piece—the gradual unveiling of the skeletal motive—is finally moving toward completion, as though cued by the overt surface energies of the “climax” of latent teleological trajectory. The first violin gives the only complete statement of the motive beginning partway through measure 322 (with the C-natural) and lasting to the end of the piece. Even this presentation is subject to disfiguration when the connecting horizontal line leading to



the last enclosure is realized in the same manner as the connecting horizontal line encountered at the very beginning of the work: a sudden lapse into static energy on a single tone. Nonetheless, attending to this tone throughout the extremity of its duration yields the final interval in the motivic set, which closes the work. The final “sigh” from the C-natural to the G-natural is the “true” teleological goal of the piece, which it utters faintly and then gives up the ghost.

Thought – Labor – Influence

Figures

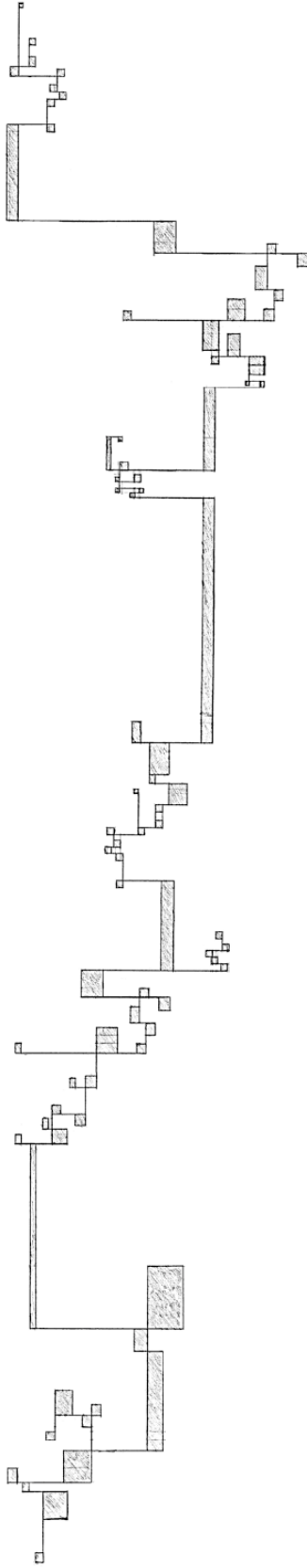


Figure 1: *Visual Architecture* – Original drawing

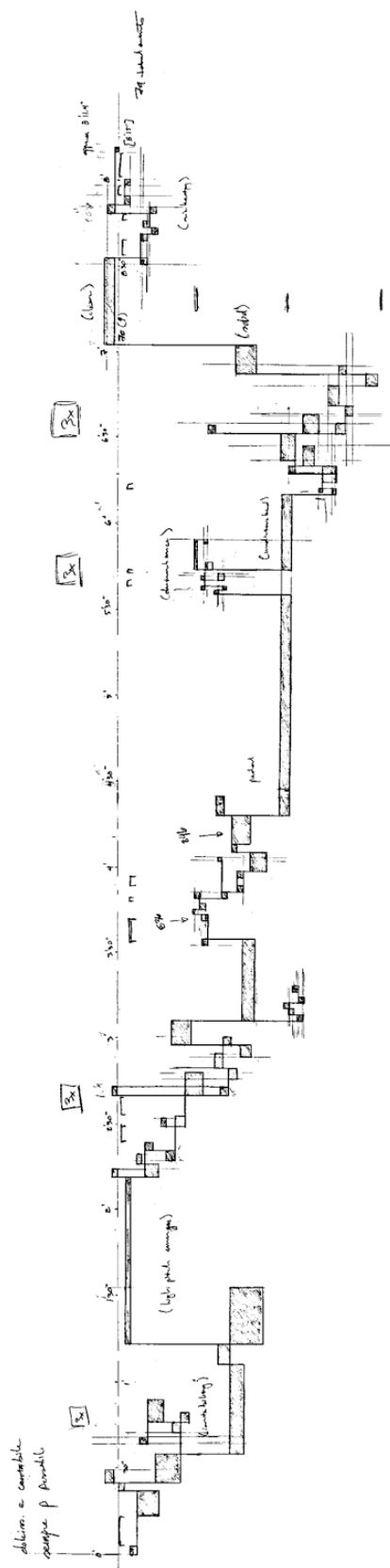


Figure 2: Visual Architecture – Preliminary modifications

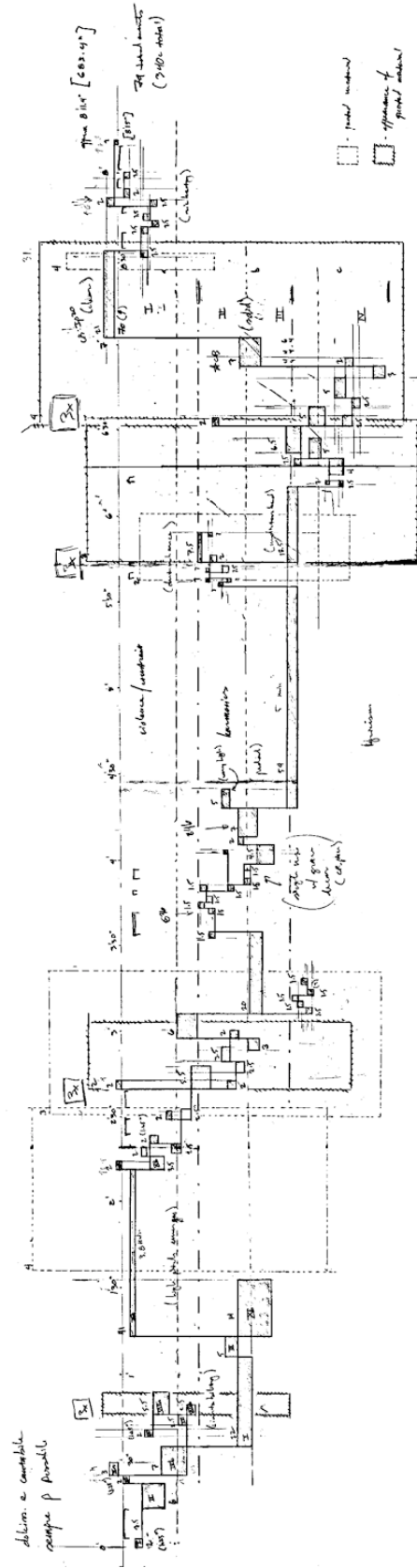


Figure 3: Visual Architecture – Final modifications

Note in particular the addition of horizontal lines for registral parsing and the larger windows representing the memory architecture.

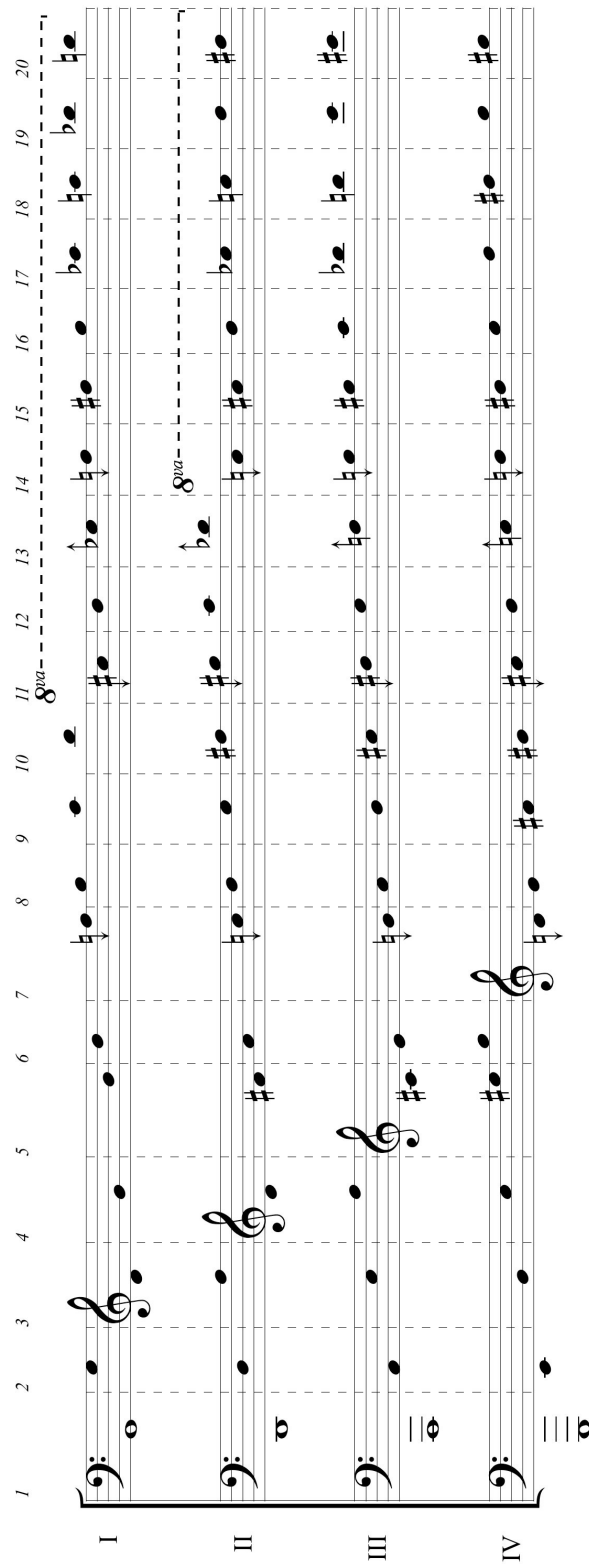


Figure 4 – Natural harmonic pitches on the conventionally-tuned contrabass

Pitches are given at sounding register. The Roman numerals indicate the strings of the instrument; partial numbers are given above. NB – this notation does not include precise indications of the many discrepancies between the just ratios of the overtone series and the modified intervals of equal temperament – the inflective nuances that characterize the actual sounding pitches are assumed, both here and in the score for *Solo Music N.5*.



Figure 5 – Daniel Tacke, *Chamber Music N.5* – Primary motive