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Three movements for violin and sampled sounds

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Three Movements for Violin and Sampled Sounds

**A Thesis Project
Presented to
The Faculty of the School of Music
San Jose State University**

**In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Music**

**by
Jason Marsh
August, 1995**

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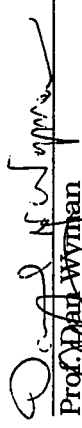
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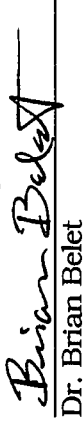
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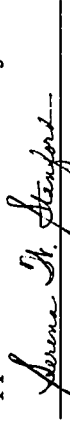
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ABSTRACT

Three Movements for Violin and Sampled Sounds

by Jason Marsh

This thesis project is the score and CD-ROM of a composition for violin and sampled sounds. The work is approximately thirty minutes in length and explores the relationships between ethnic musical styles and digital synthesis compositional techniques. The violin part uses improvisation consistent with world music styles, including Irish fiddle, Indian Classical, Bluegrass, Klezmer, Jazz, and Blues. All the movements explore the fusion of ethnic and formal Western European style.

The composition can be performed three ways: by a solo violinist with prerecorded tape, by a solo violinist and a computer-generated live track, or by a violinist accompanied by an ensemble of synthesists and percussionists.

The included Macintosh CD-ROM contains the samples needed to perform the work, a sample performance of the violin part as performed by the composer, and a digital recording of the synthesized accompaniment.

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Analysis

Overview of the musical material

The musical material for *Three Movements for Violin and Sampled Sounds* derives from many sources, with borrowings from many twentieth-century styles. Ethnic influences are present, particularly as applied to the violin performance. The underlying framework is Western, however, including elements of jazz, folk, and classical. Each movement has a unique orchestration yet the violin is used as a unifying factor. All the movements explore the fusion of ethnic and formal style.

In creating multi-stylistic musical works, a major focus of the composition is found in the reconciliation of improvisation and notation. Traditional notation does not adequately convey polyrhythmic ideas or improvisation. The concept of tempo can be lost in an *avant garde* electronic score. The notation used in this piece attempts to capture the essence of this performance practice on paper. At times, though, traditional notation is used where it adequately and succinctly reflects the needs of the piece.

Integration of disparate styles into a single composition leads to organic musical forms. Electronic sound-experimentation transmutes into a rhythmic Middle-Eastern patterning in the second movement, and in the third movement an energetic minimalism explodes into a bluegrass jam, which quickly disintegrates into an acoustic blues. An altered restatement is integrated into the organic form, and the second and third movements fall into an ABA form.

Each movement is built out of a small thread of musical material: sometimes harmonic, sometimes melodic, sometimes rhythmic. This musical material is used throughout stylistic changes; however, it occasionally can be “lost in the fray.” The goal of the piece is not an academic process of thematic construction. When a change to another musical style comes begging to the surface it is not suppressed against musical instinct. The nature of ethnic styles demands soulful expression without rigid rules.

Beyond the variation of style, the single most important item of expression in these movements is summed up in one word: growth. Each movement starts from small beginnings and contains long slow crescendi: growing, changing, grooving, screaming.

The use of the sampler governs the conception of instruments and instrumentation. Today’s composer can not only choose traditional instruments for a piece, but can actively create new instruments from virtually any sound. This composition explores the incorporation of “non-musical” sound within traditional forms and ethnic musical style.

Performance

Three Movements can be performed a variety of ways, and the notation attempts to reflect this flexibility. A violinist can perform to a digitally recorded tape, or to a “live” computer performance, or with a live accompaniment with

instrumentalists and synthesists. While the violinist certainly should maintain an acoustic sound, a microphone could be used to amplify the violin to match the desired volume of the amplified accompaniment. The piece should always maintain a wide dynamic range, from the barely audible to the nearly painfully loud. This dynamic range is easier to perform with an amplified violin with volume adjusted with a foot pedal. The violinist should not be behind the main speakers and should adjust his own volume, the dynamic range desired by the performer should not be left in the hands of a sound person.

To perform *Three Movements* to digital tape requires a guide track. The violinist then use the guide track to complete an improvisation and move on to the next musical section. The notation enables this by including cumulative time indications at the top of each page and at important cue points. The accompanying CD-ROM displays time in a large window to facilitate this performance. The CD-ROM performance pauses and waits for a mouse-click during the solo improvisation.

To perform *Three Movements* with an on-stage computer, the improvisational sections can be cued in and out via switch or some other appropriate MIDI input. A variety of MIDI sequencers and tools are able to receive the input and continue the piece after the current repeated section is finished.

A live ensemble could also perform the composition. The ensemble would need to divide up the parts, and would likely consist of four to six players, several of which would be keyboardists controlling samplers and several would be percussionists. The keyboardists at times would be playing percussion parts, and would need to be very rhythmically accurate. The percussionists could perform via MIDI drum pads, or could perform acoustic instruments. For example, the “drip” sound could be reproduced by amplifying turkey-baster-created drops falling into a half-dozen bowls filled with varying amounts of water. Depending on the sophistication of the performance, this signal could just be run through a long reverb (about 8 seconds), or delayed and pitch-shifted by varying amounts. There is no reason that the piano or acoustic guitar could not be performed live on acoustic instruments. The notation accommodates live performance by indicating elapsed time for each small section. The cumulative time would be difficult to accurately maintain and so could be ignored. A conductor could monitor a stopwatch or have a good sense of time and cue each section.

The use of accidentals in the score is as follows. In movements one and three, accidentals are maintained until the next barline, and then canceled. In movement two, where there are no barlines, accidentals are maintained through the immediate beamed group only.

Movement one

Movement one is based on the Irish theme of *Drowsy Maggie*. Instead of presenting this Irish reel immediately, the movement begins with percussion and violin improvisation around the tune. The percussion is built around a block sample playing an inverse clavé pattern and a rhythmic theme in the thumb piano. (A discussion of the sampled sounds can be found in "Instruments" section below.) Constant running sixteenth notes are passed among different instruments, maintaining a steady pulse and building up to and down from various energy levels.

The opening section (pages 2 and 3) establishes the rhythmic groove and feel for the violin improvisation on page 4. This improvisation should hint at the A and B themes of *Drowsy Maggie*, which appear on page 5 and 6. During the improvisation the A theme should not be played exactly as written, or the energy achieved by finally dropping into the main melody on page 7 will be undermined. The improvisation should intermix G blues (scale: G, Bb, C, C#, D, F, G) and E minor with a lowered 2nd and raised 7th (scale: E, F, G, A, B, C, D#, E). This intermixing is accomplished by not only using the notes of the scale but improvising melodic elements that center around or resolve to the G or E tonic. Mixing in both Irish turns and Klezmer shakes, but always within a solid rhythmic pulse, sets up an appropriate flavor for not just the first movement, but for the composition as a whole.

When the melody enters on page 5, the violinist is free to perform the melody nearly as written, or with varying amounts of improvisation on the second half of each bar. The nearly steady sixteenth-note pulse should be maintained.

With the entrance of the musical accompaniment, primarily with pitched percussion and piano, the piece takes a mild curve into modern jazz harmony, reharmonizing the fiddle tune. The violin is relieved of the constant sixteenths, which are maintained in the flute and gambang samples. On pages 10 through 12 the rhythm kicks up again in an American fiddle shuffle typical of an old-time or Appalachian fiddle style. Underneath this, wide-voiced piano chords continue to keep the harmonic framework ambiguous by avoiding dominant relationships. The melody is eventually brought back for a quick restatement before returning to a closing violin improvisation, again over percussion.

The overall form can be analyzed as an ABCBA, where the A section is represented by the improvising violin over percussion, the B as the longer flowing theme with piano harmonization, and the C as a development of the harmonic motion with the shuffle in the violin. The second B quickly restates both the flowing theme and then the fiddle tune, and the final A returns to the same material with which the movement was begun.

The notation attempts to represent a typical percussion performance, with individual players given a rhythmic pattern which is repeated either exactly or freely, and is maintained until a cue into the next section. Where an instrument creates European scale forms, a traditional staff is used. The thumb piano samples are pitched, but without a

recognizable harmonic series, and so are indicated with open note-heads that visually hint at the hollow sound of the instrument, and are arranged on a single line according to a relative base pitch.

Movement two

Movement two is designed to have the most electronic texture. It has no meter and contains a great deal of spacious soundscape. The primary sounds are discussed in more detail below, but bowed brass plates and sampled violin artificial harmonics create an other-worldly effect. These sounds are used to hint at non-European melodic gesture and create high-pitched screams and bass tones approaching rumbles. The voice part does form Western harmonic motion in sections to accompany the extended melody, but this harmony intentionally maintains tonal ambiguity. This is achieved by avoiding dominant relationships and using parallel motion.

Starting very quietly, an extended melodic theme is presented by the violin and the air-string. Where the voice part enters, the violin provides harmonic reinforcement with an unmeasured *ponticello spiccato*. This creates a slowly pulsing motive that not only *crescendos* and *decrescendos* but also speed up and slows down according to the desired energy. The exact number of repetitions of the chorded *spiccato* is not as important as the energy undulations. The energy level gradually *crescendos* up to a *fortissimo* scream on page 28, immediately returning to *pianissimo* with a steady drip sample, like a leaking faucet.

Pages 28 through 33 explore the possibilities of the sound presented by bowed plates. On page 35 and 36, a variety of percussion sounds gradually coalesce into a "Mid-Eastern Pop" groove, over which the violin enters with the previous melodic material. The gradual establishment of the groove creates a new an exciting energy level over a drone created from a low mouth harp sample. The melodic theme plays out and *decrescendos*.

On page 42, representing a breath of fresh air, the drone ascends by a half step and new melodic and harmonic material is presented. This relaxes the otherwise dark are foreboding quality of the movement.

On page 45, the theme is restated, but compressed in time by half, and the movement is wrapped up as it began with the drip samples.

The notation for the second movement attempts to capture the feel of samples and the energy levels. The drip samples are represented by drip-like symbols, with beams representing groupings and note length. The bowed plate samples are represented by elongated slashes, the length of which represents the approximate length of the note. At times the pitch is radically bent across several octaves, and the notation represents these swings. In an unmetred piece, the parts should roughly correlate, but in nowhere except the percussion groove in the middle do the instruments need precise synchronization. Acceptable correlation extends from about a second to about ten seconds. Correlation between melodic parts should be about a second.

Violin Solo

Between the second and third movements is a free improvisation for the violin. This improvisation should be based on the improvised cadenzas of the Baroque period, and can include subtle statements of the themes from all three movements. Particularly, it should end on the theme for the third movement in the correct key.

This improvisation should be as spontaneous as possible. Musical ideas should be created on the spot, and repeated and developed structurally. Ideas should explore not only melodic but also rhythmic, and if possible, harmonic development. Stating a theme and developing it with double stops is particularly effective.

As a performer, I purposely touch on various violinistic styles in performance, such as bluegrass and Irish fiddling, Hindemith-like chromaticism, as well as blues licks and bebop phrasing. This solo typically extends from two to seven minutes.

Movement three

Movement three is the most Western of the composition, and uses the piano samples prominently. It particularly explores American musical styles. As such, the notation is primarily conventional.

This movement contains advanced harmonic relationships borrowed from either Coltrane bebop or Debussy, including stark, open major sevenths, and bass progressions based on minor-thirds and whole-tones.

In the opening section the harmony is in service to the larger goal: to create an extended growing, ascending theme. The instrumentation reinforces the growth, where the violin drops the octave the fourth bar of page two, the piano enters and continues upward. This unresolved A theme culminates in the B theme: a *forte* chorded section accompanied with percussion. Again the percussion consists of motives given to each part, repeated more or less freely, until cued to stop or to the next section.

Page 57 is difficult to notate. Here the Guitar samples create an open drone, accompanied by the talking drum and shaker samples. The violin performs the A theme in a single-fingered classical Indian style, without vibrato. Unlike a true Indian performance, the melody may float freely above the rhythm, not tied into a *tal* (rhythmic pulse). Eventually

on page 59 the violin joins the other parts in a specific pattern to wind up the improvisation in a natural manner.

Next, in a nearly unprepared stylistic shift, on page 60 the piano enters with percussion and creates a hint of minimalism. True minimalism at this point would limit the future stylistic paths of the composition. Each part has its own time signature, to represent not just the pattern but the interwoven feel of strong and weak beats. The piano creates the harmonic motion and plays the chords as notated with the rhythm described above. An occasional bar of rest keeps the orchestration from becoming too dense.

On page 67, the minimalist sixteenth notes and violin improvisation explode into a bluegrass fiddle tune. The notes should be played as notated, with improvised accents and shuffle bowing patterns. Even this bluegrass cannot contain itself, and with the piano accompaniment degenerates into a short bluesy improvisation.

Page 70 reestablishes the first theme, with pizzicato at first, and further orchestration later. Again, it builds to the grand second theme, nearly in a pop style. This theme vamps with a final violin improvisation, before coming to a close on a full-orchestrated chord. The chord fades away with a sixteenth-note guitar line descending into silence.

Violin techniques

The violin has been integrated into musical cultures around the world. While performance techniques vary widely, the basic shape of the resonating box and of the bow have remained fairly stable around the world. Many cultures had various bowed instruments before this European arrival, and the nature of this multi-stringed, unfretted instrument fit easily into various tuning schemes. The violin strings have an ability to imitate the human voice, which is mandatory for its acceptance into foreign musical culture.

My learning journey as an improvising violinist has exposed me to many styles of music, with an obvious preference for western jazz and folk styles. Yet often this piece explores Indian Classical as well as East European folk techniques, the improvised sections, as well as many of the composed melodies, easily lend themselves to varying levels of non-western techniques.

Instruments

The sampled instruments for the initial realization of *Three Movements* were primarily created from scratch. The ability to create a customized, unique sonic experience can rarely be satisfied by commercial stock instrument samples.

The primary sound design was done on an AKAI S1000 Sampler, a multi-tamboral 16-bit digital synthesizer. Processing of nearly all sounds was completed using a Digidesign audio hardware on an Apple Macintosh, with a variety of software packages, including Digital Performer, Studio Vision, Alchemy, Sound Designer, and Pro Tools.

The grand piano samples were done using a Steinway 7-foot grand with an AKG 414 microphone. The microphone was placed very close to each string (approximately 4 inches), the pedal was pressed down, and the piano keys stuck as hard as possible with fingers. The microphone was moved to be above each note as it was sampled. The result is a very big, bright sound with few applications for gentle musical lines, but appropriate for the needs of this piece. Fifteen notes were sampled, which were cross-faded on the sampler. The samples were looped using Alchemy. If a live piano is used in the performance of this piece, the instrument should be miked in a similar fashion, although multiple microphones will be needed to create a even pickup across the range. This method of piano sampling was the most successful in the extreme low and high ranges, creating powerful bass notes and extreme treble notes with extended decay times.

The first movement contains many original percussion samples created from home-made instruments.

The thumb piano is a home-made African mbira created out of spring-steel tongs, mounted on a wooden resonator. Five separate samples were used and processed.

The talking drum and pitched drums source material came from a three-foot-by-five-inch PVC pipe with a plastic drum

head stretched tightly over one end. The nylon rope used to secure it could be stretched to create slight variations in pitch. Thirteen separate samples were used to create the electronic rendition of this instrument in the score.

The crunch sample was created by quickly squeezing a thick cellophane sheet. It is incorporated in a way similar to a Latin cabasa: as a dramatic punch to the entrance of new percussion parts.

The gambang sample was taken from a gambang commercially built in Indonesia, and its tuning was altered electronically to better fit into the Western harmonic framework needed for this piece.

The flute sample was created from a penny whistle.

The second movement has quite a few experimental sounds. The acoustical material from these came from sampling bowed brass plates, violin artificial harmonics, and a mouth harp.

The bowed plates were excited with a bass bow, in order to get enough grip on the thick (2 mm) edge. The sounds were then heavily processed with pitch bends and transposition. Five separate samples were used, each across the full musical range. Of them, bowed plate 3 had the simplest harmonic structure (overtones nearly in the harmonic series), while plate 1 was essentially non-harmonic. These various tones came from a variety of bowing techniques as well as

experimentation with methods of suspension of the plates themselves.

Violin artificial harmonics were sampled and processed to create the melody instrument for the second movement: the airstring. This airy, bowed sound was often modified by the MIDI pitch bend controller to create whole phrases on a single MIDI keyDown event. This contributed to the earthy, ethnic tonal quality when used in the tenor voice register. In the extreme low register, a pitched rumble similar to the bowed plates occurred, and the high register achieved a screaming quality used for dramatic crescendo.

The drip sample can be created by sampling water drops, or by creating short sine wave tones with a fast attack and decay. This sample should be processed with a pitch-shifted delay, if possible.

The voice sample was borrowed from a Kurzweil K250 stock choir sound, but with additional computer filtering and looping. It was then mixed with some original programs on a Roland D110 for further warmth.

A mouth harp was used to create the bass drone.

The percussion samples include a string drum, shaking of African bells, shona drum (thanks to Dan Wyman), and Brazilian tamborim.

Movement Three uses processed samples of 12-string and nylon-string acoustic guitars, grand piano, sampled violin pizzicato, and percussion instruments already discussed above, as well as the addition of more Latin percussion, namely: cowbell, shaker, wood block, tambourine and tamborim.

Score creation

The preparation of the score was done by transferring MIDI files to Finale, where extensive editing had to be done to create alternate notations. Due to limitations of Finale, eventually the whole score was converted to Adobe Illustrator format via a shareware product called Art Music. In Illustrator, each note was edited into final form and alternate notations applied.

Discography

Some commercial recordings have had a direct influence on the creation of this work. A performer is encouraged to listen to some of the following references to explore violin and sampling techniques.

L. Shankar, *Who's to Know*, ECM, ECM1195, 827 269-2, 1981.

L. Shankar, *Song For Everyone*, ECM, ECM 1286, 823795-2, 1985.

Turtle Island String Quartet, *Turtle Island String Quartet*, Windham Hill Jazz, WD-0110, 1988.

Lyle Mays, *Lyle Mays*, Geffen Records, 24097-2, 1986.

Babatunde Olatunji, *Drums of Passion: The Beat*, Rykodisc, RCD 10107, 1989.

Peter Gabriel, *Passion*, Realworld, 24206-2, 1989.

Three Movements for Violin and Sampled Sounds

Movement 1

Instruments First Entrance

Violin	page 2
Flute	page 7
Gambang	page 4
Grand Piano	page 6
Metallic Drum	page 7
Shaker	page 2
Crunch	page 2
Thumb Piano	page 2
Block	page 2
Talking Drum	page 2
Finger Cymbal	page 2

Three Movements for Violin and Sampled Sounds

Movement 1

0:00 All parts lock into groove
tempo ~ 120 bpm
unless otherwise indicated

0:07 on cue from violin: elapsed time: 0:19

Violin *col legno batuto* *f* *mf* *mf* *mp*

Shaker enter at will on any strong beat: *mp* repeat freely

Block *mf* repeat identically

Talking Drum *mp* repeat identically

Thumb Piano on cue from violin: *mf* repeat freely

Finger Cym *mp* repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 1

0:26 elapsed time: 0:16

0:42 elapsed time: 0:10

on cue from violin:

repeat approximately

f = arco
/ = col legno batuto

continue

continue

continue

mf repeat freely

mf repeat freely

mf repeat freely

mf repeat identically

mf repeat identically

mp repeat identically

mf repeat freely

mf repeat freely

mf repeat identically

mp repeat identically

Violin

Shkr

Crnch

Tmb Pno

Block

TDrum

FCym

Three Movements for Violin and Sampled Sounds, mvmt 1

0:52 ————— elapsed time: 0:43 ————— elapsed time: 0:06

Violin
improvise intermix G blues and E harmonic minor (lowered 2nd)

Gambang
on cue from violin:

Shkr
mf
repeat freely

Crnch
mf
repeat freely

Tmb Pno
mf
repeat freely, improvise

Block
mf
repeat freely, improvise

PDrum
mf
repeat freely, improvise

FCym
mp
repeat identically

continue

continue

continue

continue

continue

continue

Three Movements for Violin and Sampled Sounds, mvmt 1

elapsed time: 0:18

1:42
improvise on the second half of each bar

Violin

Tmb Pno

Gambang

Shkr

PDrum

FCym

repeat 4 bars again

Three Movements for Violin and Sampled Sounds, mvmt 1

2:00

elapsed time: 0:18

Violin

improvise on the second half of each bar

Tmb Pno

mp continue on nearly every other beat, always in groove

Gambang

16th note rhythms on any beat in each bar, play each note twice per bar

play phrase as written, but on any beat in each bar

Grand Piano

16th note rhythms on any beat in each bar, play each note twice per bar

Shkr

repeat freely

PDrum

repeat freely

Three Movements for Violin and Sampled Sounds, mvmt 1

2:18

improvise on the second half of each bar

elapsed time: 0:17

flowing strongly and smoothly

mf

mp

continue on nearly every other beat, always in groove

play phrase as written

play phrase as written

as written

f

repeat freely

Violin

Flute

Tmb Pno

Gambang

G Piano

Metallic Drum

Shkr

Three Movements for Violin and Sampled Sounds, mvmt 1

2:35 | elapsed time: 0:18

Violin

Flute

Gambang

G Piano

Metallic Drum

FCym

play phrase as written, but on any beat in each bar

mf

sfz

decresc.

decresc.

mf

mf

repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 1

2:54

elapsed time: 0:08

3:02

elapsed time: 0:06

page 9

Violin

The violin staff begins with a treble clef and a key signature of one sharp (F#). The music starts with a dynamic marking of *mp* and the instruction "gently". The notation includes a series of notes with stems, some with slurs. A *cresc.* marking appears towards the end of the staff, followed by a wavy line indicating a tremolo or similar effect.

Gambang

G Piano

The Gambang and G Piano staves are grouped together. The Gambang part is in the upper voice with a treble clef and a key signature of one sharp. It begins with a dynamic marking of *mp* and the instruction "play as written". The G Piano part is in the lower voice with a bass clef and a key signature of one sharp. It begins with a dynamic marking of *mp* and the instruction "play as written". Both parts feature complex rhythmic patterns with many beamed notes. A *freely* marking is present in the G Piano part, and a *cresc.* marking is present in the Gambang part.

Three Movements for Violin and Sampled Sounds, mvmt 1

3:08
3:18
elapsed time: 0:16
elapsed time: 0:08

Appalachian fiddle slides, raw tone

f

cresc

any beat:

f

cresc

s/z

cresc

Violin

Gambang

G Piano

Shkr

Block

PDrum

FCym

f

mf

f

f

repeat freely

repeat identically

repeat freely

repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 1

3:26 elapsed time: 0:18

Violin *f*

Gambang any beat: any beat: any beat: any beat: as written:

G Piano *f* *f*

Shkr *f* repeat freely

Block *f* repeat identically

PDrum *f* repeat freely

FCym *f* repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 1

3:44

elapsed time: 0:06

3:52

elapsed time: 0:08

The musical score consists of seven staves. The first staff is for Violin, starting at 3:44. The second staff is for Gambang, with a 'Tmb Pno' section starting at 3:52. The third staff is for G Piano. The fourth staff is for Shkr, with a 'continue' instruction. The fifth staff is for Block, with a 'continue' instruction. The sixth staff is for PDrum, with a 'continue' instruction. The seventh staff is for FCym, with a 'continue' instruction. The score includes various musical notations such as notes, rests, and dynamic markings like *mp* and *mf*. An arrow points to the right above the Gambang staff with the text 'continue on nearly every other beat, always in groove'.

Violin

Gambang

G Piano

Shkr

Block

PDrum

FCym

Three Movements for Violin and Sampled Sounds, mvmt 1

4:00

elapsed time: 0:18

The musical score consists of six staves, each representing a different instrument. The instruments are: Violin, Flute, Tmb Pno, Gambang, G Piano, and Metallic Drum. The score is written in treble clef with a key signature of one sharp (F#). The Violin staff begins with a dynamic marking of *f*. The Flute staff begins with a dynamic marking of *f*. The Tmb Pno staff begins with a dynamic marking of *mp* and includes a finger number '5' under a note. The Gambang staff begins with a dynamic marking of *mp*. The G Piano staff includes dynamic markings of *8^{va}* and *8^{va}*. The Metallic Drum staff begins with a dynamic marking of *mf*. A long horizontal arrow spans across the Tmb Pno, Gambang, and G Piano staves, with the text 'continue on nearly every other beat, always in groove' written below it. The score includes various musical notations such as notes, rests, and dynamic markings.

Three Movements for Violin and Sampled Sounds, mvmt 1

4:18

elapsed time: 0:18

improvise 2nd half of every bar

Violin

mf

Tmb Pno

mp

continue on nearly every other beat, always in groove

Gambang

mp

G Piano

mf

mp

Mtll Drum

mf

Three Movements for Violin and Sampled Sounds, mvmt 1

4:36
elapsed time: 0:04

4:40
elapsed time: 0:48

Violin

G Piano

Shkr

Crnch

FCym

improvise: intermix G blues and E harmonic minor (lowered 2nd)

continue

repeat freely

repeat freely

mf

mf

mf

mf

repeat identically

repeat freely, improvise

repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 1

5:28 5:36 0:03 0:05 0:05

elapsed time: 0:08

repeat identically

f *mf* *f* *mf* *f* *mf*

Violin

Shkr repeat identically

Crnch repeat identically

Block repeat identically

PDrum repeat freely, improvise

FCym repeat identically

end of movement I

Movement 2

Instruments First Entrance

Violin	page 19
AirString	page 20
Voice	page 22
Drip	page 18
Ice	page 19
Bowed Plate 1	page 18
Bowed Plate 2	page 29
Bowed Plate 3	page 19
Bowed Plate 4	page 30
Bowed Plate 5	page 29
Pitched Drum	page 35
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Tamborim	page 37
Crunch	page 33
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Ankle Bells	page 35
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String Drum	page 35

Three Movements for Violin and Sampled Sounds

Movement 2

Without meter, general correlation
between parts, but very free and flowing
tempo slow, ~ 15 seconds per page

0:00

elapsed time: 0:10

0:10

elapsed time: 0:05

Drip
Center
freq: 200
ppp

mf

ppp

Bowed Plate 1
Center
freq: 500
pp

Three Movements for Violin and Sampled Sounds, mvmt 2

0:15

elapsed time: 0:07

0:22

elapsed time: 0:08

Violin

p

mf

Drip
Center
freq: 200

Ice
Center
freq: 1k

pp

Plate 1
Center
freq: 500

pp

Plate 3
Center
freq: 250

mp

Three Movements for Violin and Sampled Sounds, mvmt 2

1:00 | _____ elapsed time: 0:15

The musical score consists of two staves: Violin (top) and AirString (bottom). The Violin staff contains a melodic line with various articulations. The AirString staff contains a rhythmic accompaniment. Below the AirString staff, there are two sections of sampled sounds: 'Drip' and 'Ice'. The 'Drip' section is labeled 'Center freq: 200' and shows a series of downward-pointing arrows on a staff, indicating the timing of the drips. The 'Ice' section is labeled 'Center freq: 1K' and shows a series of downward-pointing arrows on a staff, indicating the timing of the ice sounds. The 'Drip' section is positioned between the AirString staff and the 'Ice' section.

Plate 3
Center freq: 250
mf

The spectral plot shows a series of horizontal lines representing frequency components over time. The lines are grouped into two main sections, each with a downward-pointing arrow above it. The first section has a higher frequency range, while the second section has a lower frequency range. The overall intensity is marked as *mf* (mezzo-forte).

Three Movements for Violin and Sampled Sounds, mvmt 2

The musical score is divided into three movements, each with a specific time signature and dynamic markings:

- Movement 1:** Time signature 1:15. It features a Violin part with dynamics *pp* and *p*, and an AirString part with dynamics *ppp* and *mp*. The instruction "unmeasured ponticello spiccato" is present.
- Movement 2:** Time signature 1:20. It features a Voice part with dynamics *ppp* and *mp*, and a Drip part with dynamics *p* and *p*.
- Movement 3:** Time signature 1:24. It features a Plate 3 part with dynamics *mf* and *mf*.

Time markers are indicated at 0:03, 0:02, 0:04, and 0:06. The score includes various musical notations such as notes, rests, and dynamic markings.

Three Movements for Violin and Sampled Sounds, mvmt 2

The musical score is organized into four systems, each with a time signature and dynamic marking:

- Violin:** Time signature 1:30, dynamic *mp*. The notation includes a series of notes with a crescendo hairpin and a *mf* dynamic marking.
- AirString:** Time signature 0:10, dynamic *mp*. The notation shows a series of notes with a crescendo hairpin and a *f* dynamic marking.
- Voice:** Time signature 0:09, dynamic *mp*. The notation features a series of notes with a crescendo hairpin and a *f* dynamic marking.
- Drip:** Time signature 1:40, dynamic *mp*. The notation consists of a series of notes with a crescendo hairpin and a *mf* dynamic marking.

Below the Drip system, there is a section labeled "Ice" with a center frequency of 1k. This section includes a series of notes with a crescendo hairpin and a *mf* dynamic marking, followed by a series of notes with a crescendo hairpin and a *mf* dynamic marking.

Three Movements for Violin and Sampled Sounds, mvmt 2

2:00

2:08

elapsed time: 0:08

elapsed time: 0:07

The musical score consists of five staves. The first staff is for Violin, starting with a piano (*p*) dynamic. The second staff is for AirString, starting with a forte (*f*) dynamic. The third staff is for Voice, starting with a mezzo-forte (*mf*) dynamic. The fourth staff is for Drip, with a center frequency of 200 Hz, starting with a mezzo-forte (*mf*) dynamic. The fifth staff is for Ice, with a center frequency of 250 Hz, starting with a mezzo-forte (*mf*) dynamic. The score includes various musical notations such as notes, rests, and dynamic markings. There are also time markers at 2:00 and 2:08, and elapsed time markers at 0:08 and 0:07. The page number 24 is in the top right corner.

Three Movements for Violin and Sampled Sounds, mvmt 2

2:15 elapsed time: 0:15 2:30 elapsed time: 0:10

The score consists of five staves. The first staff is for Violin, showing a melodic line with dynamic markings *mf* and *mp*. The second staff is for AirString, with a melodic line and dynamic markings *mf* and *mp*. The third staff is for Drip, with a rhythmic pattern and dynamic markings *cresc.* and *mp*. The fourth staff is for Voice, with a melodic line and dynamic markings *mf* and *pp*. The fifth staff is for Ice, with a rhythmic pattern and dynamic marking *mp*. Time markers at the top indicate 2:15 and 2:30, with corresponding elapsed times of 0:15 and 0:10.

Violin

AirString

Drip
Center
freq: 200

Voice

Ice
Center
freq: 250

Three Movements for Violin and Sampled Sounds, mvmt 2

The musical score is presented on four staves, each with a label below it: Violin, AirString, Voice, and Drip. The Violin staff is in treble clef and contains three distinct musical phrases. The first phrase starts at 2:34 and ends at 2:40, marked with a dynamic of *mp*. The second phrase starts at 2:48 and ends at 2:54, marked with a dynamic of *f*. The third phrase starts at 2:56 and ends at 3:02, marked with a dynamic of *f*. The AirString staff is in treble clef and contains a single note at 2:34, marked with a dynamic of *mf*. The Voice staff is in treble clef and contains a single note at 2:34, marked with a dynamic of *p*. The Drip staff is in treble clef and contains a single note at 2:34, marked with a dynamic of *mf*. The Drip staff also includes the text "Center freq. 200".

2:34 elapsed time: 0:06

2:40 elapsed time: 0:08

2:48 elapsed time: 0:08

2:56 elapsed time: 0:08

3:02

mp

f

f

mf

p

mf

Violin

AirString

Voice

Drip
Center
freq. 200

Three Movements for Violin and Sampled Sounds, mvmt 2

2:56

3:02

elapsed time: 0:06

elapsed time: 0:06

The musical score consists of four staves. The first staff is labeled 'Violin' and contains a melodic line with dynamic markings of *mf* and *mp*. The second staff is labeled 'AirString' and contains a melodic line with dynamic markings of *mf* and *f*. The third staff is labeled 'Voice' and contains a vocal line with dynamic markings of *mp* and *f*. The fourth staff is labeled 'Drip Center freq: 200' and contains a rhythmic pattern with a *cresc.* marking. The score is divided into two sections by a vertical line, with time markers 2:56 and 3:02 indicating the start of each section. Elapsed time markers of 0:06 are also present.

Three Movements for Violin and Sampled Sounds, mvmt 2

3:36

elapsed time: 0:16

Violin Tacit

Drip
Center
freq: 200

continue

mp

Ice
Center
freq: 200

p

Bowed Plate 2
Center
freq: 200

p

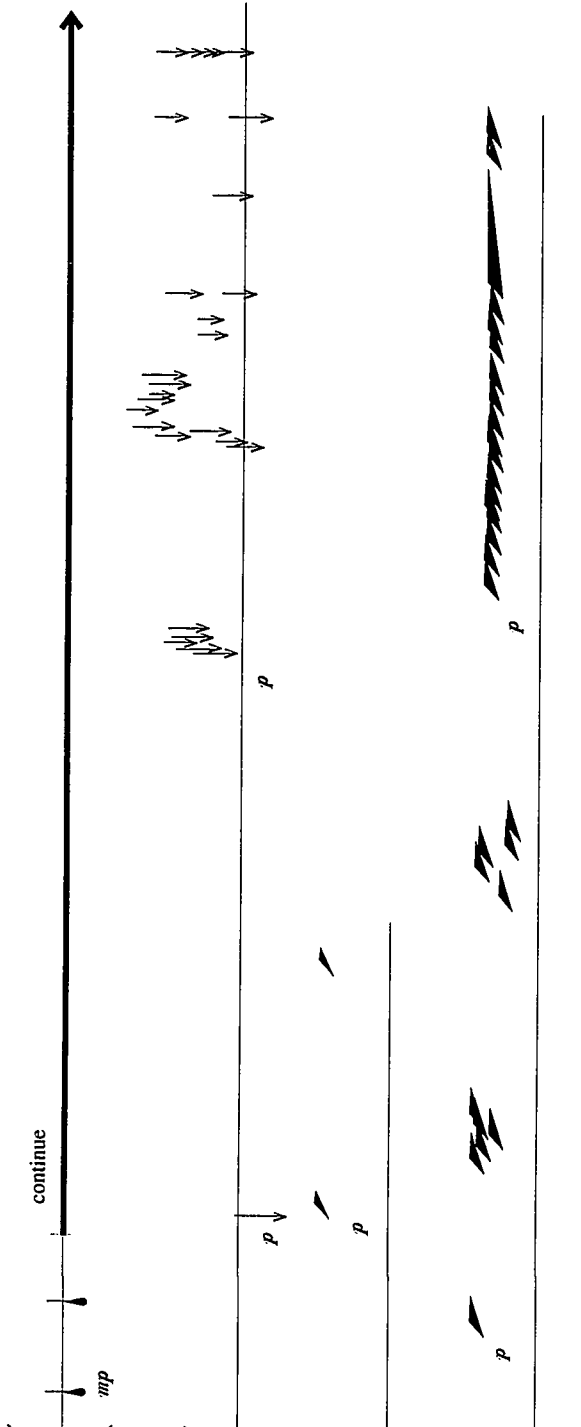
Bowed Plate 5
Center
freq: 200

p

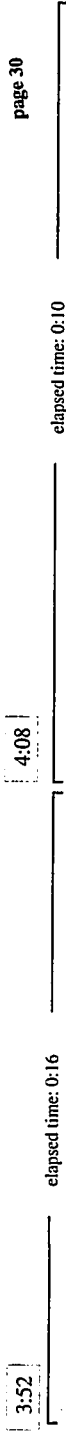
p

p

p



Three Movements for Violin and Sampled Sounds, mvmt 2



Violin Tacit



Bowed Plate 3
Center
freq: 200



Bowed Plate 4
Center
freq: 200



Three Movements for Violin and Sampled Sounds, mvmt 2

4:18

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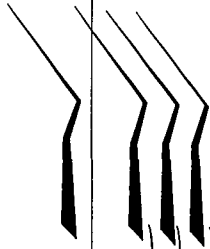
elapsed time: 0:15

Violin Tacit

Drip
Center
freq: 200



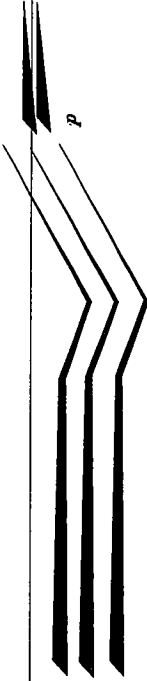
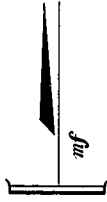
Bowed Plate 3
Center
freq: 200



Bowed Plate 5
Center
freq: 200



Bowed Plate 1
Center
freq: 200



p

p

p

Three Movements for Violin and Sampled Sounds, mvmt 2

3:36

elapsed time: 0:16

Violin Tacit

Bowed Plate 1
Center
freq: 200

Bowed Plate 3
Center
freq: 200



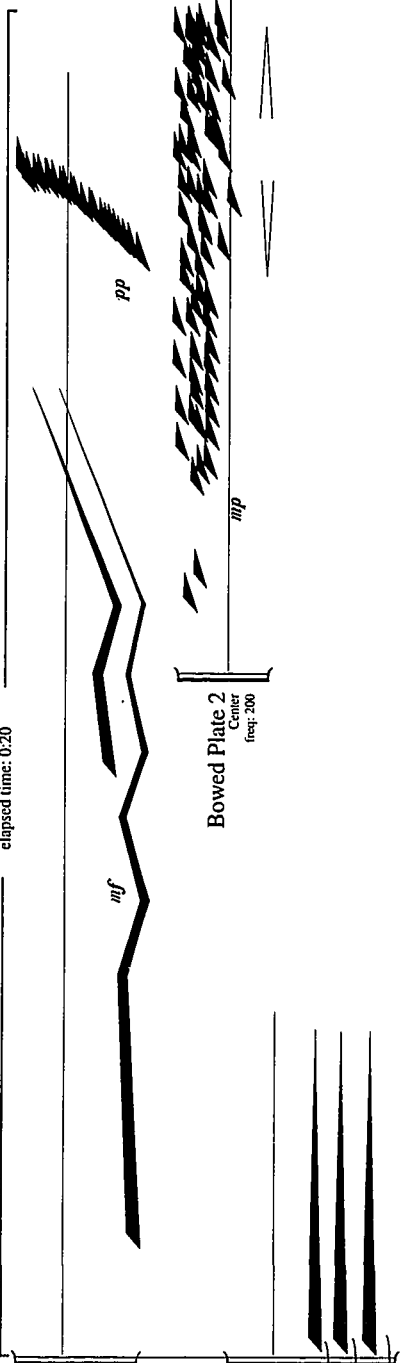
4:48

elapsed time: 0:20

Violin tacit

Bowed Plate 1
Center
freq: 200

Bowed Plate 3
Center
freq: 200



Three Movements for Violin and Sampled Sounds, mvmt 2

5:08

Violin Tacit

elapsed time: 0:25

Bowed Plate 2
Center
freq: 200



Three Movements for Violin and Sampled Sounds, mvmt 2

5:33 — elapsed time: 0:07 — 5:40 — elapsed time: 0:05 — 5:45 — elapsed time: 0:05

The score is divided into three time segments: 5:33-5:40 (0:07), 5:40-5:45 (0:05), and 5:45-5:50 (0:05). Each segment contains specific sampled sounds with their durations and dynamic markings.

- 5:33-5:40 (0:07):**
 - Bowed Plate 2:** Center, freq: 200, *mf*
 - Bowed Plate 1:** Center, freq: 200, *p*
 - Bowed Plate 4:** Center, freq: 200, *p*
 - Crunch:** *f*
- 5:40-5:45 (0:05):**
 - Drip:** Center, freq: 200, *p*, steady
 - Bowed Plate 1:** Center, freq: 200, *p*
- 5:45-5:50 (0:05):**
 - Talking Drum:** *mf*, float against Drip
 - Crunch:** *f*

Three Movements for Violin and Sampled Sounds, mvmt 2

5:50 5:58 elapsed time: 0:08 elapsed time: 0:07

$\text{♩} = 60$

Violin
non-vib, ponticello
p

Drip
Center
freq: 200
mp

Bowed Plate 1
Center
freq: 300
p

Bowed Plate 3
Center
freq: 200
mf

Pitched Drum
steady tempo, with Drip
p
repeat freely

Crunch
out of time
mf

Ankle Bells
out of time
mf

Talking Drum
out of time

FCym
p
settle into groove on any beat with Pitched Drum
repeat freely

String Drum
p
gradually settle into groove with Pitched Drum
out of time

Three Movements for Violin and Sampled Sounds, mvmt 2

6:05

6:25

0:03

elapsed time: 0:20

ponitcello gradually becomes non-ponitcello, always non-vib

Violin

Violin staff with musical notation. The notation shows a single note on the G line of the treble clef. The dynamic marking is *mf*.

Bowed Plate 1
Center
freq: 200

Bowed Plate 1 staff with musical notation. The notation shows a single note on the G line of the treble clef. The dynamic marking is *mp*.

Bowed Plate 3
Center
freq: 200

Bowed Plate 3 staff with musical notation. The notation shows a single note on the G line of the treble clef. The dynamic marking is *mf*.

Pitched Drum

Pitched Drum staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mf*. The text "steady tempo" is written above the staff.

FCym

FCym staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mf*. The text "settle into groove on any beat" is written above the staff.

Talking Drum

Talking Drum staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mp*.

Ankle Bells

Ankle Bells staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mp*.

String Drum

String Drum staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mf*.

Voice

Voice staff with musical notation. The notation shows a single note on the G line of the treble clef. The dynamic marking is *mf*.

Drip
Center
freq: 200

Drip staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mf*.

Crunch

Crunch staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mp*.

Mouth Harp

Mouth Harp staff with musical notation. The notation shows a series of notes on the G line of the treble clef. The dynamic marking is *mp*.

Three Movements for Violin and Sampled Sounds, mvmt 2

6:28 6:35 6:39 0:03
 elapsed time: 0:07

Violin

AirString

Voice
 hold note

Bowed Plate 1
 Center
 freq: 200

Bowed Plate 3
 Center
 freq: 200

Bowed Plate 5
 Center
 freq: 200

Drip
 Center
 freq: 200

Pitched Drum

Mouth Harp

String Drum

Crunch
 in groove

Ankle Bells
 repeat identically

Tamborim
 in groove

mp **mf** **f** **mp** **p**

All percussion parts groove: in tempo
 steady tempo
 repeat identically

repeat freely

in groove

in groove

repeat freely

repeat freely

repeat identically

settle into a loose groove

repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 2

6:42

elapsed time: 0:26

Violin

AirString

Voice

Bowed Plate 1
Center
freq: 200

Bowed Plate 3
Center
freq: 50

Bowed Plate 5
Center
freq: 200

Drip
Mouth Harp
Siring Drum
Pitched Drum
Ankle Bells
Tamborim
Talking Drum

continue from previous page

Three Movements for Violin and Sampled Sounds, mvmt 2

0:04 7:12 0:03

Violin

AirString

double 2 octaves down

hold note

Violin improvises on melodic motion of AirString

syncopated entrances

Voice

hold note

Bowed Plate 2
Center
freq: 200

Bowed Plate 3
Center
freq: 200

Bowed Plate 4
Center
freq: 200

Bowed Plate 5
Center
freq: 200

Drip
Mouth Harp
String Drum
Pitched Drum
Ankle Bells
Tamborim
Talking Drum

continue from previous page

Three Movements for Violin and Sampled Sounds, mvt 2

7:25

elapsed time: 0:20

Violin continues improvising on melodic motion of AirString

Violin

A musical staff in treble clef with a key signature of two flats (B-flat and E-flat). It contains a melodic line with various note values and rests.

double 2 octaves down

AirString

A musical staff in treble clef with a key signature of two flats. It features a melodic line with dynamic markings 'f' and 'mf'. Above the staff, there are two double asterisks (**).

Voice

A musical staff in bass clef with a key signature of two flats. It contains a melodic line with dynamic markings 'f' and 'mf'.

Bowed Plate 3
Center
freq: 200

A spectrogram showing frequency content over time. The vertical axis represents frequency, and the horizontal axis represents time. The plot shows several horizontal bands of energy, with dynamic markings 'f' and 'mf' indicating intensity changes.

continue from previous page

- Drip
- Mouth Harp
- String Drum
- Pitched Drum
- Ankle Bells
- Tamborin
- Talking Drum

Three Movements for Violin and Sampled Sounds, mvmt 2

The score is organized into ten horizontal tracks, each with a specific instrument or sound source. Time markers are placed above the tracks at 0:03, 0:04, 0:12, 7:45, 7:48, 7:52, 8:04, and 0:01. Dynamic markings include *mp* (mezzo-piano), *mf* (mezzo-forte), and *mf* (mezzo-forte).

- Violin:** Starts with the instruction "improvise".
- AirString:** Features a "hold note" instruction.
- Voice:** A track with a series of notes.
- Bowed Plate 3:** Center freq: 200. Includes a series of notes.
- Bowed Plate 5:** Center freq: 200. Includes a series of notes.
- Drip:** Center freq: 200. Includes the instruction "repeat identically".
- Pitched Drum:** Includes the instruction "repeat freely".
- Ankle Bells:** Includes the instruction "repeat identically".
- Tamborim:** Includes the instruction "repeat freely".
- Mouth Harp:** Includes the instruction "settle into a loose groove".
- String Drum:** Includes the instruction "repeat identically".

Other elements include a "Talking Drum" section with a specific rhythmic pattern and a "mf" dynamic marking.

Three Movements for Violin and Sampled Sounds, mvmt 2

The musical score is divided into three time segments: 0:05, 8:10, and 0:10. The instruments and their parts are as follows:

- Violin:** Treble clef, key signature of two flats. Part 1 (0:05) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 2 (8:10) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 3 (0:10) features a melodic line with notes G4, A4, Bb4, C5, and D5.
- AirString:** Treble clef, key signature of two flats. Part 1 (0:05) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 2 (8:10) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 3 (0:10) features a melodic line with notes G4, A4, Bb4, C5, and D5.
- Voice:** Bass clef, key signature of two flats. Part 1 (0:05) features a melodic line with notes G3, A3, Bb3, C4, and D4. Part 2 (8:10) features a melodic line with notes G3, A3, Bb3, C4, and D4. Part 3 (0:10) features a melodic line with notes G3, A3, Bb3, C4, and D4.
- Bowed Plate 3:** Center, freq: 200. Part 1 (0:05) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 2 (8:10) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 3 (0:10) features a melodic line with notes G4, A4, Bb4, C5, and D5.
- Pitched Drum:** Bass clef, key signature of two flats. Part 1 (0:05) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 2 (8:10) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 3 (0:10) features a melodic line with notes G4, A4, Bb4, C5, and D5.
- Tamborim:** Bass clef, key signature of two flats. Part 1 (0:05) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 2 (8:10) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 3 (0:10) features a melodic line with notes G4, A4, Bb4, C5, and D5.
- Mouth Harp:** Bass clef, key signature of two flats. Part 1 (0:05) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 2 (8:10) features a melodic line with notes G4, A4, Bb4, C5, and D5. Part 3 (0:10) features a melodic line with notes G4, A4, Bb4, C5, and D5.

Three Movements for Violin and Sampled Sounds, mvmt 2

8:20

elapsed time: 0:18

The musical score consists of four staves, each with a label below it: Violin, AirString, Voice, and Mouth Harp. The Violin staff is in treble clef with a key signature of two flats and a dynamic marking of *mp*. The AirString staff is also in treble clef with the same key signature and a dynamic marking of *p*. The Voice staff is in treble clef with the same key signature and a dynamic marking of *mp*. The Mouth Harp staff is in bass clef with the same key signature and a dynamic marking of *mf*. A large horizontal arrow spans the width of the page, positioned above the staves, indicating the duration of the piece.

Three Movements for Violin and Sampled Sounds, mvmt 2

8:38

elapsed time: 0:17

The musical score consists of four staves: Violin, AirString, Voice, and Mouth Harp. The Violin staff has a dynamic marking of *pp*. The AirString staff has a dynamic marking of *pp*. The Voice staff has dynamic markings of *mp* and *p*. The Mouth Harp staff has a dynamic marking of *mf*. Above the Voice staff, there are two diagrams: one for 'Ice Center freq: 1000' with three upward arrows and a dynamic marking of *mp*, and another for 'Bowed Plate 3 Center freq: 200' with a dynamic marking of *mp*.

Three Movements for Violin and Sampled Sounds, mvmt 2

The score is divided into three time segments: 0:03, 0:13, and 0:04. The 0:03 segment features an AirString part (pp) and a Drip sample (Center freq: 200). The 0:13 segment features a Voice part (pp) and a Bowed Plate 3 sample (Center freq: 200). The 0:04 segment features a Violin part (p) and a Bowed Plate 5 sample (Center freq: 200). The Mouth Harp part is also present in the 0:04 segment. The score includes various musical notations such as staves, notes, rests, and dynamic markings (pp, p, mf).

Time markers: 8:55, 8:55, 9:08, 0:03, 0:13, 0:04

AirString
pp

Violin
p

Voice
pp

Drip
Center
freq: 200

Ice
Center
freq: 1000

Bowed Plate 3
Center
freq: 200

Bowed Plate 5
Center
freq: 200

Mouth Harp

Three Movements for Violin and Sampled Sounds, mvmt 2

9:12 elapsed time: 0:06 9:18 elapsed time: 0:10

Violin
mf

AirString
mp

Voice
mp

Drip
Center
freq: 200

Bowed Plate 3
Center
freq: 200

Three Movements for Violin and Sampled Sounds, mvmt 2

9:28 elapsed time: 0:08 9:36 elapsed time: 0:06

The image displays a musical score for six different sound sources. Each source is represented by a horizontal staff with musical notation and dynamic markings. The sources are: Violin, AirString, Voice, Drip, Ice, and Bowed Plate 3. The Violin staff uses a treble clef and contains melodic lines with dynamics *mp* and *mf*. The AirString staff uses a bass clef and contains sustained notes with dynamics *mp* and *mf*. The Voice staff uses a bass clef and contains melodic lines with dynamics *mp* and *mf*. The Drip staff uses a treble clef and contains rhythmic patterns with a dynamic marking of *mp*. The Ice staff uses a treble clef and contains rhythmic patterns with a dynamic marking of *mp*. The Bowed Plate 3 staff uses a treble clef and contains sustained notes with a dynamic marking of *mp*. Below the Drip, Ice, and Bowed Plate 3 staves, there are additional markings: "Center freq: 200" for Drip, "Center freq: 2000" for Ice, and "Center freq: 200" for Bowed Plate 3. Arrows point from these frequency markings to the corresponding staves.

Three Movements for Violin and Sampled Sounds, mvmt 2

9:44 | 9:54 | elapsed time: 0:10 | elapsed time: 0:04

The musical score consists of five staves. The first staff is for Violin, with dynamics *mp* and *p*. The second staff is for AirString, with dynamics *mp* and *p*. The third staff is for Voice, with dynamics *mp* and *p*. The fourth staff is for Drip, with a center frequency of 200 and dynamic *mp*. The fifth staff is for Bowed Plate 3, with a center frequency of 200 and dynamic *mp*. The score includes various musical notations such as notes, rests, and dynamic markings.

Violin

AirString

Voice

Drip
Center
freq: 200

Bowed Plate 3
Center
freq: 200

Three Movements for Violin and Sampled Sounds, mvmt 2

9:58 10:00 0:02 elapsed time: 0:10 0:12

Violin

AirString

Voice

Drip
Center
freq: 200

Ice
Center
freq: 2000

Bowed Plate 3
Center
freq: 200

Three Movements for Violin and Sampled Sounds, mvmt 2

10:12 _____ elapsed time: 0:16 _____ 10:28

Violin tacit

Drip
Center
freq: 200

mp _____ *p* _____ *ppp*

End of movement 2

Violin Solo

Improvised unaccompanied violin

2:00 to 7:00

minutes

Movement 3

Instruments First Entrance

Violin	page 53
Nylon String	page 53
12 String	page 57
Pizzicato	page 57
Smooth Synth	page 53
Grand Piano	page 54
Pitched Drum	page 55
Talking Drum	page 55
Cowbell	page 55
Kick and Snare	page 19
Tamborine	page 55
Shaker	page 55
Tamborim	page 60
Wood Block	page 63

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Three Movements for Violin and Sampled Sounds

Movement 3

0:00 | 0:16 | 0:06 | $\text{♩} = 76$ a tempo

Violin *p* *mp* *mf*

Nylon String *p* *mp* *mf*

out of tempo *p*

0:23 | *rit...* *a tempo* *mp* *a tempo* *poco a poco cresc.*

Violin *cresc.* *rit...* *poco a poco cresc.*

Nylon String *cresc.* *rit...* *poco a poco cresc.*

The score is written for Violin and Nylon String. It begins with a time signature of 3/4 and a tempo of 76 beats per minute. The first system (0:00 to 0:16) features a Violin part starting with a piano (*p*) dynamic, followed by a mezzo-forte (*mp*) section, and ending with a mezzo-forte (*mf*) section. The Nylon String part starts with a piano (*p*) dynamic, followed by a mezzo-forte (*mp*) section, and ending with a mezzo-forte (*mf*) section. A section labeled "out of tempo" follows, with a piano (*p*) dynamic. The second system (0:23 onwards) features a Violin part with a mezzo-forte (*mp*) dynamic, followed by a section with a piano (*p*) dynamic and a "poco a poco cresc." marking. The Nylon String part starts with a piano (*p*) dynamic, followed by a mezzo-forte (*mp*) section, and ending with a mezzo-forte (*mf*) section. The score includes various musical notations such as notes, rests, and dynamic markings.

Three Movements for Violin and Sampled Sounds, mvmt 3

0:48 |

Violin

Nylon String

Grand Piano

p.

f.

cresc.

rit...

mp

p.

f.

cresc.

rit...

p.

f.

cresc.

rit...

Three Movements for Violin and Sampled Sounds, mvmt 3

1:12

page 55

elapsed time: 0:20

Musical score for Violin, Nylon String, Piano, and Synth. The score is written in 4/4 time with a key signature of one sharp (F#). The tempo is marked as quarter note = 84. The dynamics are marked as *f* (forte). The Violin part features a melodic line with a long note at the end. The Nylon String part has a rhythmic accompaniment. The Piano part has a complex texture with many notes. The Synth part has a melodic line with a long note at the end.

Musical score for Pitched Drum, Talking Drum, Tamborine, Cowbell, and Shaker. The score is written in 4/4 time with a key signature of one sharp (F#). The dynamics are marked as *mf* (mezzo-forte). The Pitched Drum part has a rhythmic pattern. The Talking Drum part has a rhythmic pattern. The Tamborine part has a rhythmic pattern. The Cowbell part has a rhythmic pattern. The Shaker part has a rhythmic pattern. The score includes instructions: "repeat freely", "repeat identically", "start on any weak beat", and "repeat identically".

Three Movements for Violin and Sampled Sounds, mvmt 3

1:35

elapsed time: 0:28

The musical score is presented in a multi-stem format. It includes the following parts:

- Violin:** A single staff with a treble clef, marked *mf*. It features a melodic line with a 'sweep pitch, ponticello' annotation.
- Nylon String:** A single staff with a treble clef, marked *mf*. It contains a melodic line.
- Piano:** A grand staff (treble and bass clefs) with a dynamic marking of *mf*. It features a complex, layered texture.
- Synth:** A grand staff (treble and bass clefs) with a dynamic marking of *mf*. It contains a complex, layered texture with a '(8th)' marking.
- Talking Drum:** A single staff with a 4/4 time signature and a dynamic marking of *mp*. It uses a rhythmic notation of 'x' marks.

A long horizontal line spans the width of the score, with a vertical tick mark at the beginning of the Talking Drum part. An arrow at the end of this line points to the right.

Three Movements for Violin and Sampled Sounds, mvmt 3

2:03 Violin plays with free tempo over the drone created by other instruments below

elapsed time: 0:25

Violin

non vib.

mf

Nylon String, 12-String, and Pizzicato

mf

all instruments play fairly continuous eighth notes, any order

continue

Talking Drum

mf

repeat freely

Shaker

mf

repeat freely

continue

2:28

Violin

continue

Nylon String, 12-String, and Pizzicato

continue from previous staff

continue

elapsed time: 0:25

Three Movements for Violin and Sampled Sounds, mvmt 3

page 58

2:58

elapsed time: 0:28

continue from previous page

continue

Violin

Nylon String, 12-String, and Pizzicato

Detailed description: This block contains the musical notation for the first movement. It features a single staff with a treble clef. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. There are several dynamic markings, including accents and hairpins. The piece concludes with a double bar line and the word "continue" written above the staff.

3:18

elapsed time: 0:14

fast improvisation:
modality of A minor with G[♯] and B[♭]

continue from previous stave

continue

Violin

Nylon String, 12-String, and Pizzicato

Detailed description: This block contains the musical notation for the second movement. It features a single staff with a treble clef. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. There are several dynamic markings, including accents and hairpins. The piece concludes with a double bar line and the word "continue" written above the staff.

Three Movements for Violin and Sampled Sounds, mvmt 3

3:56

pick any two notes and strum violin like a guitar, primarily in the written rhythm

elapsed time: 0:10

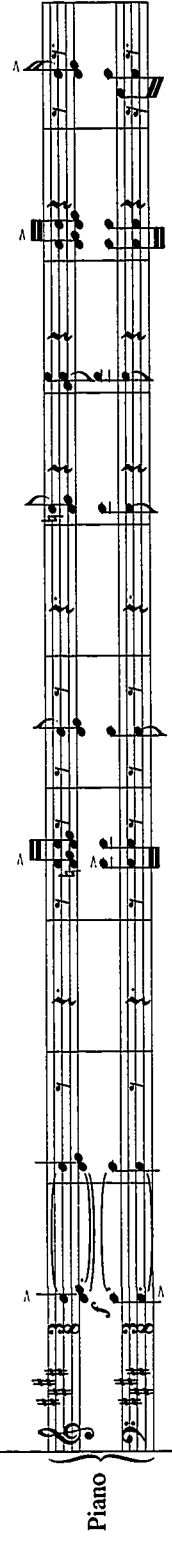
Violin



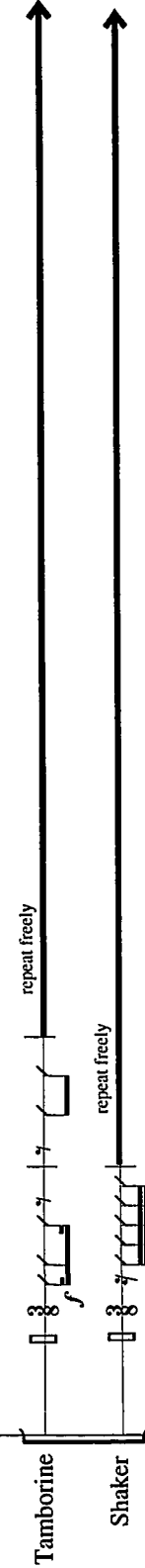
Nylon String



Piano



Tamborine



Shaker



x = closed, o = open



repeat freely

repeat freely

repeat identically

repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 3

4:06

elapsed time: 0:10

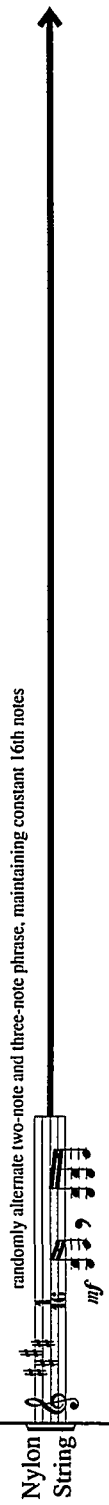
pick any two notes and strum violin like a guitar, primarily in the written rhythm

Violin

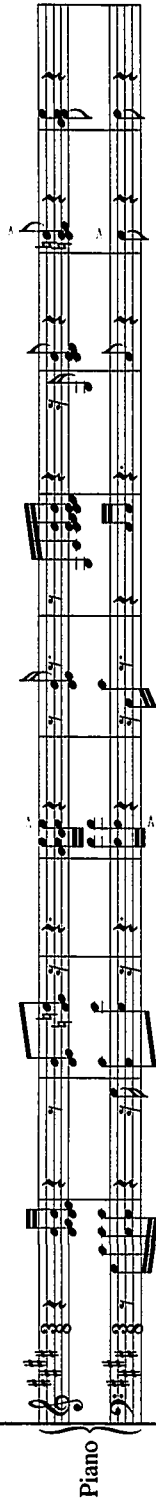


Nylon String

randomly alternate two-note and three-note phrase, maintaining constant 16th notes



Piano




Tamborine



Shaker



Tamborim



x = closed, o = open

repeat freely

repeat freely

repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 3

4:16 ————— elapsed time: 0:14

pick any two notes and strum violin like a guitar, primarily in the written rhythm

randomly alternate two-note and three-note phrase, maintaining constant 16th notes

Violin

Nylon String

Piano

Tamborine

Shaker

Tamborim

x = closed, o = open

repeat freely

repeat freely

repeat freely

Three Movements for Violin and Sampled Sounds, mvmt 3

4:30 elapsed time: 0:04

Violin
pick any two notes
mp

Nylon and 12 String
f

Piano

Tamborine
f | repeat freely

Shaker

Tamborim

Wood Block

V.S.

Three Movements for Violin and Sampled Sounds, mvmt 3

4:34

elapsed time: 0:10

Violin
Improvise rhythmically around 'B' pitch center (arco)

Nylon String
randomly alternate two-note and three-note phrase, maintaining constant 16th notes
mf

12-Str
randomly alternate two-note and three-note phrase, maintaining constant 16th notes
mf

Pizzicato
mf

Piano
f

Tamborine
f repeat freely

Shaker
f repeat freely

Tamborim
f x = closed, o = open repeat freely

Wood Block
f repeat freely

Three Movements for Violin and Sampled Sounds, mvmt 3

4:44

elapsed time: 0:10

The musical score consists of nine staves, each with a long horizontal arrow above it indicating the duration of the movement. The staves are:

- Violin:** Treble clef, key signature of two sharps (F# and C#). Instruction: "Improvise rhythmically around 'B' pitch center (arco)".
- Nylon String:** Treble clef, key signature of two sharps. Instruction: "randomly alternate two-note and three-note phrase, maintaining constant 16th notes".
- 12-Str:** Treble clef, key signature of two sharps. Instruction: "randomly alternate two-note and three-note phrase, maintaining constant 16th notes".
- Pizzicato:** Treble clef, key signature of two sharps. Instruction: "randomly alternate two-note and three-note phrase, maintaining constant 16th notes".
- Piano:** Treble and Bass clefs, key signature of two sharps. Instruction: "randomly alternate two-note and three-note phrase, maintaining constant 16th notes".
- Tamborine:** Treble clef, 3/8 time signature. Instruction: "repeat freely".
- Shaker:** Treble clef, 3/8 time signature. Instruction: "repeat freely".
- Tamborim:** Treble clef, 4/8 time signature. Legend: "x = closed, o = open". Instruction: "repeat freely".
- Wood Block:** Treble clef, 3/8 time signature. Instruction: "repeat freely".

Three Movements for Violin and Sampled Sounds, mvmt 3

4:55

elapsed time: 0:11

Violin Continue improvising

Nylon Guitar randomly alternate two-note and three-note phrase, maintaining constant 16th notes *mf*

12-Str Guitar randomly alternate two-note and three-note phrase, maintaining constant 16th notes *mf*

Pizzicato *mf*

Piano

Tamborine repeat freely

Shaker repeat freely

Tamborim x = closed, o = open repeat freely

Wood Block repeat freely

The image shows a musical score for a piece titled "Three Movements for Violin and Sampled Sounds, mvmt 3". The score is written for a variety of instruments and includes a time signature of 4:55 and an elapsed time of 0:11. The instruments listed are Violin, Nylon Guitar, 12-Str Guitar, Pizzicato, Piano, Tamborine, Shaker, Tamborim, and Wood Block. The Violin part is marked "Continue improvising". The Nylon Guitar and 12-Str Guitar parts are marked "randomly alternate two-note and three-note phrase, maintaining constant 16th notes" and "mf". The Pizzicato part is marked "mf". The Piano part is marked "mf". The Tamborine, Shaker, and Wood Block parts are marked "repeat freely". The Tamborim part is marked "repeat freely" and includes a legend: "x = closed, o = open". The score is written on multiple staves, with some parts having arrows pointing to the right, indicating they continue beyond the page.

Three Movements for Violin and Sampled Sounds, mvmt 3

5:06

5:20

elapsed time: 0:14

0:03

The musical score is arranged in a vertical layout. At the top, there are time markers: a box containing '5:06', a bracketed section labeled 'elapsed time: 0:14', a box containing '5:20', and a final bracketed section labeled '0:03'. The score consists of several staves:

- Violin:** A single staff with a treble clef, a key signature of one sharp (F#), and a 4/4 time signature. It begins with a dynamic marking of *f* and contains a complex melodic line with many sixteenth and thirty-second notes.
- 12-Str:** A staff with a treble clef, a key signature of one sharp, and a 4/4 time signature. It contains a melodic line with some rests.
- Pizzicato:** A staff with a treble clef, a key signature of one sharp, and a 4/4 time signature. It contains a rhythmic pattern of eighth notes.
- Piano:** A grand staff with a treble and bass clef, a key signature of one sharp, and a 4/4 time signature. It contains a melodic line with some rests.
- Pitched Drum:** A staff with a 4/4 time signature. It contains a rhythmic pattern of eighth notes with a dynamic marking of *f*.
- Tamborine:** A staff with a 4/4 time signature. It contains a rhythmic pattern of eighth notes with a dynamic marking of *f* and the instruction 'repeat freely'.
- Shaker:** A staff with a 4/4 time signature. It contains a rhythmic pattern of eighth notes with a dynamic marking of *f* and the instruction 'repeat freely'.
- Tamborim:** A staff with a 4/4 time signature. It contains a rhythmic pattern of eighth notes with a dynamic marking of *f* and the instruction 'repeat freely, improvise'.
- Wood Block:** A staff with a 4/4 time signature. It contains a rhythmic pattern of eighth notes with a dynamic marking of *f* and the instruction 'repeat freely'.

Three Movements for Violin and Sampled Sounds, mvmt 3

5:23 elapsed time: 0:22

Violin

open "A" and stopped "D"

bluesy improvisation *mf*

Piano *mf*

Pitched Drum repeat freely

Tamborine repeat freely

Shaker repeat freely

Wood Block

The image shows a musical score for a piece titled "Three Movements for Violin and Sampled Sounds, mvmt 3". The score is written on a grand staff with five staves. The first two staves are for Violin and Piano. The Violin part starts with a measure labeled "open 'A' and stopped 'D'", followed by a section of "bluesy improvisation" marked *mf*. The Piano part is also marked *mf*. The last three staves are for sampled sounds: Pitched Drum, Tamborine, and Shaker, each with a "repeat freely" instruction. The Wood Block staff is empty. A bracket on the left groups the Violin and Piano staves. A time signature of 5:23 and an elapsed time of 0:22 are indicated at the top. The page number "page 68" is in the top right corner.

Three Movements for Violin and Sampled Sounds, mvmt 3

7:15

a tempo

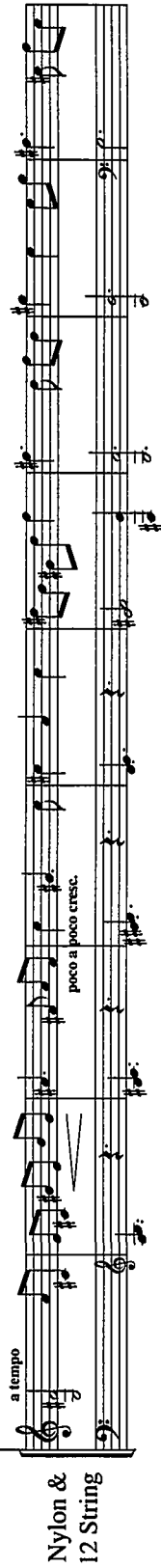
Violin



a tempo

poco a poco cresc.

Nylon & 12 String



Piano



mp
poco a poco cresc.

Three Movements for Violin and Sampled Sounds, mvmt 3

7:30

The musical score consists of three systems of staves. The first system is for the Violin, the second for Nylon & 12 String, and the third for Piano. Each system contains a single staff with musical notation. The Violin staff starts with a *mf* dynamic, followed by a *f* dynamic, and then a *cresc.* marking. The Nylon & 12 String staff starts with a *mf* dynamic, followed by a *f* dynamic, and then a *cresc.* marking. The Piano staff starts with a *mf* dynamic, followed by a *f* dynamic, and then a *cresc.* marking. The notation includes various rhythmic values, accidentals, and dynamic markings.

Three Movements for Violin and Sampled Sounds, mvmt 3

7:50 $\text{♩} = 86$ 0:22

Violin

Nylon String

12-Str

Piano

Synth

Pitched Drum mf repeat freely

Talking Drum mf repeat identically

Tamborine mf repeat identically start on any weak beat

Cowbell mf repeat identically

Shaker mf repeat freely

Three Movements for Violin and Sampled Sounds, mvmt 3

8:12 0:16 8:28 0:06

Violin

12-Str

Piano

Synth

Pitched Drum $\frac{5}{4}$ *mf* repeat freely

Talking Drum $\frac{4}{4}$ *mf* repeat identically

Cowbell $\frac{2}{4}$ *mf* repeat identically

Tamborine $\frac{3}{4}$ repeat identically

Shaker $\frac{2}{4}$ *mf* repeat freely

Kick & Snare $\frac{4}{4}$ repeat identically

Three Movements for Violin and Sampled Sounds, mvmt 3

8:34 8:57 9:20

0:23

Violin

12-Str

Piano

Synth

Pitched Drum

Kick & Snare

Tamborine

Shaker

Improvise constant 16th notes with extensive syncopation (Bluegrass fiddling style)

repeat 3 times

last time stop 16ths here; last time hold out a single note

decrease, last time only

decrease, last time only

decrease, last time only

decrease, last time only

repeat freely

repeat freely

repeat freely

repeat identically

repeat freely

last time stop here

last time stop here

last time stop here

last time stop here

repeat 2 to 4 times

repeat 2 to 4 times

repeat 2 to 4 times

repeat 2 to 4 times

Three Movements for Violin and Sampled Sounds, mvmt 3

9:42

9:50

The musical score consists of four staves. The Violin staff (top) begins with a treble clef and a key signature of two sharps (F# and C#). It contains a melodic line with various note values and rests. The 12-Str staff (second) uses a bass clef and contains a series of notes, some with a dynamic marking of *p*. The Piano staff (third) uses a bass clef and contains a series of notes, some with a dynamic marking of *p*. The Synth staff (bottom) uses a bass clef and contains a series of notes, some with a dynamic marking of *p*. The score concludes with the word "Fine" centered below the staves. The time signature is not explicitly shown but appears to be common time (C).

Fine