

Artificial Environments Nos. 1 to 5

for amplified ensemble and tape

commissioned by Césaré (centre national de creation musicale) and L'instant Donné

Joanna Bailie

Performance notes

instrument list

all instruments to be amplified

bass clarinet/clarinet in Bb

percussion (1 player):

32" timpani
bass drum
snare drum
large cymbal
vibraphone

violin
viola
cello

tape (to be synchronized with a clicktrack given to one or more players)

glissandi

glissandi start at the beginning of and finish at the end of the notes joined by the line.



accidentals



— an eighth-tone sharp



— a quarter-tone sharp



— three eighth-tones sharp



— five eighth-tones sharp



— three quarter-tones sharp



— a quarter-tone flat



— an eighth-tone flat

other signs and abbreviations



— normal bow



— heavier bow pressure, producing a sound between a normal bow and a distorted "scraping sound"



— comma for phrasing or breath. cut the preceding note short.



— indicates a transition from one state to another, usually bowing position.

p.o. — normal bowing position

p.s.p. — poco sul ponticello

s.p. — sul ponticello

m.s.p. — molto sul ponticello

pont — bow on the bridge

p.s.t. — poco sul tasto

s.t. — sul tasto

p.v. — poco vibrato

m.v. — molto vibrato

n.v. — non vibrato

Texts

Artificial Environment number one

Imagine a world where sound is subject to constant fluctuations in pitch and tempo as if it were being manually controlled like the playback of an old-fashioned tape machine. The fluctuations would not be predictable and could vary, say, between a slow romantic vibrato and angular glissandi of more than one octave in each direction. Composing music in such an environment, one might think, would be a case of just letting the material go and allowing it to be transformed by nature's chance operations.

Environnement Artificiel numéro un

Imaginez un monde où le son serait sujet à de constantes variations de hauteur et de tempo, comme s'il était contrôlé manuellement, par exemple avec la touche « retour en arrière » d'un ancien magnétophone. Les variations seraient imprévisibles, allant d'un lent vibrato romantique à des glissandi saccadés de plus d'une octave dans chaque direction. On pourrait penser que composer de la musique dans un tel environnement reviendrait simplement à laisser le matériau se transformer au gré des aléas naturels.

Artificial Environment number two

This world is a world where we hear sound as if it has been passed through a sonic stencil with time going along the x axis and pitch along the y. The spaces between openings in the stencil are so narrow that it often seems that the only sound existing is one vibrating, and roughly spectral harmonic field. At other times the spaces widen a little so that we can begin to distinguish the nature of the aural environment that has been masked - snatches of

conversation in a register where the words are still difficult to understand, the slam of a door almost entire, but with part of its middle register missing.

Environnement Artificiel numéro deux

Ce monde est un monde où nous entendons le son comme s'il était passé au travers d'un « pochoir sonore » avec la durée en abscisse et la hauteur en ordonnée. Les espaces entre les trous du pochoirs sont si étroits qu'on a l'impression que le seul son existant est un champ harmonique vibrant et plus ou moins spectral. À d'autres moments, les espaces s'agrandissent un peu si bien que l'on commence à distinguer la nature de l'environnement acoustique qui a été masqué : bribes de conversation dans un registre où les mots restent difficilement compréhensibles, claquement d'une porte dans sa quasi intégralité mais avec une partie du registre médium manquant.

Artificial Environment number three

Environment number three is a place where time is stopped and started in an aperiodic and therefore unpredictable manner. As frustrating as this must be for its inhabitants, it has a rather curious effect on sound: at the moment of freezing a split-second of sonic resonance is prolonged until life resumes again from the point where it was broken off. Even stranger is the effect that these freezes have on the general ambience - sound starts to behave like an inappropriately sentimental soundtrack - a bell, a passing car or a fragment of birdsong are given an air of gravitas and occasional nostalgia simply by being taken out of the continuum of everyday life and stretched into a chord.

Environnement Artificiel numéro trois

L'Environnement Artificiel numéro trois est un endroit où le temps

s'arrête et redémarre de façon aléatoire et imprévisible. Aussi frustrant que cela puisse être pour ses habitants, cela a un effet plutôt curieux sur le son : à l'instant du gel, un bref fragment de résonance se prolonge jusqu'au moment où la vie reprend son cours, à l'endroit où elle avait été arrêtée. L'effet de ces gels sur l'atmosphère générale est encore plus étrange : le son se met à se comporter comme une bande-son d'une sentimentalité incongrue – une cloche, une voiture qui passe, un fragment de chant d'oiseau prennent un air de gravité et de nostalgie momentanée, du simple fait d'être isolés du continuum de la vie quotidienne pour être étirés en un accord

Artificial Environment number four

In this world, sound seems to be operating according to a different principle entirely (and one that does not correspond with the actions that are apparently producing this sound). Large sections of sonic material are sliced into small fragments of differing lengths and then shuffled to produce a tapestry of discontinuity. One has to learn to listen very generally while at the same time concentrating quite hard in order to be able to put the pieces back together again in the right order. If you stay there long enough though, processing the process becomes second nature - so much so in fact, that you might not even notice anymore that it is happening.

Environnement artificiel numéro quatre

Dans ce monde, le son semble fonctionner entièrement selon un principe différent (indépendant des actions qui le produisent apparemment). De grandes sections de matériau sonore sont découpées en petits fragments de différentes longueurs puis mélangées pour former un tissage d'éléments discontinus. On doit apprendre à écouter de manière très générale en même temps qu'à se concentrer intensément pour être capable de remettre les

morceaux dans le bon ordre. Toutefois, si vous restez assez longtemps dans cet univers, effectuer ce travail devient une seconde nature – à tel point en réalité que vous pourriez ne même plus vous apercevoir qu'il se réalise.

Artificial Environment Number five

Artificial Environment Number 5 might be thought of as a kind of junction point for many different sound worlds. It's probably not very big, with just enough space to contain a largish mixing desk to which each of the external sound worlds is connected. Exactly what happens there is up to whoever's in charge — but needless to say the aim of the game is to try to find the music that exists somewhere amidst the perpetual raising and lowering of faders.

Environnement artificiel numéro cinq

L'Environnement Artificiel numéro cinq peut être pensé comme une sorte de point de jonction entre différents univers sonores. Il n'est sans doute pas très vaste, juste assez de place pour contenir une grande table de mixage à laquelle sont connectés tous les environnements sonores extérieurs. Très exactement, ce qui se passe ici dépend du préposé à la console – inutile de préciser que le but du jeu est de retrouver la musique originale cachée au milieu des effets obtenus avec la console.

(Texts: Joanna Bailie. French translation: Rémy Janin)

Artificial Environment No.1

Joanna Bailie

1 $\frac{4}{4}$ $\text{♩} = 60$
click starts
clarinet in B-flat

bass clarinet/clarinet

percussion
Tacet

1 $\frac{4}{4}$ click starts

violin
s.t.
 pp p mp p $5:4$

viola
p.o.
 ppp p ppp $5:4$

violoncello

6

cl.

perc.

vln

vla.

vlc.

pp

3:2

pp

3:2

pp

ppp

mp

p

mp

p

3:2

p

p.o.

p >

pp

3:2

n.v. → m.v. → n.v.

mp

s.t.

5:4

p

>

3:2

p

>

11

1:00

cl.

A single musical staff for Clarinet (cl.) in treble clef. It contains nine measures, each with a single eighth rest on the second line of the staff.

perc.

A percussion staff consisting of two staves. The top staff is in treble clef and contains nine measures, each with a single eighth rest on the second line. The bottom staff is in bass clef and contains nine measures, each with a single eighth rest on the second line.

11

1:00

vln

A single musical staff for Violin (vln) in treble clef. It contains nine measures, each with a single eighth rest on the second line of the staff.

vla.

A single musical staff for Viola (vla.) in alto clef. It contains nine measures, each with a single eighth rest on the second line of the staff.

vlc.

A single musical staff for Violoncello (vlc.) in bass clef. It contains nine measures, each with a single eighth rest on the second line of the staff.

20

cl.

Musical staff for Clarinet (cl.) in treble clef. It begins with a whole rest. In the second measure, there is a quarter rest followed by a quarter note G#4, a quarter note A4, and a quarter note B4, all beamed together. A dynamic marking *p* is placed below this group. The staff continues with whole rests in the remaining measures.

perc.

Musical staff for Percussion (perc.) in treble clef. It contains whole rests in all five measures. Below the staff, there are five small rectangular marks, one in each measure, indicating a specific percussion sound.

20

vln

Musical staff for Violin (vln) in treble clef. It contains whole rests in the first three measures. In the fourth measure, there is a quarter note G#4, a quarter note A4, and a quarter note B4, all beamed together. Above the staff, there are markings *p.o.* above G#4, *s.p.* above A4, and *p.o.* above B4. Below the staff, there are two *3:2* ratios with brackets under the A4 and B4 notes. A dynamic marking *mp* is placed below the first two notes. The staff continues with whole rests in the fifth measure.

vla.

Musical staff for Viola (vla.) in bass clef. It contains whole rests in the first three measures. In the fourth measure, there is a quarter note G#3, a quarter note A3, and a quarter note B3, all beamed together. Above the staff, there is a marking *s.p.* above G#3. Below the staff, there is a *3:2* ratio with a bracket under the A3 note. A dynamic marking *ppp* is placed below the first two notes. The staff continues with whole rests in the fifth measure.

vlc.

Musical staff for Violoncello (vlc.) in bass clef. It contains whole rests in the first two measures. In the third measure, there is a quarter note G#2, a quarter note A2, and a quarter note B2, all beamed together. Above the staff, there is a marking *p.s.t.* above G#2. Below the staff, there is a *3:2* ratio with a bracket under the A2 note. A dynamic marking *p* is placed below the first two notes. In the fourth measure, there is a quarter note G#2, a quarter note A2, and a quarter note B2, all beamed together. Above the staff, there is a marking *p.s.p.* above G#2. Below the staff, there are two *3:2* ratios with brackets under the A2 and B2 notes. A dynamic marking *pp* is placed below the first two notes. The staff continues with whole rests in the fifth measure.

25

cl.

perc.

vln

vla.

vlc.

5:4

p

p

m.v.

5:4

25

p.s.p.

s.p.

p.o.

m.v.

5:4

p

pp

s.p.

p.o.

m.v.

5:4

p

p.o.

m.v.

5:4

p

p.o.

s.p.

5:4

p

30 2:00

cl.

perc.

30 2:00

vln.

vla.

vlc.

p.o.
n.v.

mp

pp

pp

p.o.
n.v.

mp

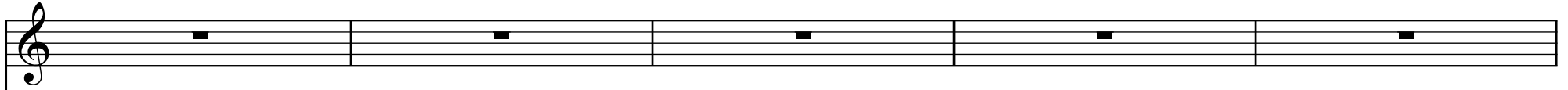
pp

mp

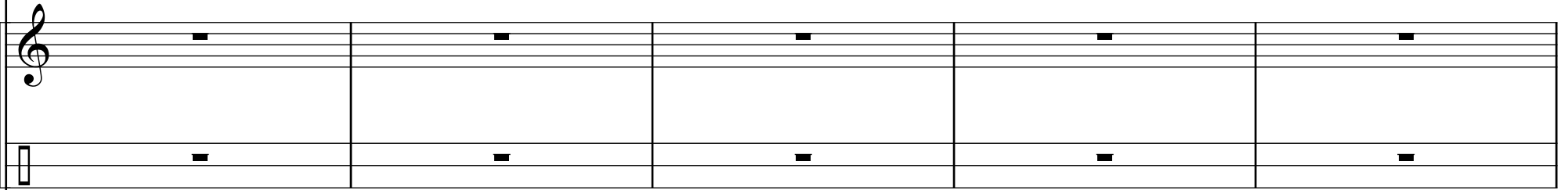
pp

36

cl.

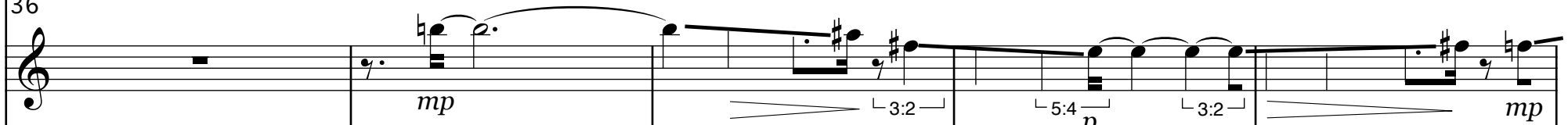


perc.

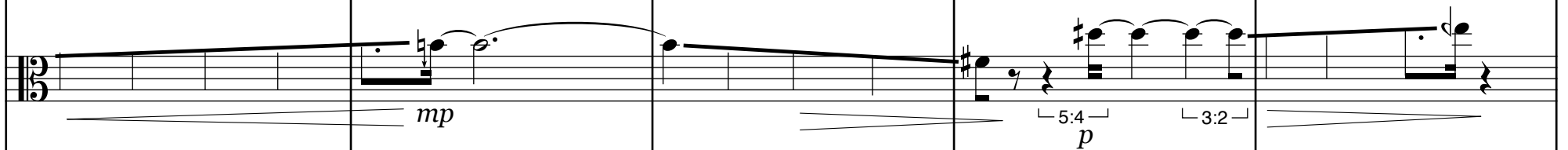


36

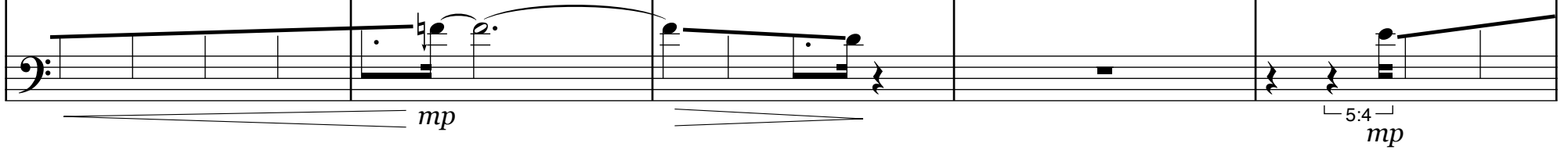
vln



vla.



vlc.



41

3:00

cl.

Musical staff for Clarinet (cl.) in treble clef. The staff contains six measures, each with a single black square indicating a rest.

perc.

Musical staff for Percussion (perc.) in treble clef. The staff contains six measures, each with a single black square indicating a rest. A vertical bar is present at the beginning of the first measure.

41

3:00

vln

Musical staff for Violin (vln) in treble clef. The staff contains six measures. The first measure has a whole note with a fermata. The second measure has a half note with a fermata. The remaining four measures each have a single black square indicating a rest. A hairpin crescendo is shown below the first two measures.

vla.

Musical staff for Viola (vla.) in bass clef. The staff contains six measures. The first measure has a whole note with a fermata. The second measure has a half note with a fermata. The remaining four measures each have a single black square indicating a rest. A hairpin crescendo is shown below the first two measures. The dynamic marking *mp* is present below the first measure.

mp

vlc.

Musical staff for Violoncello (vlc.) in bass clef. The staff contains six measures. The first measure has a whole note with a fermata. The second measure has a half note with a fermata. The remaining four measures each have a single black square indicating a rest. A hairpin crescendo is shown below the first two measures.

47

cl.

Musical staff for Clarinet (cl.) in treble clef. The staff contains six measures, each with a single horizontal line on the second line, indicating a whole rest.

perc.

Musical staff for Percussion (perc.) in treble clef. The staff contains six measures, each with a single horizontal line on the second line, indicating a whole rest. A small rectangular box is present at the beginning of the first measure.

47

vl'n

Musical staff for Violin (vl'n) in treble clef. The staff contains six measures. The first three measures have a single horizontal line on the second line. The fourth measure begins with a fermata over a whole note G#4, with the marking "p.o." above it. The fifth and sixth measures have a single horizontal line on the second line. A fermata is also present over the final measure.

p.o.

vla.

Musical staff for Viola (vla.) in bass clef. The staff contains six measures, each with a single horizontal line on the second line, indicating a whole rest.

vlc.

Musical staff for Violoncello (vlc.) in bass clef. The staff contains six measures, each with a single horizontal line on the second line, indicating a whole rest.

53

cl.

Musical staff for Clarinet (cl.) in treble clef. The staff contains six measures, each with a whole rest.

perc.

Musical staff for Percussion (perc.) in treble clef. The staff contains six measures, each with a whole rest. A small rectangular box is present at the beginning of the first measure.

53

vln

Musical staff for Violin (vln) in treble clef. The staff contains six measures. The first measure has a whole note with a dynamic marking *p*. The second measure has a whole note with a fermata. The third measure has a whole note with a fermata and a sharp sign. The fourth measure has a whole note with a fermata. The fifth measure has a whole note with a fermata. The sixth measure has a whole note with a fermata.

vla.

Musical staff for Viola (vla.) in bass clef. The staff contains six measures. The first three measures have whole rests. The fourth measure has a whole note with a dynamic marking *p.o.* and a fermata. The fifth measure has a whole note with a fermata. The sixth measure has a whole note with a fermata.

vlc.

Musical staff for Violoncello (vlc.) in treble clef. The staff contains six measures. The first measure has a whole rest. The second measure has a whole note with a dynamic marking *p.o.* and a fermata. The third measure has a whole note with a fermata. The fourth measure has a whole note with a dynamic marking *p* and a fermata. The fifth measure has a whole note with a fermata. The sixth measure has a whole note with a dynamic marking *p* and a fermata.

59

4:00

cl.

Musical staff for Clarinet (cl.) showing a whole rest in each of the six measures.

perc.

Musical staff for Percussion (perc.) showing a whole rest in each of the six measures.

59

4:00

vln

Musical staff for Violin (vln) starting with a melodic phrase in measures 59-60, followed by a sustained note with a hairpin crescendo and a *p* dynamic marking. The note is marked with a sharp sign and a fermata.

vla.


Musical staff for Viola (vla.) showing a sustained note with a hairpin crescendo and a *p* dynamic marking. The note is marked with a sharp sign and a fermata.

vlc.

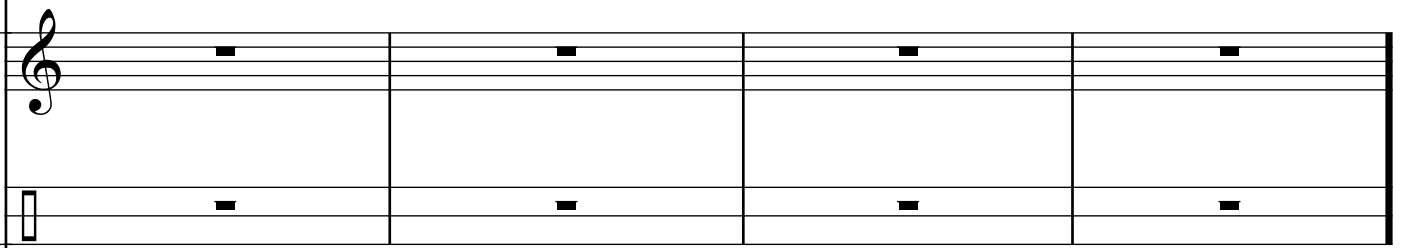
Musical staff for Violoncello (vlc.) showing a melodic phrase in measures 59-60, followed by a sustained note with a hairpin crescendo and a *p* dynamic marking. The note is marked with a sharp sign and a fermata.

65

cl.

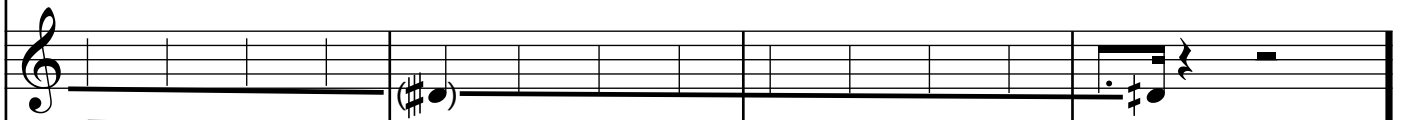


perc.




65

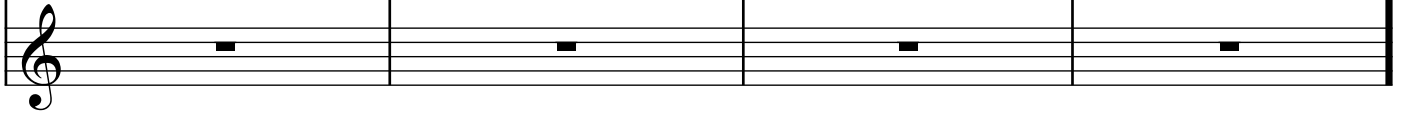
vln.



vla.



vlc.



Artificial Environment No.2

♩ = 60

1 **4** click starts
4 bass clarinet

clarinet

perc. **4** vibraphone

violin **4** click starts

viola **4**

cello **4**

p.s.p. m.v. (> (> (>)

pp

o (sempre) pp 7:4 6:4

Detailed description of the musical score: The score is for five instruments: clarinet, vibraphone, violin, viola, and cello. The tempo is 60 bpm (♩ = 60). The time signature is 4/4. The clarinet and vibraphone parts consist of rhythmic patterns of horizontal lines. The violin and viola parts feature melodic lines with accents (>) and dynamic markings. The violin part has a 'p.s.p. m.v.' marking and a 'pp' dynamic. The viola part has a 'p.s.p. m.v.' marking and a 'pp' dynamic. The cello part has a 'p.s.p. m.v.' marking and a 'pp' dynamic. The score is divided into three measures. The first measure is marked 'click starts' for the clarinet and 'click starts' for the violin. The second measure has a 'p.s.p. m.v.' marking for the violin and viola. The third measure has a 'pp' dynamic for the violin and viola, and a '7:4 6:4' marking for the cello.

8

cl.

perc.

vln

vla.

vlc.

p.o.
n.v.

p.s.p.
n.v.

p.s.t.
m.v.

(>) (>) (>) (>) (>) (>)

ppp

pp

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

ppp

Detailed description: This is a page of a musical score for five instruments: Clarinet (cl.), Percussion (perc.), Violin (vln), Viola (vla.), and Violoncello (vlc.). The page is numbered '8' at the top left. The Clarinet and Percussion staves are mostly empty, with small black squares indicating rests. The Violin staff begins with a half note, followed by a series of eighth notes with accents (>) and slurs. Below the violin staff, there are dynamic markings 'pp' and rhythmic groupings '3:2', '3:2', '5:4', and '3:2'. The Viola and Violoncello staves have long, sweeping lines indicating sustained notes. The Viola staff has a dynamic marking 'ppp' and the Violoncello staff has a dynamic marking 'ppp'. Performance instructions like 'p.o. n.v.', 'p.s.p. n.v.', and 'p.s.t. m.v.' are placed above the respective staves.

12

cl.

perc.

vln

vla.

vlc.

arco

pedal as necessary

ppp

p.s.t.

ppp

Detailed description: This is a page of a musical score for five instruments: Clarinet (cl.), Percussion (perc.), Violin (vln), Viola (vla.), and Violoncello (vlc.). The score is divided into four measures. The Clarinet part consists of four measures of whole rests. The Percussion part has whole rests in the first three measures, followed by a half note in the fourth measure, with an 'arco' instruction above it. The Violin part has a half note in the first measure, followed by whole rests in the remaining three measures. The Viola part consists of four measures of whole rests. The Violoncello part has a half note in the first measure, followed by whole notes in the second, third, and fourth measures, with a 'p.s.t.' instruction above the first measure. Performance instructions include 'pedal as necessary' and 'ppp' (pianissimo) markings with hairpins. The page number '12' is at the top left.

16

1:00

cl.

Musical staff for Clarinet (cl.) showing a series of rests across four measures.

perc.

Musical staff for Percussion (perc.) showing a melodic line with a slur and a fermata over the first two notes, followed by rests and a final note with a slur and fermata.

vln

Musical staff for Violin (vln) showing a melodic line with a slur and fermata. Performance markings include *p.o. n.v.* above the first measure and *pp* below the second and third measures. A *p.s.t.* marking is above the final note.

vla.

Musical staff for Viola (vla.) showing a melodic line with a slur and fermata. Performance markings include *p.s.t. p.v.* above the first measure, *pp* below the first measure, and *p.s.p. m.v.* above the second measure. A *p* marking is below the final measure. A *5:4* ratio is indicated below the first measure.

vlc.

Musical staff for Violoncello (vlc.) showing a series of rests across four measures.

20

cl. *p*

perc. *p* *p*

vln *p* *p* p.s.t. m.v.

vla. p.o. n.v. p.s.p. p.v. *p* *p*

vlc. p.o. *p* p.o.

Detailed description: This page of a musical score contains five staves. The first staff is for Clarinet (cl.) in treble clef, showing rests followed by a half note G4 and a half note F4, both marked *p*. The second staff is for Percussion (perc.) in treble clef, with a half note G4 marked *p*, followed by a half note F4 marked *p*, and a final quarter note G4. The third staff is for Violin (vln) in treble clef, with a half note G4 marked *p*, followed by a half note F4 marked *p*, and a half note G4 marked p.s.t. with a downward-pointing arrow and m.v. below it. The fourth staff is for Viola (vla.) in treble clef, with a half note G4 marked p.o. n.v., followed by a half note F4 marked *p*, and a half note G4 marked p.s.p. p.v. The fifth staff is for Violoncello (vlc.) in bass clef, with a half note G3 marked p.o., followed by a half note F3 marked *p*, and a half note G3 marked p.o. with a downward-pointing arrow below it.

24

cl.

perc.

vln

vla.

vlc.

pp

p.s.p.
m.v.

(>)

5:4

pp

3:2

28

2:04

cl.

Musical staff for Clarinet (cl.) in treble clef. It contains four measures of music. The first and second measures have a whole rest. The third measure has a whole note with a fermata and a '2' above it. The fourth measure has a whole rest.

perc.

Musical staff for Percussion (perc.) in treble clef. It contains four measures of music. The first and second measures have a whole rest. The third measure has a whole note with a fermata and a '2' above it. The fourth measure has a whole rest.

vln

Musical staff for Violin (vln) in treble clef. It contains four measures of music. The first and second measures have a whole rest. The third measure has a whole note with a fermata and a '2' above it. The fourth measure has a whole rest.

vla.

Musical staff for Viola (vla.) in treble clef. It contains four measures of music. The first measure has a half note with a fermata and a 'p' dynamic marking. The second measure has a whole rest. The third measure has a whole note with a fermata and a '2' above it. The fourth measure has a whole rest. A hairpin crescendo is shown below the staff, starting from the first measure and ending at the second measure.

vlc.

Musical staff for Violoncello (vlc.) in bass clef. It contains four measures of music. The first and second measures have a whole rest. The third measure has a whole note with a fermata and a '2' above it. The fourth measure has a whole note with a fermata, a 'p.o.' dynamic marking, and a melodic line with a slur. A hairpin crescendo is shown below the staff, starting from the first measure and ending at the second measure. The dynamic marking 'mp' is written below the staff at the end of the fourth measure.

33

cl.

perc.

vl. n.

vla.

vl. c.

35

cl.

perc.

vln

vla.

p.o.

p

vlc.

37

cl.

perc.

vl. in

vl. a.

vl. c.

39

clarinet in Bb

cl.

Musical staff for clarinet in Bb. The staff begins with a whole rest. At measure 39, it starts with a quarter rest followed by a series of eighth notes. The first group of three eighth notes is marked with a bracket and '7:4' and a dynamic marking of *p*. The second group of three eighth notes is also marked with a bracket and '7:4'. The final eighth note is marked with a bracket and '7:4'. A slur covers the entire eighth-note sequence.

perc.

Musical staff for percussion. The staff contains two whole rests, one in measure 38 and one in measure 39.

vl.

Musical staff for violin. The staff begins with a series of eighth notes. The first group of three eighth notes is marked with a bracket and '5:4'. The second group of three eighth notes is marked with a bracket and '7:4'. A slur covers the entire eighth-note sequence. At measure 39, the staff starts with a quarter rest followed by a series of eighth notes. The first group of three eighth notes is marked with a bracket and '7:4' and a dynamic marking of *mp*. The second group of three eighth notes is marked with a bracket and '7:4'. The final eighth note is marked with a bracket and '7:4'. A slur covers the entire eighth-note sequence.

vla.

Musical staff for viola. The staff begins with a series of eighth notes. The first group of three eighth notes is marked with a bracket and '5:4'. The second group of three eighth notes is marked with a bracket and '7:4'. The third group of three eighth notes is marked with a bracket and '7:4'. A slur covers the entire eighth-note sequence. At measure 39, the staff starts with a quarter rest followed by a series of eighth notes. The first group of three eighth notes is marked with a bracket and '7:4' and a dynamic marking of *mf*. The second group of three eighth notes is marked with a bracket and '7:4'. The final eighth note is marked with a bracket and '7:4'. A slur covers the entire eighth-note sequence.

vlc.

Musical staff for violoncello. The staff begins with a series of eighth notes. The first group of three eighth notes is marked with a bracket and '5:4'. The second group of three eighth notes is marked with a bracket and '7:4'. The third group of three eighth notes is marked with a bracket and '7:4'. A slur covers the entire eighth-note sequence. At measure 39, the staff starts with a quarter rest followed by a series of eighth notes. The first group of three eighth notes is marked with a bracket and '7:4' and a dynamic marking of *f*. The second group of three eighth notes is marked with a bracket and '7:4'. The final eighth note is marked with a bracket and '7:4'. A slur covers the entire eighth-note sequence.

41

cl.

perc.

vln

vla.

vlc.

6:4

poco

The image shows a page of a musical score for measures 41 and 42. The score is written for five instruments: Clarinet (cl.), Percussion (perc.), Violin (vln), Viola (vla.), and Violoncello (vlc.). The key signature has one sharp (F#) and the time signature is 6:4. The tempo marking is *poco*. A large brace spans across measures 41 and 42 for the woodwinds and strings. The percussion part has a single note in measure 42. The woodwinds and strings play a melodic line in measure 41, which continues into measure 42. The score ends with a double bar line at the end of measure 42.

Artificial Environment No.3

1 $\text{♩} = 60$ click starts Blend with each other and the tape clarinet in Bb

bass clarinet/clarinet

7 3

percussion

vibraphone
motor off, arco

7 3

pedal as necessary

violin

7 3

p.s.t.

viola

7 3

p.s.t.

violoncello

7 3

p.s.t.

14

1:00

3

cl.

perc.

vln

vla.

vlc.

mp

pp

p

p.o.

p.s.t.

3:2

3

22

cl.

perc.

vln

vla.

vlc.

4

4

4

4

pp

pp

pp

pp

pp

pp

p.s.p.

p.s.p.

p.s.p.

p.s.p.

p.o.

p.o.

p.o.

p.o.

31

2:00

cl.

A musical staff for a clarinet (cl.) showing six measures of rests, represented by short horizontal lines on the staff.

perc.

A musical staff for percussion (perc.) showing six measures of notes. Each measure contains a single note on the second line of the staff, connected by a slur. A *pp* dynamic marking is placed below the staff.

vln

A musical staff for violin (vln) showing six measures of notes. Each measure contains a single note on the first line of the staff, connected by a slur. A *pp* dynamic marking is placed below the staff.

vla.

A musical staff for viola (vla.) showing six measures of notes. The first five measures contain a single note on the second line of the staff, connected by a slur. The sixth measure contains two notes on the second and third lines of the staff, also connected by a slur. A *pp* dynamic marking is placed below the staff.

vlc.

A musical staff for violoncello (vlc.) showing six measures of notes. The first measure contains a single note on the first line of the staff, connected by a slur. The second measure contains a single note on the first line of the staff, connected by a slur. The third measure contains a single note on the first line of the staff, connected by a slur. The fourth measure contains a single note on the first line of the staff, connected by a slur. The fifth measure contains a single note on the first line of the staff, connected by a slur. The sixth measure contains a single note on the first line of the staff, connected by a slur. A *pp* dynamic marking is placed below the staff.

37

cl. *pp* $\frac{3:2}$ *p* $\frac{5:4}$ *p*

perc. $\frac{3:2}$ *pp* *p* $\frac{5:4}$ *p*

vln p.s.t. p.o. $\frac{5:4}$ *pp* $\frac{3:2}$ *p* *p* p.s.p.

vla. p.s.t. p.o. $\frac{5:4}$ *pp* $\frac{3:2}$ *p* *p* p.s.p.

vlc. p.s.t. p.o. $\frac{5:4}$ *pp* $\frac{3:2}$ *p* *p* p.s.p.

Detailed description: This page of a musical score covers measures 37 to 40. It features five staves: Clarinet (cl.), Percussion (perc.), Violin (vln), Viola (vla.), and Violoncello (vlc.). The music is written in treble clef for the upper instruments and bass clef for the lower ones. The key signature has one sharp (F#). The score includes various dynamic markings such as *pp* (pianissimo) and *p* (piano), along with articulations like accents and slurs. Rhythmic patterns are indicated by ratios like 3:2 and 5:4. The percussion part includes a snare drum pattern. The string parts (vln, vla., vlc.) feature melodic lines with slurs and accents, often playing in unison or octaves.

3:00

43

cl. p.v. *p*

perc. 5:4 *mp*

vln p.o. p.v. p.v. *mp* *p*

vla. p.o. p.v. 5:4 *mp* *p*

vlc. p.o. p.v. 5:4 *mp*

52

n.v.

cl.

Musical staff for Clarinet (cl.). It features a treble clef and a 3/4 time signature. The staff contains two measures of music. The first measure has a 3:2 ratio bracket above it and a *p* dynamic marking below. The second measure also has a 3:2 ratio bracket above it and a *p* dynamic marking below. The notes are quarter notes, and there are crescendo and decrescendo hairpins.

perc.

Musical staff for Percussion (perc.). It features a treble clef and a 3/4 time signature. The staff contains two measures of music. The first measure has a 3:2 ratio bracket above it and a *p* dynamic marking below. The second measure also has a 3:2 ratio bracket above it and a *p* dynamic marking below. The notes are quarter notes, and there are crescendo and decrescendo hairpins.

vln

Musical staff for Violin (vln). It features a treble clef and a 3/4 time signature. The staff contains two measures of music. The first measure has a 3:2 ratio bracket above it, a *p* dynamic marking below, and the text "p.s.t." and "n.v." above. The second measure has a 3:2 ratio bracket above it, a *p* dynamic marking below, and the text "p.o." above. The notes are quarter notes, and there are crescendo and decrescendo hairpins.

vla.

Musical staff for Viola (vla.). It features a bass clef and a 3/4 time signature. The staff contains two measures of music. The first measure has a 3:2 ratio bracket above it, a *p* dynamic marking below, and the text "p.s.t." and "n.v." above. The second measure has a 3:2 ratio bracket above it, a *p* dynamic marking below, and the text "p.o." above. The notes are quarter notes, and there are crescendo and decrescendo hairpins.

vlc.

Musical staff for Violoncello (vlc.). It features a bass clef and a 3/4 time signature. The staff contains two measures of music. The first measure has a 3:2 ratio bracket above it, a *p* dynamic marking below, and the text "p.s.t." and "n.v." above. The second measure has a 3:2 ratio bracket above it and a *p* dynamic marking below. The notes are quarter notes, and there are crescendo and decrescendo hairpins.

58

4:00

cl. *mp* *pp* *p*

perc. *mp* *pp* *p*

vln *p.s.p.* *p.o.* *p*

vla. *p.s.p.* *p* *p.s.t.*

vlc. *p.s.p.* *p.o.* *p.s.t.* *mp* *pp* *p*

64

cl. p.v. 3:2 pp

perc. 3:2 pp pp pp

vln p.o. p.v. pp 3:2 pp pp

vla. p.o. p.v. pp 3:2 pp pp

vlc. p.o. p.v. 3:2 pp p.v. pp

Detailed description: This page of a musical score covers measures 64 through 68. It features five staves: Clarinet (cl.), Percussion (perc.), Violin (vln), Viola (vla.), and Violoncello (vlc.). The Clarinet part begins in measure 64 with a rest, followed by a triplet of eighth notes (F#4, G4, A4) in measure 65, which is marked *pp* and *p.v.*. The Percussion part plays a rhythmic pattern of eighth notes throughout, with a triplet of eighth notes in measure 65, also marked *pp*. The Violin and Viola parts play a melodic line of eighth notes, with triplets in measures 65 and 67, marked *pp*. The Violoncello part plays a bass line with a triplet of eighth notes in measure 65, marked *pp*. The score includes various musical notations such as rests, notes, slurs, and dynamic markings.

70

5:00

cl.

Musical staff for Clarinet (cl.) in treble clef. It features a series of six measures. The first measure contains a whole rest. The second measure contains a double bar line with a '2' above it, indicating a second ending. The remaining four measures each contain a whole rest.

perc.

Musical staff for Percussion (perc.) in treble clef. It begins with a quarter note followed by a quarter rest, then a double bar line with a '2' above it. The rest of the staff contains four measures of whole rests.

vln

Musical staff for Violin (vln) in treble clef. It starts with a quarter note and a quarter rest, followed by a double bar line with a '2' above it. The third measure begins with a key signature change to one sharp (F#) and contains a half note. The final three measures contain half notes, each with a slur above it and a dynamic marking of *p* below it.

vla.

Musical staff for Viola (vla.) in bass clef. It starts with a quarter note and a quarter rest, followed by a double bar line with a '2' above it. The third measure begins with a key signature change to one sharp (F#) and contains a half note. The final three measures contain half notes, each with a slur above it and a dynamic marking of *p* below it.

vlc.

Musical staff for Violoncello (vlc.) in bass clef. It starts with a quarter note and a quarter rest, followed by a double bar line with a '2' above it. The third measure begins with a key signature change to one sharp (F#) and contains a half note. The final three measures contain half notes, each with a slur above it and a dynamic marking of *p* below it.

77

cl.

perc.

vln.

vla.

vlc.

3

3

3

3

3

>

>

The image shows a musical score for five instruments: Clarinet (cl.), Percussion (perc.), Violin (vln.), Viola (vla.), and Violoncello (vlc.). The score is divided into three measures. The first measure (measure 77) contains musical notation for each instrument, including a dynamic marking of '>' (accent) under the first notes of the violin and cello. The second measure (measure 78) shows rests for all instruments. The third measure (measure 79) features a triplet of eighth notes for each instrument, indicated by a '3' above the notes. The score concludes with a double bar line.

Artificial Environment No.4

approx. 70
seconds of tape $\text{♩} = 60$
click starts

The score is for a 4/4 piece. The bass clarinet part begins with a melodic line starting at the fourth measure, marked *mf*, with dynamics increasing to *f* and then *mp*. The percussion part features a large cymbal and snare drum/bass drum, with *f* dynamics and 3:2 ratios. The string parts (violin, viola, violoncello) enter at the fourth measure with *p.o.* dynamics and *f* dynamics, also featuring 3:2 ratios.

bass clarinet

bass clarinet/clarinet

timpani

large cymbal

snare drum
bass drum

violin

viola

violoncello

mf *f* *f* *mp*

f *f* *f*

p.o. *f* *mp* *f* *mp*

p.o. *mp* *mp* *mp*

3:2 3:2 3:2

3:2 3:2 3:2

3:2 3:2 3:2

3:2 3:2 3:2

5

cl. *f mp mf mp p* *< p >* *mf* *f* *p p* *p mf mf*

perc. *p* *mf p* *< p >* *mf f > f* *mf* *mf f*

vln *mf*

vla. *p* *mf f* *mf* *mf* *mf* *s.p.*

vlc. *p f mp mf mp p* *< p >* *mf f > f >* *mf* *mf* *mf* *s.p.*

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

8

cl.

perc.

vln

vla.

vlc.

8

p *mp* *p* *p* *p*

pp *p* *mf* *mp* *mp* *p* *mp* *p* *p* *p* *p* *p* *p* *mf* *ff* *mf*

p *p.o.* *mf* *p* *mf* *ff* *mf* *mf* *ff* *mf* *ff* *mf*

p.o. *mf* *mp* *p* *p* *p* *p.o.* *3:2* *s.p.* *p* *p* *mf* *ff* *mf*

3:2 3:2 3:2

3:2 3:2 3:2

3:2 3:2 3:2

↓ ↓ ↓ ↓

11

cl. *< mf ff* *f* *mf* *p* *mp*

perc. *mf* *ff* *mf* *f* *mf* *p* *ff* *mp* *p* *mf* *mf* *p*

11

vln *ff* *p* *s.p.* *p.o.* *pp*

vla. *ff* *ff* *mp* *pp* *mf* *mp* *mf*

vlc. *mf* *ff* *f* *mf* *ff* *mp* *pp* *mf* *mp* *mf*

40

14

cl. *mf* *p* *mf* *p* *ff* *mf*

perc. *f* *p* *ff* *ppp* *mf* *p* *mf* *ff* *f* *f*

vln. 14 *pp* *ppp* *p* *p* *pp* *s.p.*

vla. *f* *pp* *ff* *ff* *p.o.* *ff*

vlc. *f* *ff* *mf* *s.p.* *s.p.* *p.o.* *s.p.* *mf* *ff* *f*

3:2

(>)

s.p.

p.o.

41

cl. 17 3:2 3:2
p *p*

perc. 3:2
p *f* *mf* *mf* *p* *mp*
 3:2 3:2 3:2

vln 17 s.p. 3:2
mp

vla. 3:2 3:2
f *mf*

vlc. 3:2 3:2 3:2 3:2
f *mp* *mf* *f* *mp*
 p.o. s.p. p.o. s.p.

20

cl.

p

3:2

f

3:2

p

3:2

perc.

p

3:2

mp

3:2

mf

f

3:2

p

3:2

mp

mp

3:2

20

vln

pp

s.p.

3:2

pp

3:2

mf

vla.

s.p.

3:2

p

3:2

vcl.

p.o.

3:2

pp

mp

3:2

s.p.

3:2

f

3:2

p.o.

3:2

mp

3:2

mp

23

cl.

perc.

vln

vla.

vlc.

f

f

f

mf

f

mf

mf

f

mf

3:2

3:2

3:2

3:2

3:2

3:2

3:2

3:2

3:2

3:2

3:2

p.o.

↓

↓

↓

Artificial Environment No.5

1 $\frac{4}{4}$ $\text{♩} = 60$ click starts

bass clarinet

1:00

bass clarinet/clarinet

vibraphone

percussion

bass drum

1 $\frac{4}{4}$

violin

s.p.

mf

viola

violoncello

5

cl. *mp*

perc. *mf* *pp*

hard sticks damp
soft sticks damp

3:2

5

vln *p*

m.v. p.s.t. m.s.p. n.v.

3:2 3:2 3:2

vla. *mp* *pp*

s.t. s.p.

vcl. *pp*

p.o. pizz. 5:4

10

cl.

perc.

vln

vla.

vlc.

pp

mp

pp

p

mp

p

p

p

pp

p

mp

3:2

5:4

5:4

3:2

5:4

5:4

3:2

5:4

hard sticks

I.v.

p.v. s.t.

s.t. pizz.

arco p.o.

arco s.p.

p.o.

15 2:00

cl. *mp* *p* *ppp* damp *pp*

perc. *pp*

vln *p.o. m.v.* *n.v. m.s.p.* *p.o. pizz.* arco *s.p.*

vla. *s.t.* *p.s.t.* *p.s.p.* *p.s.t.*

vlc. *p* *pp*

19

cl. *air*

pp > *<pp>* *ppp* > *mp* *mp* > *<pp>*

perc. *soft sticks*

mp *mp* *pp* *p* *pp* *p*

19

vln *p.o. pizz.*

pp

vla. *p.s.p. arco*

mf *<mp*

vcl. *p.o. p.v.* *n.v.*

mp *pp* *p.s.p. n.v.*

<p> *<p>*

23

cl.

Musical notation for Clarinet (cl.) in treble clef. The staff shows rests in the first two measures. In the third measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled '3:2' and 'mp'. In the fourth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '5:4'. This is followed by a quarter rest. In the fifth measure, there are two eighth notes: G4 and F4, beamed together. A bracket above them is labeled '3:2'. This is followed by a quarter rest. The dynamic 'pp' is written below the beamed eighth notes in the fourth measure.

perc.

Musical notation for Percussion (perc.) in treble clef. The staff shows rests in the first two measures. In the third measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled 'p'. An arrow labeled 'damp' points to the G4 note. In the fourth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '7:4' and 'mp'. This is followed by a quarter rest. In the fifth measure, there are two eighth notes: G4 and F4, beamed together. A bracket above them is labeled '5:4' and 'mp'. This is followed by a quarter rest. In the sixth measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled '6:4' and 'pp'. The dynamic 'l.v.' is written to the right of the G4 note.

23

vln

Musical notation for Violin (vln) in treble clef. The staff shows rests in the first two measures. In the third measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled '3:2' and '< p >'. In the fourth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '5:4' and '< mp >'. In the fifth measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled 'p.s.p.' and 'n.v.' and 'p'. In the sixth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '5:4' and '< p >'. The dynamic 'pp' is written below the beamed eighth notes.

vla.

Musical notation for Viola (vla.) in bass clef. The staff shows rests in the first two measures. In the third measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled 'p.o.' and '< p >'. In the fourth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '5:4' and '< mp >'. In the fifth measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled 'p.s.p.' and 'n.v.' and 'p'. In the sixth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '5:4' and '< p >'. The dynamic 'pp' is written below the beamed eighth notes.

vlc.

Musical notation for Violoncello (vlc.) in bass clef. The staff shows rests in the first two measures. In the third measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled 'p.o.' and 'p.v.' and '< p >'. In the fourth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '5:4' and '< mp >'. In the fifth measure, there is a quarter note G4 with a sharp sign, followed by a quarter rest. A bracket above the G4 note is labeled 'p.s.p.' and 'n.v.' and 'p'. In the sixth measure, there are two eighth notes: G4 and A4, beamed together. A bracket above them is labeled '5:4' and '< p >'. The dynamic 'pp' is written below the beamed eighth notes.

27

cl. *pp* 7:4 *p*

perc. *p* l.v. *mp*

27

vln. p.o. n.v. 3:2 *pp* p.s.p. 7:4 *pp* p.o. 5:4 *p*

vla. p.s.p. n.v. 7:4 *pp* p.o. 5:4 *p*

vlc. p.o. n.v. 3:2 *pp* p.o. 5:4 *p*

3:00

32

cl.

cl. staff: Treble clef, 5/4 time signature. Measure 32: Rest. Measure 33: *p* (piano), 5/4 time signature. Measure 34: Rest. Measure 35: Rest. Measure 36: *pp* (pianissimo), 5/4 time signature, with "air" marking above and a breath mark below.

perc.

perc. staff: Treble clef. Measure 32: *p* (piano), 5/4 time signature, with "damp" marking above. Measure 33: Rest. Measure 34: Rest. Measure 35: Rest. Measure 36: Rest.

perc. staff: Bass clef. Measure 32: Rest. Measure 33: Rest. Measure 34: *p* (piano), 6/4 time signature. Measure 35: Rest. Measure 36: *p* (piano), 7/4 time signature.

32

vln

vln staff: Treble clef. Measure 32: Rest. Measure 33: *p* (piano), 5/4 time signature. Measure 34: *mp* (mezzo-piano), p.s.t. (pizzicato staccato), 5/4 time signature. Measure 35: Rest. Measure 36: Rest.

vla.

vla staff: Bass clef. Measure 32: Rest. Measure 33: *p* (piano), 5/4 time signature. Measure 34: *mp* (mezzo-piano), p.s.t. (pizzicato staccato), 5/4 time signature. Measure 35: Rest. Measure 36: Rest.

vlc.

vlc staff: Bass clef. Measure 32: Rest. Measure 33: *p* (piano), 5/4 time signature. Measure 34: *mp* (mezzo-piano), p.s.t. (pizzicato staccato), 5/4 time signature. Measure 35: Rest. Measure 36: Rest.

37

cl.

perc.

pp

37

vln

pp p.s.t.

vla.

pp p.s.t.

vlc.

pp p.s.t.

43

cl.

A musical staff for Clarinet (cl.) in treble clef, showing five measures of music. Each measure contains a single quarter rest.

perc.

A musical staff for Percussion (perc.) in treble clef, showing five measures of music. The first measure contains a snare drum hit followed by two eighth notes with a 5:4 ratio bracket above them, and a 3:2 ratio bracket above the next two eighth notes. The second measure contains a snare drum hit followed by a quarter rest. The third measure contains a snare drum hit followed by two eighth notes with a 3:2 ratio bracket above them. The fourth measure contains a snare drum hit followed by a quarter rest. The fifth measure contains a snare drum hit followed by two eighth notes with a 7:4 ratio bracket above them, and a quarter rest. The dynamic marking *ppp* is placed below the first, third, and fifth measures.

43

vln

A musical staff for Violin (vln) in treble clef, showing five measures of music. Each measure contains a single quarter rest.

vla.

A musical staff for Viola (vla.) in alto clef, showing five measures of music. Each measure contains a single quarter rest.

vlc.

A musical staff for Violoncello (vlc.) in bass clef, showing five measures of music. Each measure contains a single quarter rest.