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I hereby recommend that the thesis prepared under my supervision by Sylvia Pengilly
entitled The Pi Man

be accepted as fulfilling this part of the requirements for the degree of Doctor of Musical Arts

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Doctor of Musical Arts

by

Sylvia Pengilly

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NOTES ON PERFORMANCE

1. General

Although internal sections of this piece may bear individual titles it is intended to be performed without interruption.

2. Instrumental

a) Notation

Duration is indicated in terms of minutes and seconds on a line above each system. A heavy, unbroken line following a note head indicates the duration for which that note should be held. Heavy lines in an upward or downward direction indicate a glissando over the time span indicated. The time line should not be regarded as inviolable but rather as an indication of the approximate time needed for an idea to unfold. The only section in which durations must be strictly observed is where instruments must coordinate with the quadrophonic tape (Weep for Infinity) and for this reason an attempt has been made to represent graphically the tape sounds in this section. Sections which use a meter signature should be performed in the usual manner.

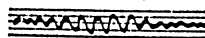
Where quarter-tone inflections are required the following table of accidentals has been used:

♯[♯] - sharpen a quarter-tone
♭[♭] - flatten a quarter-tone

Other Notational Procedures



- play notes within frame, in any order, for the duration of the heavy line following the frame. Use articulation and dynamics indicated. A diagonal arrow through the top left corner of the frame indicates notes should be played as fast as possible.



- increase, then decrease pitch fluctuation (vibrato). Where no vibrato is required the words non vib. appear.



- gradual accelerando



- gradual decelerando



- random harmonics (strings)



- highest possible note

Other symbols are given individual explanations in the score.

b) Rehearsal Numbers

In order to facilitate rehearsal key points have been designated as reference points. In unmetred sections these points are indicated in terms of minutes and seconds, e.g. 5'34" enclosed

by a square. In metred sections they are indicated by letters e.g. B. These reference points are also indicated on the parts.

c) Breathing (Woodwinds and Brass)

During long, sustained passages the two players of a particular instrument should stagger breathing. If only one instrument is indicated the player should snatch breaths, whenever needed, as unobtrusively as possible.

3. Tape

The audio technician should have a full score. In addition to activating the tape deck at the appropriate point he should also be ready, at the end of tape sections, to cue players who are to play in the following section (see specific directions in the score). During the Weep for Infinity section

he must also record portions of the performance. Specifically where and how to do this is indicated in the score and a detailed sheet of instructions is included with the instrumental parts.

4. Laser

This system of producing Lissajous patterns was developed by Drs. Lee Cross and Richard W. Peterson of the Physics Department of Western Illinois University. A small mirror is fastened to each of two small speakers connected to a stereo amplifier. Two audio signals are then fed into the amplifier. The laser beam first hits the mirror on the right speaker, bounces off it onto the mirror on the left speaker, and then is projected onto a screen. The Lissajous patterns thus produced may be varied by changing the ratio between the two input frequencies. For performance purposes these frequencies have been pre-recorded on electronic tape and the output from the tape deck is fed into the amplifier, thus driving the speakers. As very little amplitude is needed in this procedure the output from the small speakers is practically inaudible. The laser operator should be stationed at optimum distance from the stage to provide patterns of the desired size. To activate the system he should turn on the laser and the tape deck at the beginning of each section so indicated and turn the laser off at the end of each such section. The tape deck should be held in "Pause" mode between sections as this makes for smoother starting of the tape at the beginning of the following section. White leader is spliced between the four laser sections and should be used as a visual cue to set the tape deck in "Pause" mode.

THE PI MAN

INSTRUMENTATION

Dancers (onstage)

1 Man
1 Woman

Soloists (onstage)

* 1 Percussion (preferably male)
+ 1 Violin (preferably female)
1 Viola
1 Cello

Orchestra (in pit)

2 Flutes (second doubling Piccolo)
2 Oboes (second doubling English Horn)
2 Clarinets in B flat
1 Alto Saxophone in E flat
2 Bassoons

2 Horns in F
1 Trumpet in B flat
1 Tenor Trombone
1 Bass Trombone

* 1 Timpano^{um} (large) plus inverted cymbal (large)
* 1 Percussion (Vibraphone)

Strings (Bass should have C extension)

Quadrophonic Tape

Laser, driven by a second tape deck (stereo)

no such word

* The Percussion soloist should also cover the Percussion requirements, including Timpano, for the pit orchestra. His equipment should be in the wings of the stage when functioning as part of the orchestra, onstage when functioning as a soloist.

+ In addition to her own instrument the Violin soloist should also provide a cheap instrument, tuned scordatura, to hand to the male dancer (see p.36).

THE PI MAN

SYLVIA PENNELL

0 10 20 30

flutter

PICCOLO

FLUTE 1

OBOE 1

ENGLISH HORN

CLARINETS 1
IN B FLAT 2

ALTO
SAXOPHONE
IN E FLAT

BASSOONS 1
2

HOINS IN F 1
2

TRUMPET
IN B FLAT

TROMBONE

BASS
TROMBONE

TIMPANO (OFFSTAGE)

PERCUSSION
(VIBRAPHONE) (OFFSTAGE)

VIOLIN I

VIOLIN II

VIOLA

CELLO *div a 2*

BASS

flutter *ppp*

ppp

1. *pp*

pp

can sord. *pp*

can sord. *pp*

ppp

p

p

1. *ppp*

2. *pp*

ppp

ppp

Picc. *Picc. to fl 2.*

Fl. 1.

Ob. 1.

Eng. Hn.

B^b Cl. 1.

E^b Alto Sax.

Bsn. 1.

B^b Tr.

Trb.

B. Trb.

Perc. (Vib.)

Vln. I

Vln. II

Vla.

Vc.

Cb.

1. Solo *p* *Accel.* *pp*

Yellow yarn mallets. Fan aff. *p Ped.* *mp*

Div. a 2. *mp* *p*

Div. a 2. *mp* *p*

1. Solo *pizz.* *mp* *pp* *Div. a 2.* *cogli altri, arco.*

p *pp* *mp* *p*

p *pp* *mp* *p*

p *pp* *mp* *p*

1 10 20 30

Eng. Hn. (Solo) Decel. p

E♭ Alto Sax. (Solo) f Decel. p

B♭ Tr. (Solo) f Decel. p

Trb. (Solo) f Decel. p

Vln. I mf f

Vln. II mf f

Vla. mf f

Vc. mf f

Cb. mf f

40 50 60

Perc. (Vib.) Med. fan # 40 L.V. mp P.c'd

Vln. I non vib. pp ppp

Vln. II non vib. pp ppp

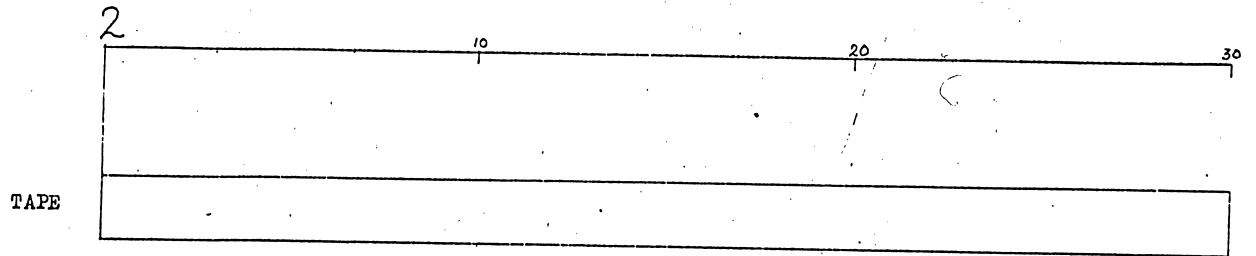
Vla. non vib. pp ppp

Vc. non vib. pp ppp

Cb. non vib. pp ppp

TAPE
ON

Audio technician should time this section with a stopwatch in order to cue Eng. Hn. and Trb. on next page.



40 50 (53) 60

2'53"

During this section Eng. Hn. and Trb. should vary their pitch fluctuation according to the visual patterns being projected. Overall dynamic level should increase gradually from pp to ff by the end of the section.

Eng. Hn.

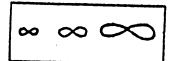
Trb.

pp

TAPE

Lights dim slowly.....Lights out.

LASER
On



On cue from
audio technician.

3

10 20 (25) 30

Eng. Hn.

Trb.

General directions for this Section.
The entry of each successive instrument coincides with the change of laser pattern. Performers should therefore watch for the pattern indicated and use it as a visual cue to begin playing. They should improvise upon the given notes in a manner which seems to them to be most appropriate to the visual pattern. Rhythm, dynamics, articulation etc. may be changed as patterns change. Overall dynamic shape should follow a gradual increase from pp (eng.hn, Trb.) to ff by end of section.

1. Solo

Vln.

LASER

(Pattern change)

40 (48) 50 60

1. Solo

Fl.

Eng. Hn.

Trb.

(Pattern change)

LASER

888888

4

10 (18) 20 30

Fl. (1. Solo)

Eng. Hn.

Trb.

Vln. (1. Solo)

Vc. 1. Solo

(Pattern change)

LASER

4' 30" 4' 35" 6. 50 4' 55" 60

Fl. 2. (1. Solo) 2. *ff* *mf*

Fl. 1. *ff* *mf*

Ob. 1. *ff* *mf*

Eng. Hn. *ff* *f*

B♭ Cl. 1. *ff* *mf*

B♭ Cl. 2. *ff* *mf*

E♭ Alto Sax. *ff* *f*

Bsn. 1. *ff* *mf*

Bsn. 2. *ff* *mf*

F Hns. 1. *ff* *mf*

F Hns. 2. *ff* *f*

B♭ Tr. *ff* *f*

Trb. *ff* *f*

B. Trb. *ff* *mf*

Vln. I (1. Solo) *ff* *mf*

Vln. II *ff* *mf*

Vla. *ff* *mf*

Vc. (1. Solo) *ff* *mf*

Cb. *ff* *mf*

LASER LASER OUT

LIGHTS SLOWLY COME UP - - - - - LIGHTS UP

5 10 20 30

Eng. Hn. Non vib. p 1. Solo mf Increase rhythmic activity f Decrease

B $\flat$ Cl. (1. Solo) mf f

E $\flat$ Alto Sax. Non vib. p

F Hns. 1. Non vib. p

2. Non vib. p

B $\flat$ Tr. Non vib. p

Trb. Non vib. p

5'34" 40 50 60

Ob. 1. 1. Solo mf f Increase rhythmic activity Decrease

Eng. Hn. pp rhythmic activity

B $\flat$ Cl. 1. mp

2. mp mf

E $\flat$ Alto Sax. pp

F Hns. 1. pp

2. pp

B $\flat$ Tr. pp

Trb. pp

B. Trb. mp mf

Vln. I mp mf

Vln. II mp mf

Vla. mp mf

Vc. mp mf

Ob. mp mf

Fl. 1. 2. (Solo) mp pp

Ob. 1. p

B^b Cl. 2. p

E^b Alto Sax. 1. mp 2. pp

Bsn. 1. 2. mp pp

F Hns. 1. 2. Concord 1. senza sord. Concord 2. mp pp senza sord.

B.Trb. p

Vln. I Div. a 2. Sul pont. Non vib. pp p PPP

Vln. II Div. a 2. Sul pont. Non vib. pp Sul pont. p Non vib. PPP

Vla. Div. a 2. Sul pont. Non vib. pp p PPP

Vc. Div. a 2. Sul pont. Non vib. pp p PPP

Cb. p

Enter Solists, onstage.

Solo Violin enters stage R., solo Vibraphone enters stage L.

Intense, flamboyant. With rhythmic freedom, approx. 25 sec. each system until metered section.

The musical score consists of seven staves, each with a label on the left and various performance instructions and dynamics throughout.

- Staff 1: Vln.Solo**
 - Annotations: *Sul pont. At the frag.*, *espress.*
 - Dynamics: *ff*, *ffz*, *mf*, *mp*, *mp*, *mf*, *p*
- Staff 2: Vln.Solo**
 - Dynamics: *mp*, *mf*, *f*, *ff*, *mf*
- Staff 3: Vln.Solo**
 - Annotation: *p cantabile*
 - Dynamics: *mp*
- Staff 4: Vln.Solo**
 - Dynamics: *p*, *pp*, *mf*, *p*
- Staff 5: Vib.Solo**
 - Annotations: *Yellow yarn mallets Fast fan*, *mf Ped.*
 - Dynamics: *mf*, *pp*
- Staff 6: Vln.Solo**
 - Dynamics: *p*, *pp*
- Staff 7: Vib.Solo**
 - Annotations: *(Attacca) Fan off*, *Take medium yarn mallets*
 - Dynamics: *mp*, *p*, *pp*

The score includes various musical notations such as slurs, ties, and triplets, indicating a complex and expressive performance style.

A**Concerto Grosso**

ALLEGRO

VIBRAPHONE
CONCERTATOVIOLINO
CONCERTATOFAGOTTO I
(RIPIENO)VIOLINE I
(RIPIENO)

VIOLINE II

VIOLE

VIOLONCELLO I

VIOLONCELLO 2
E
CONTRABASSO*senza ped.**stacc. sempre**Unis. ord.**mf**Unis. ord.**mf**Unis. ord.**mf**Unis. ord.**mf**1 Solo ord.**mf**2 Solo ord.**mf**stacc. sempre**mf*Vib.
Conc.Vln.
Conc.

Bsn. 1.

Vln. I

Vln. II

Vla.

Vc. I

Vc. II
Cb.

Vln. Conc. *(f)*

Bsn. 1. *(f)*

Vln. I *(mf)*

Vln. II *(mf)*

Vla. *(mf)*

Vc. I *(f)*

Vc. II Cb. *mf*

B

Vib. Conc. *mf*

Vln. Conc. *mp* *mf* *f*

Bsn. 1. *p*

Vln. I *p*

Vln. II *p*

Vla. *p*

Vc. I *p*

Vc. II Cb. *p*

Vib.
Conc.

Vln.
Conc.

Bsn. 1.

Vln. I

Vln. II

Vla.

Vc. I

Vc. II
Cb.

Handwritten musical score for a piece titled "A Tempo". The score is written on multiple staves, each labeled with an instrument or voice part. The notation includes notes, rests, and dynamic markings such as *mp* (mezzo-piano) and *mf* (mezzo-forte). The score is organized into measures, with some measures containing multiple notes or rests. The overall style is that of a handwritten manuscript.

Instrument/Part List:

- Vib. Conc.
- Vln. Conc.
- Bsn. I
- Vln. I
- Vln. II
- Vla.
- Vc. I
- Vc. II
- Cb.

Tempo and Dynamics:

- Tempo:** A Tempo
- Dynamics:** *mp*, *mf*

b.
 inc.
 n.
 inc.
 n. 1.
 .I
 .II
 a.
 .I
 .II

Musical score for "The Rose Tree" featuring vocal parts (b. inc., n. inc., n. 1.) and instrumental parts (.I, .II, a., .I, .II). The score includes dynamic markings (mp) and articulation (accents). The key signature is one flat (B-flat major or D minor), and the time signature is 4/4. The score is divided into two systems, each containing five staves. The first system shows the vocal parts and the instrumental parts. The second system shows the instrumental parts. The score is for a full orchestra, including strings, woodwinds, and brass.

Handwritten musical score for "The Song of the Lark" by Maurice Strakosky. The score is for a full orchestra and includes parts for Soprano I, Soprano II, Alto, Contralto I, and Contralto II. The music is in 4/4 time and features a key signature of one flat (B-flat). The score is divided into two systems. The first system includes the vocal parts and the beginning of the orchestral introduction. The second system continues the orchestral introduction. The score is marked with "f" (forte) and "mf" (mezzo-forte) dynamics, and includes a "Rit." (Ritardando) marking. The piece concludes with an "Attacca" marking.

D

Take yellow yarn mallets.

II.

Adagio

Slow fan.

espresso.

Vib. Conc.

Slow fan. espress.

Vln. Conc.

pp mf Ped

Bsn. 1.

pp

Vln. I

pp

Vln. II

pp

Vla.

espress. mf

Vc. I

pp

Vc. II

pp mp

Cb.

pp mp

Vib.
Conc.

Vln.
Conc.

Vla.

Vc.
Cb.

Violins I and II, Viola, and Cello/Double Bass. The score is in 4/4 time with a key signature of one sharp (F#). The Violins I and II parts are marked *mp* and *mf*. The Viola part is marked *p* and *mf*. The Cello/Double Bass part is marked *p* and *mf*. The score shows a melodic line for the Violins and a supporting line for the Viola and Cello/Double Bass.

Vln.
Concert.

Bsn.1.

Tr.

Vln.I

Vln. I

Vln. II

Vln.II

Vla.

Vc.

Cb.

This is a page from a musical score, likely for a symphony orchestra. The page contains staves for various instruments, each with its name and part designation written to the left. The instruments and parts are:

- Vib. Conc.
- Vln. Conc.
- Eng. hn.
- E^b Alto Sax.
- Bsn. 1.
- F Hns. 2.
- B^b Trb.
- Trb.
- B. Trb.
- Vla.
- Vc.
- Cb.

The score is written in a key signature of one sharp (F#) and a 2/4 time signature. It includes various musical notations such as notes, rests, and dynamic markings. The dynamic markings include (mf), pp, p, and mp. A section of the score is marked "To oboe 2." and another section is marked "senza sord". The page is numbered "10" in the top right corner.

12 10 20 30

Fl. *a 2* *mf*

Ob. *a 2* *mp*

B^b Cl. *a 2* *f*

E^b Alto Sax. *mp*

Bsn. *a 2* *mp*

F Hn. 1. *mp*

F Hn. 2. *mp*

B^b Trb. *mf*

Trb.

B. Trb.

Vln. I *Div. a 2.* *f*

Vln. I *mf*

Vln. II *Div. a 2.* *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

Ob.
Eng.
H.A.

(ff)

[illegible]

--	--

LASER BALLET No. 1

13

During this section, under cover of darkness, the stage should be set, as unobtrusively as possible, for the Violin, Viola, and Cello soloists who are to play in the next section (Weep for Infinity). As soon as the stage is set the soloists should enter as quietly as possible and be ready to play as soon as the lights come up. All personnel should attempt not to get in the way of the laser beam.

TAPE

LASER

TAPE

LASER

TAPE

LASER

TAPE

LASER

Tape on PAUSE (white leader)

5 seconds of silence
as lights come up
for next section.

Weep for Infinity

15. 1 5 10 15 20

J. 60

Vn. *senza vib.*

Vla. *senza vib.*

Vc. *pp* *mp* *pp* *arco* *mf* *f* *mf*

1. (Playback)

2. Change to "Source" with mic. input. Input pot. up.

3. (Playback)

4. Change to "Source" with mic. input. Input pot. up.

TAPE ON

21 25 30 35 40

Vln. *sul pont. senza vib.* *pizz. (in any order)*

Vla. *sul pont. senza vib.* *pizz. (in any order)*

Vc. *f* *mp* *mp* *mf* *mf* *f* *ff* *pizz. (in any order)*

1.

2.

3.

4.

TAPE

Vln. *(pizz.)*

Vla. *(pizz.)*

Vc. *ff* *L.V.*

1.

2. To "Tape" (Playback)

3.

4. To "Tape" (Playback)

TAPE

16

1 5 10 15 20

Arco. sul pont. non vib. Sing upper pitch. Fluctuate by $\frac{1}{2}$ tones.

Vln. *mf* *p*

Vla. *mf* *mp* *p*

Vc. *f* *pp*

1. *mf* *mp* *p*

2. *mf* *mp* *p*

3. *mf* *mp* *p*

4. *mf* *mp* *p*

21 25 30 35 40

Vln. *mp* *p* *mp*

Vla. *mp* *p* *mf*

Vc. *mp* *p* *mf*

1. *mp* *p* *mf*

2. *mp* *p* *mf*

3. *mp* *p* *mf*

4. *mp* *p* *mf*

41 45 50 55 60

Vln. *mf* *f* *mf* *f*

Vla. *mf* *f* *mf* *f*

Vc. *fp* *f* *mf* *f*

1. *mf* *f* *mf* *f*

2. *mf* *f* *mf* *f*

3. *mf* *f* *mf* *f*

4. *mf* *f* *mf* *f*

17 1 5 10 15 20

Vln. *mf* *f* *sfzp*

Vla. *sfzp*

Vc. *ff* *f* *sfzp*

1.

2.

3.

4.

21 25 30 35 40

Vln. *ff* *f* *mp* *pizz. (any order)*

Vla. *ff* *f* *mp* *pizz. (any order)*

Vc. *ff* *f* *mp* *pizz. (any order)*

1.

2.

3.

4.

41 45 50 55 60

Vln. *arco* *mf* *f* *pizz. (any order)*

Vla. *pizz. (any order)* *f* *mf* *pizz. (any order)*

Vc. *pizz. (any order)* *f* *mf* *pizz. (any order)*

1.

2.

3.

4.

18 1 5 10 15 20

Random harmonics (whistle)

arco

Random harmonics (whistle)

pp

1

2. Tape

3

4.

Quickly hit "Rec./Pause" then "Play" RECORDING

Quickly hit "Rec./Pause" then "Play" Recording

21 25 30 35 40

41 45 50 55 60

espress.

Leisurely ricochet, in any order.

espress.

mp

sfz

pp

f

mf

1

2. Tape

3

4.

Leisurely ricochet, in any order.

7

sfz

pp

f

mf

mp

pp

f

espress.

mp

sfz

1

2. Tape

3

4.

19 1 5 10 15 20

Leisurely ricochet, any order.
Random ricochet/gliss.
Leisurely ricochet, any order.
Random ricochet/gliss.
Leisurely ricochet, any order.
Random ricochet/gliss.
mf

1 2 3 4

21 25 30 35 40

Vln. f mf sfz p
Vla. f mf sfz p
Vc. f mf sfz p

1 2 3 4

41 45 50 55 60

Vln. f espress. mp f
Vla. f espress. mp f
Vc. mf f mf sfz p

1 2 3 4

20 1 5 10 15 20

Vln. *ff* *f* *ff* *fff*

Vla. *mf* *ff* *f* *fff*

Vc. *fff*

1. *fff*

2. *fff*

3. *fff*

4. *fff*

21 25 30 35 40

Vln. *f* *mf*

Vla. *f* *mf*

Vc. *f* *mf*

1. *fff*

2. *fff*

3. *fff*

4. *fff*

41 45 50 55 60

During the next 30", the audio technician should reverse the tape heads and change the speed to 45 ips. He (she!) should hit "Play" as the instrumentalists are finishing their glissando segment (approximately 64").

RECORD POTS. ARE OFF FROM THIS POINT!

(White leader)

Vln. *mf* *p*

Vla. *mf*

Vc. *mf*

1. *mf*

2. *mf*

3. *mf*

4. *mf*

21

21

Vln. *mp*

Vla. *mp*

Vc. *mp*

1.

2.

3.

4.

Tape

For the next 70 seconds the tape presents a retrograde version of the fugue section (from 18'16"), at 15 ips. Instruments are tacet during this section. The final 10" of the tape tracks are indicated on the following page as a cue for the instrumentalists.

21 25 30 35 40

Handwritten musical score for Violins I and II, Viola, and Cello. The score includes dynamics (mf, p, mp, plizz), a "Random dynamics" section, and a "Tape" section with four tracks. A timeline at the bottom shows measures 41 to 60.

Violins I (Vln. I): Starts with a treble clef and a key signature of one flat (B-flat). The melody is written in a wavy line, with dynamics *mf*, *p*, *mp*, and *p* indicated. A double bar line is present at measure 56.

Violins II (Vln. II): Starts with a treble clef and a key signature of one flat (B-flat). The melody is written in a wavy line, with dynamics *mf*, *p*, *mp*, and *p* indicated. A double bar line is present at measure 56.

Viola (Vla.): Starts with a treble clef and a key signature of one flat (B-flat). The melody is written in a wavy line, with dynamics *mf*, *p*, *mp*, and *p* indicated. A double bar line is present at measure 56.

Cello (Vc.): Starts with a bass clef and a key signature of one flat (B-flat). The melody is written in a wavy line, with dynamics *mf*, *p*, *mp*, and *p* indicated. A double bar line is present at measure 56.

Random dynamics: A section labeled "Random dynamics" with a wavy line and dynamics *p*, *mp*, *p*, and "ending p (at 56") indicated.

Tape: A section labeled "Tape" with four tracks (1, 2, 3, 4) and a wavy line. A double bar line is present at measure 56.

Timeline: A horizontal line at the bottom with measures 41, 45, 50, 55, and 60 marked.

Handwritten musical score for "Piano (any order)". The score is written on four staves: Vln. (Violin), Vla. (Viola), Vc. (Violoncello), and Tape. The Vln. staff begins with a treble clef and a key signature of one flat (B-flat). The first measure of the Vln. staff contains the notes G4, A4, Bb4, and A4, marked with a piano (p) dynamic. The Vla. staff begins with a treble clef and a key signature of one flat (B-flat). The first measure of the Vla. staff contains the notes G4, A4, Bb4, and A4, marked with a mezzo-forte (mf) dynamic. The Vc. staff begins with a bass clef and a key signature of one flat (B-flat). The first measure of the Vc. staff contains the notes G3, A3, Bb3, and A3, marked with a mezzo-forte (mf) dynamic. The Tape staff is divided into four measures, numbered 1, 2, 3, and 4. The first measure of the Tape staff contains a wavy line, marked with a piano (p) dynamic. The second measure of the Tape staff contains a wavy line, marked with a mezzo-forte (mf) dynamic. The third measure of the Tape staff contains a wavy line, marked with a piano (p) dynamic. The fourth measure of the Tape staff contains a wavy line, marked with a mezzo-forte (mf) dynamic. A rehearsal mark "Be prepared to repeat last 15" if needed." is written below the Vln. staff, spanning the first measure of the Vln. staff and the first measure of the Tape staff. A second rehearsal mark "Be prepared to repeat last 15" if needed." is written below the Vc. staff, spanning the first measure of the Vc. staff and the first measure of the Tape staff. The score is written in ink on a white background.

Handwritten musical score for "The Sound of Silence" by Simon & Garfunkel. The score includes staves for Violin I, Violin II, Viola, and Cello, as well as four tape channels. The music is in G major and 4/4 time. The score is annotated with performance instructions such as "Sing upper pitch.", "Random pizz / pluck upper down.", and "mf". The bottom of the page has a time signature "41" and a tempo marking "45".

Handwritten musical score for 'Sing upper pitch.' The score is written on three staves (Vn, Vla, Vc) and four tracks (1, 2, 3, 4) labeled 'Tape' on the left. The notation includes various musical symbols such as notes, rests, and dynamic markings (p, mp, pp, mf). The first staff (Vn) has a 'Sing upper pitch.' instruction above it. The second staff (Vla) has a 'Sing upper pitch.' instruction below it. The third staff (Vc) has a 'Sing upper pitch.' instruction below it. The fourth track (1) shows a series of upward-pointing triangles. The fifth track (2) shows a series of wavy lines. The sixth track (3) shows a series of upward-pointing triangles. The seventh track (4) shows a series of wavy lines.

Violin I (Vln. I) and Violin II (Vln. II) parts are written in treble clef. Violin I has a 'pizz.' (pizzicato) section. Violin II has a 'Ricochet with upward gliss.' section. The Viola (Vla.) and Cello (Vcl.) parts are written in bass clef. The score includes dynamics (pizz., mf, p, mp, pp, mf, p) and performance instructions (increase vib., decrease vib.). The bowing chart below the score shows bowing patterns for four staves (1, 2, 3, 4) with up-bow and down-bow strokes indicated by arrows.

Handwritten musical score for a string quartet and four tape recorders. The score includes staves for Violin I (Vln.), Violin II (Vln.), Viola (Vla.), and Cello (Vc.), each with dynamic markings (mp, pp, p, f) and performance instructions like "decrease vib." and "Random harmonics". Below these are four staves labeled 1, 2, 3, and 4, each with a "Tape" label, showing rhythmic patterns represented by upward-pointing triangles.

25

1 5 10 15 20

Vin.

Vla.

Vc.

1.

2.

3.

4.

21 25 30 35 40

Vin.

Vla.

Vc.

Exit Violin
(Continue playing offstage)

Exit Viola
(Continue playing offstage)

Exit Cello

Lights slowly dim.

1.

2.

3.

4.

SILENCE (White leader)

25'50"

50 60

Vin.

Vla.

Tape

(Silence)

AUDIO SIGNAL

Audio technician should time this section with a stopwatch in order to cue Fl.1 at 28'

Laser On

(Darkness)

LASER BALLETT No.2 (NIRVANA)

26

TAPE

LASER

TAPE

LASER

27

TAPE

LASER

TAPE

LASER

28

32.

28'16"

Fl. 1. *flutter*
ppp *pp* *ppp*

Fl. 2. *flutter*
ppp *pp* *ppp*

B^b Cl. 1. *1* *flutter*
pp *ppp*

F Hn. 1. *can sord.*
pp

F Hn. 2. *can sord.*
pp

B. Trb. *can sord.*
pp

Vln. I *Unis.*
pp *p*

Vln. II *Unis.*
pp *p*

Vla. *Div. a. 2*
pp *p*

Vc. *Non div.*
pp *p*

Ob. *pp* *p*

(Cue Fl. 1.)

TAPE

TAPE OUT

Stage lights slowly come uplights up

LASER

LASER OUT

28'32"

33.

28'46"

Fl. 1. 1. *mp* *2. Solo* *p*

Fl. 2. *mp* *p*

Ob. 1. 1. *p* *mp* *Solo* *p*

Eng. Hn. 1. Solo *mp*

B^b Cl. 1. 1. *mp* *p*

B^b Cl. 2. 1. *p* *mp* *p*

E^b Alto Sax. 1. *p* *mp* *p*

Bsns. 1. 2. *p* *mp* *p*

F Hn. 1. *p* *pp* *senza sord.*

F Hn. 2. *p* *pp*

B^b Tr. *p* *mp* *p*

Trb. *p* *mp* *p*

B. Trb. *p* *pp*

Vln. I *pp*

Vln. II *pp*

Vla. *pp* *Half* *p*

Vc. *pp* *Div. a 2.* *p*

Cb. *pp*

29 29'5" 34. 29'14" 10 20 30

Eng. Hn. Eng. Hn. to Ch. 2.

B $\flat$ Alto Sax. Solo *p*

Bsn. 1. 1. Solo *p* *mp* *p*

B.Trb. *p* *mp*

Vib. Solo Enters onstage (Approximate rhythm) *mf* *espress.*

Vln. Solo Enters onstage (Approximate rhythm) *mf* *espress.*

Vln. I 1. Solo *pizz.* *mp*

Vla. 2. 1. Solo *pizz.* *mp*

Vc. 1. 2. *mp*

Ob. *p* *mp*

(29'30")

Bsn. 1.

B. Trb.

Vib.
Solo

Vln.
Solo

Vln. I

Vln. II

Vla.

Vc.

Cb.

Vib.
Solo

Vln.
Solo

Vc. I.

Cb.

Vib.
Solo

Vln.
Solo

Vc. I

Cb.

Handwritten musical score for a symphony orchestra, measures 29'30" to 29'40". The score includes parts for Bsn. 1, B. Trb., Vib. Solo, Vln. Solo, Vln. I, Vln. II, Vla., Vc., Cb., and Vc. I. The music is written in treble and bass staves with various dynamics and articulations.

Measures 29'30" - 29'40":

- Bsn. 1:** Starts with a rest, then plays a series of notes with a *p* dynamic.
- B. Trb.:** Starts with a rest, then plays a series of notes with a *pp* dynamic.
- Vib. Solo:** Plays a series of notes with a *p* dynamic, then a *mp* dynamic, and finally a *f* dynamic.
- Vln. Solo:** Plays a series of notes with a *p* dynamic, then a *mp* dynamic, and finally a *f* dynamic.
- Vln. I:** Starts with a rest, then plays a series of notes with a *p* dynamic.
- Vln. II:** Starts with a rest, then plays a series of notes with a *p* dynamic.
- Vla.:** Starts with a rest, then plays a series of notes with a *p* dynamic.
- Vc.:** Starts with a rest, then plays a series of notes with a *pp* dynamic.
- Cb.:** Starts with a rest, then plays a series of notes with a *pp* dynamic.
- Vc. I:** Starts with a rest, then plays a series of notes with a *mp* dynamic.
- Cb.:** Starts with a rest, then plays a series of notes with a *mp* dynamic.

Measures 29'40" - 29'50":

- Vib. Solo:** Plays a series of notes with a *f* dynamic, then a *ff* dynamic, and finally a *mf* dynamic.
- Vln. Solo:** Plays a series of notes with a *mf* dynamic, then a *ff* dynamic, and finally a *mf* dynamic.
- Vc. I:** Plays a series of notes with a *mp* dynamic, then a *mf* dynamic, and finally a *mp* dynamic.
- Cb.:** Plays a series of notes with a *mp* dynamic, then a *mf* dynamic, and finally a *mp* dynamic.

Measures 29'50" - 30'00":

- Vib. Solo:** Plays a series of notes with a *mp* dynamic, then a *mf* dynamic, and finally a *pp* dynamic.
- Vln. Solo:** Plays a series of notes with a *mp* dynamic, then a *mf* dynamic, and finally a *pp* dynamic.
- Vc. I:** Plays a series of notes with a *p* dynamic, then a *pp* dynamic, and finally a *pp* dynamic.
- Cb.:** Plays a series of notes with a *p* dynamic, then a *pp* dynamic, and finally a *pp* dynamic.

151 "

Female dancer goes to vib., takes mallets.
She plays random pitches in
approximate range indicated.

Vln.
Solo

Violin soloist unobtrusively changes her violin for another, tuned scordatura:-

Hands it to male dancer.

11 11 11 11 11

Fl. 1.

Yc.

Cb.

Vib. Solo
(Dancer)

Take cluster mallets

32

Vib.Solo
(Dancer)

Random clusters. ρ

(High black notes)

Watch conductor,
follow his beat.

(Low white notes)

32' 30"

"Gawotte"

Vib.Solo
(Dancer)

Vln. Solo
(Dancer)

(Original soloists dance)

Fl.

1. Solo.

Fl.2 to picc.

Vln. I

Arco

Vln.II

Arco

Vla.

Tutti. Arce.

Vc.

Cb.

Cb. pizz. ^{mf}

34

Epilogue

39.

34'26"

Fl. 2. to Picc. 1. Solo *mf* *espress.* (Approximate rhythmic values)

Ob. *ppp*

B $\flat$ Cl. 1. 2. *ppp*

E $\flat$ Alto Sax. *ppp*

Bsn. 1. 2. *ppp*

Trb. *p*

Vln. I (Div. a 2.) *pp* *non vib.*

Vln. II (Div. a 2.) *pp* *non vib.*

Vla. (Div. a 2.) *pp* *non vib.*

Vc. (Div. a 2.) *pp* *non vib.*

pp *mp* *pp* *ppp*

34'38"

Ob. 1. 2. *mf* *p* *pp*

B $\flat$ Cl. 1. 2. *mf* *p* *pp*

E $\flat$ Alto Sax. *mf* *p* *pp*

Bsn. 1. *mf* *p* *pp*

Trb. *p* *pp*

Timp. Large cymbal on timp. Roll with soft mallets. *p* *mf* L.V.

Vc. 1. Solo *mf* *espress.*

Fl. 1.

B♭ Cl. 1.

2.

E♭ Alto Sax.

Bsn.

B♭ Tr.

Trb.

Timp.

Vln. I.

Vln. II.

Vla.

Vc.

Cb.

Flutter, Harmon mute.

Unis.

Unis. Non div.

Tutti Unis.

mp

mf

f

p

L.V.

TAPE ON

Audio technician
should time this
section in order
to cue timp. at
36'11" on next page.

T A P E

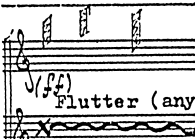
36

36

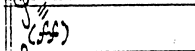
41.

20

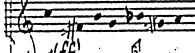
30

B $\flat$ Cl. 1.
and
E $\flat$ Alto
Sax.

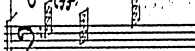
Random multiphonics



(Any articulation)

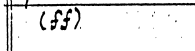


Random multiphonics

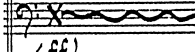


(Any pitch)

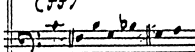
Bsn. 1.



(Any articulation)



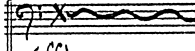
(Any pitch)

F Horn 1.
and
Trb.

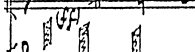
(Any articulation)



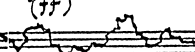
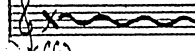
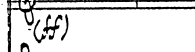
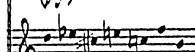
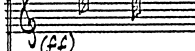
Random multiphonics

B $\flat$ Tr.

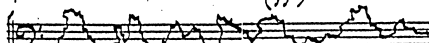
(Any articulation)



(Any pitch)

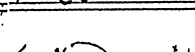


Improvise till end

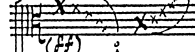
Timp.
Bow cymbal on
timp. with
random gliss.

ff

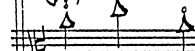
Vlas.



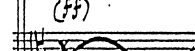
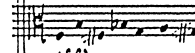
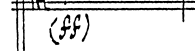
Random ricochet



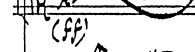
Random harmonics



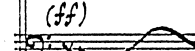
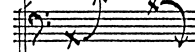
(Any articulation)



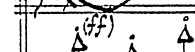
Follow general shape



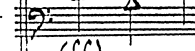
Random pizz./gliss.



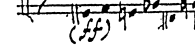
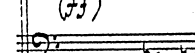
Follow general shape



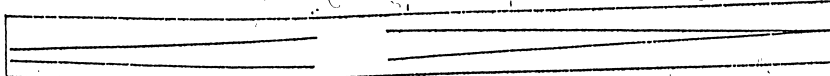
Random harmonics



(Any articulation)



TAPE



TAPE OUT

(Cont. timp.)

LASER

General Directions for this Section

Performers should choose whichever of their segments seems to them to be most appropriate to the visual pattern being projected. Overall dynamic shape should begin fortissimo with a gradual diminuendo to ppp (a niente) by the end of the piece.

(CONTINUE IMPROVISATION)

40 50 60

B♭ Cl. 1.
E♭ Alto
Sax.
Bsn. 1.
F Horn 1.
B♭ Tr. 1.
Trb.
Timp.
Vla.
Vc.
Laser

37

10 20 30

B♭ Cl. 1.
E♭ Alto
Sax.
Bsn. 1.
F Horn 1.
B♭ Tr.
Trb.
Timp.
Vla.
Vc.
Laser

37'30"

40

43.

50

60

Picc. *pp* à niente

Fl. 1. *pp* à niente

Ob. 1. *pp* à niente

Ob. 2. *pp* à niente

B^b Cl. 1. *pp* à niente

E^b Alto Sax. *pp* à niente

Bsn. 1. *pp* à niente

Bsn. 2. *pp* à niente

F Horns 1. *pp* à niente

F Horns 2. *pp* (con sord.) à niente

B^b Tr. *pp* à niente

Trb. *pp* à niente

B. Trb. *pp* (con sord.) à niente

Timp. *pp* à niente

Vln. I *pp* à niente

Vln. II *pp* à niente

Vla. *pp* à niente

Vc. *pp* à niente

Cb. *pp* à niente

Laser