

# One-Footed

for String Quartet and Partch Instruments (8 players)

Taylor Brook  
2022

Instrumentation:

String Quartet

with 8 Players sharing the following Partch instruments:

Adapted Guitar

Adapted Guitar 2

Bass Marimba

Cloud Chamber Bowls (set of 12)

Diamond Marimba

Harmonic Canon I

Harmonic Canon II

Kithara I

Spoils of War

Surrogate Kithara

Chromelodeon I

### About *One-footed*

*One-footed* was written for the combined forces of Del Sol Quartet and PARTCH Ensemble in 2020-2022.

The title of this work refers to a fascinating chart in Harry Partch's *Genesis of a Music*: "The One-footed Bride." Resembling the outline of a foot, this chart measures out just intervals and their inversions along either side of a central axis, forming the foot-shaped outline. In this chart, one finds diatonic interval regions associated with expressive qualities; seconds and sevenths with "approach," thirds and sixths with "emotion," perfect fourths and fifths with "power," and the tritone region with "suspense." While highly subjective, these descriptions resonates with my intuition. Even more fascinating is how Partch fits his 43-note scale into a diatonic structure, suggesting is that we might understand the many intervals of Partch's scale as shadings within a diatonic superstructure. This became the foundation of my piece, *One-footed*: an exploration of the expressive potential of thinking about pitch and interval as suggested by the "One-footed Bride."

The instrumentation for *One-footed* combines a string quartet with many of Partch's invented instruments. As a composer writing in 2022, I enjoy the legacy of composers like Partch and Ben Johnston, where performers like the Del Sol Quartet now deeply understand just intonation. I see the PARTCH Ensemble as a new type of orchestra that can finally be bridged to as a result of performers like the Del Sol Quartet achieving the kind of precise tuning that seemed impossible only a couple generations ago.

# Notation Conventions

This piece is in just intonation, using Partch's scale almost exclusively. Ratio notation is used throughout the score along with the nearest equal-temperament note in conventional notation.



Slash notation is used when a group of notes are meant to be played as fast as possible starting on the beat.

Grace notes should be played as fast as possible before the beat

## String Quartet Notation

### tuning

The string quartet are asked to play in tune with the Partch instruments and should tune their open G strings to the Partch 1/1 G, which is at 196hz. The other strings should be tuned in just fifths.

Below is the Partch scale with Johnston accidentals:

1/1 0c    81/80 21.5c    33/32 53.2c    21/20 84.5c    16/15 111.7c    12/11 150.6c    11/10 165c    10/9 182.4c    9/8 203.9c    8/7 231.2c    7/6 266.9c    32/27 294.1c

6/5 315.6c    11/9 347.4c    5/4 386.3c    9/7 435.1c    21/16 470.8c    4/3 498c    27/20 519.5c    11/8 551.3c    7/5 583.5c    10/7 617.5c    16/11 648.7c    40/27 680.5

3/2 702c    32/21 729.2c    14/9 764.9c    11/7 782.5c    8/5 813.7c    18/11 852.6c    5/3 884.4c    27/16 905.9    12/7 933.1c    7/4 968.8c    16/9 996.1c    9/5 1017.6c

20/11 1035c    11/6 1049.4    15/8 1088.3c    40/21 1115.5c    64/33 1146.8    160/81 1178.5c    1/1 0c

### technique indications

#### bow placement indications:

**ord.** - ordinario - (Use an ordinary bow position.)

**s.t.** - sul tasto - (Bow close to the end of the fingerboard.)

**a.s.t.** - alto sul tasto - (Bow over the fingerboard.)

**p.s.t.** - poco sul tasto - (Bow slightly towards the fingerboard from ordinario position.)

**s.p.** - sul ponticello - (Bow close to the bridge.)

**m.s.p.** - molto sul ponticello - (Bow very close to the bridge, thereby producing a harsh sound. This technique will often silence or obscure the fundamental pitch of the string. When a number is attached to the m.s.p. indication, the player should try as much to bring out that particular overtone.)

**p.s.p.** - poco sul ponticello - (Bow slightly closer to the bridge than ordinario position.)

#### vibrato indications:

**vib.** - with vibrato

**s. vib.** - with no vibrato

**m.vib.** - with a lot of vibrato

### harmonics

Natural harmonics are notated in two ways depending on context. The first way is as the desired pitch with a circle over the note. The second way is a diamond-shaped notehead where the finger should be lightly pressed against the string to produce the desired harmonic. For higher-up harmonics, the roman numeral of the string and the number of the harmonic will be additionally provided.

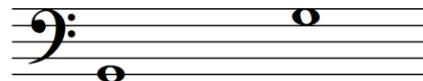
For example, the first measure calls for a high F sixth tone flate, played as the seventh harmonic of the G string, which is shown as the resultant pitch and a "III<sup>7</sup>"

# Adapted Guitar I

tablature, 6 string, low to high:



tuning, all six strings tuned to 1/1:  
6th string strings 1-5



◆ / ◇ harmonics

roman numerals indicate the fret where the harmonic is played

# Adapted Guitar II

tablature, 10 strings, low to high:



tuning (Partch's Otonality tuning)

str 1	str 2	str 3	str 4	str 5	str 6	str 7	str 8	str 9	str 10
4/3	16/9	4/3	16/9	16/15	4/3	32/21	16/9	20/11	11/6
-2c	-3.9c	-2c	-3.9c	+11.7c	-2c	+29.2c	-3.9c	+35c	+49.4



● / ◎ Rub rough side of the pyrex bar to produce a dissonant bowing-like sound.

# Bass Marimba

tablature:



tuning:

4/3	3/2	5/3	1/1	8/7	16/11	8/5	16/9	11/6	9/8	7/6
-2c	+2c	-15.6c	0c	+31.2c	-3.9c	+13.7c	-3.9c	+49.4c	+3.9c	-33.1c



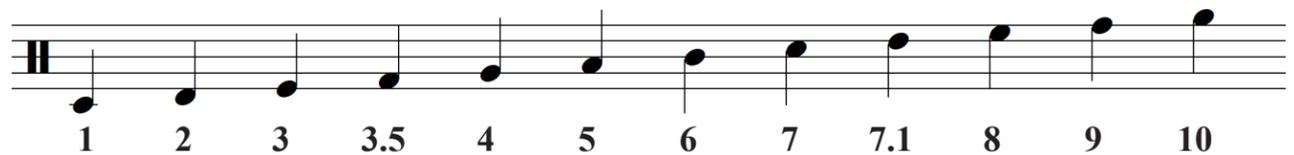
# Cloud Chamber Bowls

This piece uses the cloud chamber bowls created by the PARTCH ensemble in 2018. This set contains 12 bowls and is the same as the set used in *Petals over Petaluma* by Harry Prtch plus one extra bowl. The unusual numbering system reflects the labelling used on the PARTCH ensemble set.

physical arrangement from back:

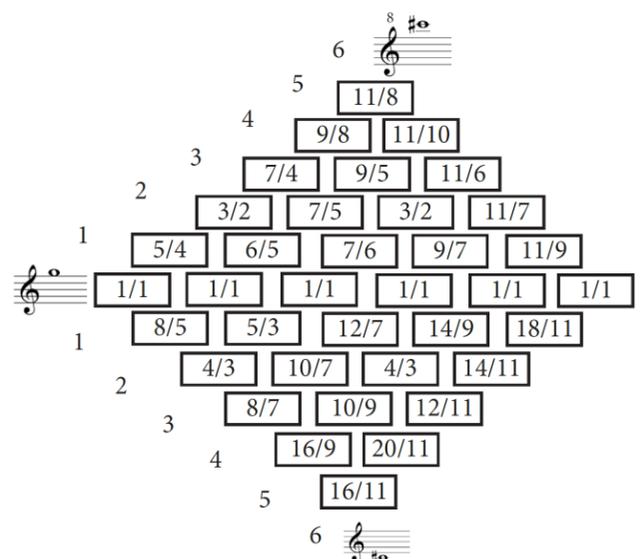
7	8	9	10
	5	6	
7.1	3.5	4	
	2	3	
		1	

D2	F2	F#2	G#2	B2	B2	C3	D3	G3	D#3	E3	G#
+49c	-42c	+42c	+18c	+4c	-34c	-22c	+13c		+35c	-37c	-3c



# Diamond Marimba

The diamond marimba is notated in Partch's usual fashion.



# Harmonic Canon I and II

two harmonic canons are called for in this piece. They are notated at the sounding pitch with a boxed number indicating the string above the staff.

## Canon #1 tuning:

44 - C#4 -17 7/5  
 43 - C#4 -49 11/8  
 42 - C4 +20 27/20  
 41 - C4 -2 4/3  
 40 - C4 -29 21/16  
 39 - B3 +18 9/7  
 38 - B3 +35 14/11  
 37 - B3 -14 5/4  
 36 - B3 +47 11/9  
 35 - Bb3 +16 6/5  
 34 - Bb3 -6 32/27  
 33 - Bb3 -33 7/6  
 32 - A3 +31 8/7  
 31 - A3 +4 9/8  
 30 - A3 -18 10/9  
 29 - A3 -35 11/10  
 28 - A3 -49 12/11  
 27 - Ab3 +12 16/15  
 26 - G#3 -15 21/20  
 25 - G#3 -47 33/32  
 24 - G3 +22 81/80  
 23 - G3 0 1/1  
 22 - G3 -21 160/81  
 21 - F#c +47 64/33  
 20 - F#3 +16 40/21  
 19 - F#3 -12 15/8  
 18 - F3 +49 11/6  
 17 - F3 +35 20/11  
 16 - F3 +18 9/5  
 15 - F3 -4 16/9  
 14 - F3 -31 7/4  
 13 - E3 +33 12/7  
 12 - E3 +6 27/16  
 11 - E3 -16 5/3  
 10 - E3 -47 18/11  
 9 - Eb3 +14 8/5  
 8 - D#3 -17 11/7  
 7 - D#3 -35 14/9  
 6 - D3 +29 32/21  
 5 - D3 +2 3/2  
 4 - D3 -19 40/27  
 3 - C#3 +47 16/11  
 2 - C#3 +18 10/7  
 1 - C#3 -17 7/5

## Canon #2 tuning:

44 - G 0 2/1  
 43 - F# -12 15/8  
 42 - F +18 9/5  
 41 - E +33 12/7  
 40 - E -16 5/3  
 39 - Eb +14 8/5  
 38 - D# -35 14/9  
 37 D +2 3/2  
 36 C# +18 10/7  
 35 - C -2 4/3  
 34 - B +35 9/7  
 33 - B -14 5/4  
 32 - B +35 14/11  
 31 C -2 4/3  
 30 C# -49 11/8  
 29 - C# +47 16/11  
 28 - C# -18 7/5  
 27 - C -2 4/3  
 26 - B -14 5/4  
 25 - Bb +16 6/5  
 24 - A +4 9/8  
 23 - Ab +12 16/15  
 22 - G 0 2/1  
 21 - F# +47 64/33  
 20 F# +16 40/21  
 19 F# -12 15/8  
 18 - F +49 11/6  
 17 F +18 9/5  
 16 - F -4 16/9  
 15 - F -31 7/4  
 14 - F -4 16/9  
 13 - F +18 9/5  
 12 - F +35 20/11  
 11 - F# -12 15/8  
 10 - F -31 7/4  
 9 - E +33 12/7  
 8 - E -16 5/3  
 7 - E -47 18/11  
 6 - Eb +14 8/5  
 5 - D# -17 11/7  
 4 - Eb -35 14/9  
 3 - D +29 32/21  
 2 - C# +18 10/7  
 1 - C -2 4/3

# Surrogate Kithara

tablature, strings from low to high with “green” or “orange” written above the staff indicate which set of strings is being used:



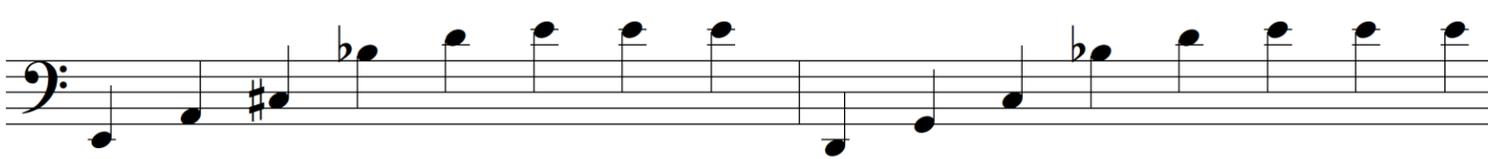
tuning, as used in *Dances*, *The Bewitched*, and *Daphne*:

## GREEN:

12/7 8/7 10/7 9/7 10/7 11/7 11/7 12/7  
 +33c +31c +18c +35c +18c -17c -17c +33c

## ORANGE:

3/2 1/1 4/3 6/5 3/2 12/7 12/7 5/3  
 +2c 0c -2c +16c +2c +33c +33c -16c



# Kithara I

Twelve sets of six string, 8 O-tonalities in ascending pitch from playing side of front side and 4 U-tonalities in descending pitch from playing side to front side.

tablature, strings from near the player to far from the player:



hexad number provided below the staff

tuning:

8/7 10/7 12/7 1/1 9/7 10/7  
+31.2c +17.5c +33.1c +0c +35c +17.5c

11/8 11/10 11/6 11/7 11/9 1/1  
+51.3c -35c +49.4c -17.5c +47.4c 0c



16/9 10/9 4/3 14/9 1/1 11/9  
-3.9c -17.6 -2c -35.1c 0c +47.4c

9/8 16/9 3/2 9/7 1/1 18/11  
+3.9c -3.9c +2c +35c 0c -47.4c



16/11 20/11 12/11 14/11 18/11 1/1  
+49c +35c +51 +18c -47c 0c

7/5 14/9 1/1 7/6 7/5 7/4  
-17c -35c 0c -33c -47c -31c



4/3 5/3 1/1 7/6 3/2 11/6  
-2c -16c 0c -35c +2c +49

1/1 8/5 4/3 8/7 16/9 16/11  
0c +14c -2c +31c -3.9c +49c



8/5 1/1 6/5 7/5 9/5 11/10  
+14c 0c +16c -47c +18c -35c

5/4 1/1 5/3 10/7 10/9 20/11  
-14c 0c -16c +17.5c -17.6 +35c



1/1 5/4 3/2 7/4 9/8 3/2  
0c -14c +2c -31c +4c +2c

6/5 3/2 12/7 1/1 6/5 3/2  
+16c +2c +33.1c 0c +16c +2c



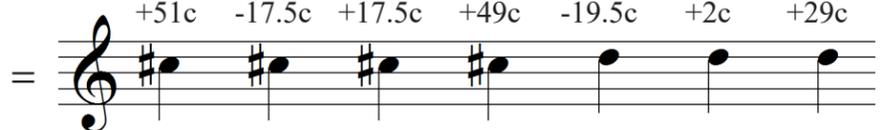
# Spoils of War

tablature, brass shell casings, low to high:

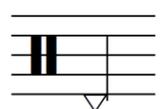


tuning, brass shell casings:

11/8 7/5 10/7 16/11 40/27 3/2 32/21  
+51c -17.5c +17.5c +49c -19.5c +2c +29c



tablature, low wood block



sounding A1 - 4c (9/8)

two cloud chamber bowls (high on left, low on right):



# Chromelodeon

Stops are at the discretion of the performer.

The harmonium is tuned in the following manner:

7/4	16/9	9/5	20/11	11/6	15/8	40/21	64/33	160/81	1/1	81/80	33/32
-31.2c	-3.9c	+17.6c	+35c	+49.4c	-11.7c	+15.5c	+46.7c	-21.1c	0c	+21.5c	-46.7c

21/20	16/15	12/11	11/10	10/9	9/8	8/7	7/6	32/27	6/5	11/9	5/4
-15.5c	+11.7c	-49.4c	-35c	-17.6c	+3.9c	+31.2c	-33.1c	-5.9c	+15.6c	+47.4c	-13.7c

14/11	9/7	21/16	4/3	27/20	11/8	7/5	10/7	16/11	40/27	3/2	32/21
+17.5c	+35c	-29.2c	-2c	-19.6c	+51.3c	-17.5c	+17.5c	+48.7c	-19.5c	+2c	+29.2c

14/9	11/7	8/5	18/11	5/3	27/16	12/7	7/4	16/9	9/5	20/11	11/6
-35.1c	-17.5c	+13.7	-47.4c	-15.6c	+5.9c	+33.1c	-31.2c	-3.9c	+17.6c	+35c	+49.4c

15/8	40/21	64/33	160/81	2/1	81/80	33/32	21/20	16/15	12/11	11/10	10/9	9/8
-11.7c	+15.5c	+46.7c	-21.1c	0c	+21.5c	-46.7c	-15.5c	+11.7c	-49.4c	-35c	-17.6c	+3.9c

8/7	7/6	32/27	6/5	11/9	5/4	14/11	9/7	21/16	4/3	27/20	11/8
+31.2c	-33.1c	-5.9c	+15.6c	+47.4c	-13.7c	+17.5c	+35c	-29.2c	-2c	-19.6c	+51.3c

7/5	10/7	16/11	40/27	3/2	32/21	14/9
-17.5c	+17.5c	+48.7c	-19.5c	+2c	+29.2c	-35.1c

sub bass tuning:

4/3	10/9	3/2	8/5	5/3	16/9	11/6	1/1	16/15	8/7	7/6	5/4	4/3
-2c	-18c	+2c	+14c	-16c	-4c	+49c	0c	+12c	+31c	-33c	-14c	-2c

# Spoken Word

Player one is asked to speak at various times in the work. This part was envisioned for John Schneider.

Quote 1: Harry Partch

“Life is too precious to spent it with important people.”

Quote 2: Kurt Gödel

“The more I think about language, the more it amazes me that people understand each other at all.”

Quote 3: Hildegard von Bingen

“When the words come, they are merely empty shells without music. For the words are the body and the music the spirit.”

Quote 4: Rosa Luxemburg

“Power concedes nothing without a demand. It never did and it never will.”

Quote 5: W.E.B. Du Bois

“Nations reel and stagger on their way; they make hideous mistakes; they commit frightful wrongs; they do great and beautiful things. And shall we not best guide humanity by telling the truth about all this, so far as the truth is ascertainable?”

Quote 6: Alessandro Stiggio (from the libretto of Monteverdi’s Orfeo)

“While I vary my songs, now happy, now sad,  
No small bird shall move among these bushes,  
Nor these birds a sounding wave be heard,  
And every breeze shall stay its wanderings”

Quote 7: Harry Partch

“Music is not desire - it is an omnipresent condition. Tones, like the colors of the sky, mountain, trees, and the body, are inescapable...”

Quote 8: Pauline Oliveros

“Listening is not the same as hearing and hearing is not the same as listening”

## Notation of Spoken Word

46

Ad.Gtr.

quote from Harry Partch  
speak slowly and clearly, timing approx.

Life is too precious...  
... to spend it...  
... with important people.

Above is an example of a spoken word sections of the piece. The details of rhythm and intonation are left to the performer, only the approximate timing and expressive textual guidance is provided in the score. The wavy line shows the approximate duration within which the text is spoken. The text should always be delivered clearly so that it is easily understood by the audience.



# One-Footed

Taylor Brook

## Part I - Approach

for Del Sol and PARTCH Ensemble

♩ = 72

Ad. Gtr.

with pick and slide

L.V. unless dampen symbol used

Player 1

Musical staff for Player 1 (Ad. Gtr.). The staff is in 4/4 time and features a 9/8 time signature change. It includes dynamic markings of *f* and *mf*, and a sixteenth-note slide marked with a '6'.

HC I

with mallets

L.V. unless dampen symbol used

strum metallic (strum near end of string)

with mallets

Player 2

Musical staff for Player 2 (HC I). The staff is in 4/4 time and includes dynamic markings of *f*. It features mallet techniques with fingerings 31 and 44, and a strum metallic instruction.

HC II

with mallets

L.V. unless dampen symbol used

Player 3

Musical staff for Player 3 (HC II). The staff is in 4/4 time and includes dynamic markings of *f*. It features mallet techniques with fingerings 24 and 28, and a five-note slide marked with a '5'.

Kithara

L.V. unless dampen symbol used

Player 4

Musical staff for Player 4 (Kithara). The staff is in 4/4 time and includes dynamic markings of *f* and *mf*. It features a triplet of eighth notes.

DM

wound mallets

strike with one mallet slide with the other

L.V. unless dampen symbol used

Player 5

Musical staff for Player 5 (DM). The staff is in 4/4 time and includes dynamic markings of *f*. It features a five-note slide marked with a '5'.

SoW

L.V. unless dampen symbol used

Player 6

Musical staff for Player 6 (SoW). The staff is in 4/4 time and includes dynamic markings of *mf*. It features a triplet of eighth notes.

BM

L.V. unless dampen symbol used

Player 7

Musical staff for Player 7 (BM). The staff is in 4/4 time and includes dynamic markings of *f* and *p*. It features a sixteenth-note slide.

Chromelodeon I

Musical staff for Chromelodeon I. The staff is in 4/4 time and includes dynamic markings of *f*. It features a sixteenth-note slide.

Violin I

Musical staff for Violin I. The staff is in 4/4 time and includes dynamic markings of *mp* and *f*. It features a 9/8 time signature change and a 1/1 time signature change.

Violin II

Musical staff for Violin II. The staff is in 4/4 time and includes dynamic markings of *f* and *mp*. It features a 9/8 time signature change and a pizzicato instruction.

Viola

Musical staff for Viola. The staff is in 4/4 time and includes dynamic markings of *mp* and *f*. It features a 9/8 time signature change and a 27/16 time signature change.

Cello

Musical staff for Cello. The staff is in 4/4 time and includes dynamic markings of *mp* and *f*. It features a 9/8 time signature change and a 1/1 time signature change.





AG

HC1

HC2

Kth

DM

SoW

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

15 9/8 > 6 f

strum, metallic 31 → 44

11/8 f 35 → 43

9/7 5/4 6/5 7/6

with mallets 39 37 35 33

with mallets 24 24 30 25 24 36 34 25 23 37 16

4 3 2 4 3 10 9 7

5 6 5 2 4

1 f 2 f f f

3 R R R 3 R R R

f p f f f f

3

9/8 1/1

11/7 11/6 9/5 11/6 9/5 16/9

9/7 11/7 8/5 3/2

9/8 11/8 9/7 5/4 6/5 7/6



AG *f* *fp*

HC1 *f* *fp*

HC2 *f* *fp*

Kth *f* *f*

DM *f* *f*

SoW *f*

BM *f*

Ch. I *f*

Vln. I *fp* *f*

Vln. II *fp* *f*

Vla. *fp* *f*

Vc. *fp* *f*





31

AG

HC1

HC2

P4  
to surrogate kithara

P5  
to cloud chamber bowls

P6  
to cloud chamber bowls

BM

Ch. I

Vln. I

*mp*

s.t. 15/8 of 9/8 15/8 27/16 3/2 5/4 of 9/8 9/8 of 9/8 9/8

Vln. II

*mp*

27/16 s.t. 3/2 27/16 3/2

Vla.

*mp*

5/4 of 9/8 s.t. 9/8 of 9/8 9/8 15/8 of 9/8 15/8

Vc.

*mp*

s.t. 27/16 3/2 9/8 27/16 3/2 9/8

37

AG

HC1

HC2

P4

P5

P6

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.





51

AG

HC1

HC2

SK

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

41

*mp*

*p*



61

AG

HC1

HC2

SK

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

65

AG

HC1

HC2

SK

CCB

P6

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

5/3

4/3

1/1

3/2 4/3

69

AG

HC1

HC2

SK

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

38

37

36

42

40

3

3

3

3

5/3

4/3

1/1

5/3

4/3

1/1

5/3

4/3

1/1

5/3

6/5 4/3

1/1

73

AG

HC1

HC2

SK

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

35 44 33 37 40

37 38 40

3

3.5 4 5

3/2 5/3 1/1 4/3 3/2 14/9 5/3

3/2 5/3 1/1

1/1 5/3 1/1 4/3 IV 1/1 III II

1/1 5/3 1/1 4/3 7/6 11/6 4/3

Detailed description: This page of a musical score covers measures 73 to 76. The instruments are arranged in a standard orchestral layout. The AG (Alto Saxophone) part features a melodic line with eighth-note patterns. The HC1 (Horn 1) and HC2 (Horn 2) parts have specific fingering numbers (35, 44, 33, 37, 40) and play a rhythmic accompaniment. The SK (Soprano Clarinet) part includes a triplet of eighth notes. The CCB (Cornet) parts play a rhythmic pattern with fingerings 3.5, 4, and 5. The BM (Bass Drum) part has a simple rhythmic pattern. The Ch. I (Chamber Horns) part is silent. The Vln. I and Vln. II parts play a melodic line with various intervals and fingerings. The Vla. (Viola) part plays a rhythmic accompaniment with various intervals and fingerings. The Vc. (Violoncello) part plays a rhythmic accompaniment with various intervals and fingerings. The score is in 4/4 time and includes various musical notations such as notes, rests, and dynamic markings.

77  $\frac{5}{3}$

AG

HC1 39 38

HC2 43

SK  $\underbrace{\hspace{1cm}}_3$   $\underbrace{\hspace{1cm}}_3$   $\underbrace{\hspace{1cm}}_3$   $\underbrace{\hspace{1cm}}_3$

CCB

CCB  $\frac{7}{4}$   $\frac{7}{3.5}$

BM

Ch. I

Vln. I  $\frac{4}{3}$   $\frac{1}{1}$   $\frac{5}{3}$

Vln. II  $\frac{4}{3}$   $\frac{1}{1}$   $\frac{5}{3}$

Vla.  $\frac{6}{5}$   $\frac{4}{3}$   $\frac{1}{1}$   $\frac{5}{3}$

Vc.  $\frac{3}{2}$   $\frac{4}{3}$   $\frac{1}{1}$   $\frac{5}{3}$

81

AG

HC1

HC2

SK

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

37

36

35

42

40

3

3

3

3

4/3

1/1

3/2 5/3 1/1 4/3

4/3

1/1

3/2 5/3 1/1

3/2 4/3

1/1 5/3 1/1 4/3

3/2 4/3

1/1 5/3 1/1 4/3

85 7/6 11/6 5/3 4/3

AG

HC1

HC2

SK

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

3/2 14/9 5/3 arco

IV 1/1

IV III

arco s.p. → ord.

arco m.s.p. → ord.

*mp*

*pp* → *mp*

*pp* → *mp*

*ppp* → *mp*



93 ord. → sul pont. → ord. → 7/6 sul pont. → 7/4 ord.

AG *mp* *pp* *f* *pp* *ff*

HC1 ord. → sul pont. → ord. 23 33 *mp* *pp* *f* *pp* *ff*

HC2 ord. → sul pont. → ord. 35 44 *mp* *pp* *f* *pp* *ff*

SK ord. → sul pont. → ord. → sul pont. → ord. *mp* *f* *pp* *ff*

CCB bottom (resonant) → on curve → bottom → on curve → bottom *mp* *f* *pp* *ff*

CCB bottom (resonant) → on curve → bottom → on curve → bottom *mp* *f* *pp* *ff*

BM middle → end → middle → end → middle *mp* *f* *pp* *ff*

Ch. I *mp* *pp* *f* *pp*

Vln. I s.t. → m.s.p. → ord. *pp* *f* *mp*

Vln. II s.t. → m.s.p. → ord. *pp* *f* *mp*

Vla. ord. → m.s.p. → s.t. → m.s.p. → ord. *mp* *f* *mp*

Vc. ord. → m.s.p. → s.t. → m.s.p. → ord. *mp* *f* *mp*

*3/2* *7/6* *5/3* *1/1*

98  $\frac{5}{3}$

AG *mp*

HC1 *mp* 40 39 38

HC2 *mp* 43

SK *mp* 3 3 3 3

CCB *mp*

CCB *mp* 7 7 3 2

BM *mp*

Ch. I

Vln. I *ppp* *mp* gliss down on IV 3 3 3 3 11/8 5/4

Vln. II *ppp* *mp* gliss down on IV 3 3 3 3 11/8 5/4

Vla. *pp* *mp* 5/3

Vc. *pp* *mp* 5/3

102

AG

HC1

HC2

SK

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

sim.

gliss on IV

gliss up on III

11/8

5/4

7/6

5/3

15/8

5/3





114 ord.  $\frac{11}{8}$  s.p. ord.  $\frac{7}{6}$  s.p.  $\frac{7}{4}$  ord.

AG *mp* *pp* *f* *pp* *ff*

HC1 ord. 42 43 s.p. ord. 23 33 s.p. ord. 33 *mp* *pp* *f* *pp* *ff*

HC2 ord. 28 30 s.p. ord. 35 44 s.p. ord. 44 *mp* *pp* *f* *pp* *ff*

SK ord. s.p. ord. s.p. ord. *mp* *f* *pp* *ff*

CCB bottom (resonant) on curve bottom on curve bottom *mp* *f* *pp* *ff*

CCB bottom (resonant) on curve bottom on curve bottom *mp* *f* *pp* *ff*

BM middle end middle end middle *p* *f* *p* *ff*

Ch. I *p* *f* *p* *f* *p*

Vln. I arco s.t. m.s.p. ord.  $\frac{3}{2}$   $\frac{7}{6}$  *pp* *f* *mp*

Vln. II arco s.t. m.s.p. ord.  $\frac{5}{3}$   $\frac{1}{1}$  *pp* *f* *mp*

Vla. ord. m.s.p. s.t. m.s.p. ord. *mp* *f* *p* *f* *mp*

Vc. ord. m.s.p. s.t. m.s.p. ord. *mp* *f* *p* *f* *mp*

Part III - Approach

$\text{♩} = 72$

119

AG  $\text{H} \ 4/4$   $\text{mp}$  Kurt Gödel quote spoken  
The more I think about language, ...the more it amazes me that people...

HC1  $\text{B} \ 4/4$

P3  $\text{T} \ 4/4$  to kithara

SK  $\text{H} \ 4/4$   $\text{mp}$  green with pick

CCB  $\text{H} \ 4/4$  with soft mallets  $p$  7 3

CCB  $\text{H} \ 4/4$

BM  $\text{H} \ 4/4$

Ch. I  $\text{B} \ 4/4$   $pp$   $mp$   $pp$   $pp$   $mp$   
sub bass

Vln. I  $\text{T} \ 4/4$  s.p.  $\rightarrow$  ord.  $f$   $ppp$

Vln. II  $\text{T} \ 4/4$  s.p.  $\rightarrow$  ord.  $f$   $ppp$

Vla.  $\text{B} \ 4/4$  m.s.p.  $\rightarrow$  ord.  $ff$   $pp$   $mp$   $p$   $9/8$   $3$   $8/7$

Vc.  $\text{B} \ 4/4$  m.s.p.  $\rightarrow$  ord.  $ff$   $pp$   $mp$   $p$   $9/8$   $3$   $8/7$

with bow, retake as needed

3/2

124

AG ... understand each other at all.

HC1 bowed 5

P3 Kithara with bow 12

SK orange mp

CCB

CCB

BM

Ch. I

pp mp pp

Vln. I

5/4 7/5

p

Vln. II

p 9/8

Vla.

9/8 3/2 9/8 8/7

< mp p mp

Vc.

9/8 3/2 9/8 8/7

< mp p mp

128 8/7

AG *p*

bowed 32

HC1 *p*

Kth ① *p*

SK green orange

CCB

CCB

BM

Ch. I *pp* *mp* *pp*

Vln. I *p*

Vln. II *p*

Vla. *p* *mp* *p*

Vc. *p* *mp* *p*

9/8 3/2

132  $\frac{3}{2}$  spoken

P1 *mf* When the words come, ... they are merely empty shells without the music. ... for the words are the body and the music the spirit.

HC1

Kth

SK to harmonic canon II

CCB

CCB

BM

Ch. I

Vln. I  $\frac{9}{8}$   $\frac{5}{4}$  5  $\frac{3}{4}$   $\frac{4}{3}$  5

Vln. II III *ppp* *mp* *pp* *mp* *p* *mf* 3 5 5 3

Vla.

Vc.

136

AG

HC1

Kth

P4

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

5/3 5

15/8 5

*p* *mf* *mp*

s.p. → ord. s.p. → ord. s.p. → ord. s.p. → ord.

*mp* > *p* *mp* > *p* *mp* > *p* *mf* > *p*

3 5

*pp* *mp* > *p* *mf*

7/5 s.p. → ord.

*mp* > *p* *mp* > *p* *mp* > *p* *mf* > *p*

6/5 5/4 s.p. → ord. s.p. → ord. s.p. → ord. s.p. → ord.

*mp* > *p* *mp* > *p* *mp* > *p* *mf* > *p*

5/3 15/8 s.p. → ord.

*mp* > *p* *mp* > *p* *mf* > *p*

141

AG (with bow) 5/4

HC1 37 bowed

Kth (with bow) 10

P4 HC II 33 bowed

CCB wound mallets 5

CCB 4

BM

Ch. I (normal keyboard)

sub bass

Vln. I s.p. → ord. 1/1 9/8 5/4

Vln. II 9/8 3 ppp

Vla. 5/4 s.p. → ord. 5/4 ppp

Vc. 5/4 15/8 5/4 7/5 3

147

AG

HC1

Kth

HC2

CCB

CCB

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.





160 5/4

AG *mp*

HC1 *mp*

Kth *mp*

HC2 *mp*

CCB *mp*

CCB *mp*

SoW *mp*

with bow 5/4

*p*

Ch. I

27/16

fast as possible, change note pattern freely

Vln. I *sub p*

Vln. II *sub p*

Vla. *sub p*

Vc. *sub p*

*ff*  $\rightrightarrows$  *mf*  $\llcorner$  *ff*

*ppp*  $\rightrightarrows$  *mp*

15/8

5/4 7/5

15/8

1/1 9/8

163

AG

HC1

Kth

HC2

CCB

CCB

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

168

AG

HC1

Kth

HC2

CCB

CCB

P7

Ch. I

Vln. I

*mp*

9/8 1/1 15/8 9/5 7/4 27/16 7/4 1/1 9/8

3

Vln. II

7/5 4/3 7/5

Vla.

Vc.

15/8 1/1 16/15 9/8 7/6 6/5 5/4

*f* *mp*

172 6/5

AG

HC1

Kth

HC2

CCB

CCB

*pp* *mp*

P7  
brass shell casings  
*pp* *f*

Ch. I

Vln. I

Vln. II

Vla.

Vc.

*mf* *pp* *mp*

5/4 6/5 5/4

5/4 6/5 5/4

5/4 6/5 5/4

5/4 6/5 5/4

AG  $175$   $5/4$

HC1 *p*

Kth *p*

HC2 *p*

CCB *p*

CCB *pp*

SoW *pp* 6

Ch. I

Vln. I *mp* *pp*  $7/5$  3  $3/2$  5  $15/8$  6  $1/1$  3 *tr* *mp*

Vln. II *pp*  $7/5$  3 5  $6/5$  6  $3/2$   $27/16$  3 *tr* *mp* *p*  $15/8$  5

Vla. *mp* *pp*  $7/5$  3 5  $3/2$  6  $27/16$  6  $15/8$  6 *tr*  $1/1$  *mp* *p*

Vc.  $7/5$  3 5  $3/2$  3 *tr*  $27/16$  5  $15/8$  6 *p*

177

AG

HC1

Kth

HC2

CCB

CCB

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

*p*

*mf*

*p cresc.*

*mf*

*p*

9/8 5/4 7/5

3/2 7/5 27/16 3/2

1/1 9/8 5/4

6 6

9/8 5/4 7/5

5 3

1/1 9/8

6 3

16/15 9/8





AG

HC1

Kth

HC2

P5

P6

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

190

AG

HC1

Kth

HC2

P5

P6

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

5/3 3/2 15/8 7/4 15/8 1/1 9/8 vib.

7/4 5/3 3/2 15/8 7/4 15/8 1/1 9/8 vib.

7/4 5/3 3/2 15/8 7/4 15/8 1/1 9/8 vib.

7/4 5/3 3/2 15/8 7/4 15/8 1/1

194

AG

HC1

Kth

HC2

P5

P6

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

AG: Complex string techniques, including tremolos and rapid oscillations.

HC1: Sustained notes with a long slur.

Kth: Sustained notes with a long slur.

HC2: Sustained notes with a long slur.

P5, P6, SoW: Sustained notes with a long slur.

Ch. I: Sustained notes with a long slur.

Vln. I: s.vib., 6/5 triplet, vib., s.vib., *ff*

Vln. II: s.vib., 6/5 triplet, vib., s.vib., *ff*

Vla.: s.vib., 6/5 triplet, vib., s.vib., *ff*

Vc.: vib., s.vib., 6/5 triplet, vib., s.vib., *ff*

198

AG (L.V.) with pick

HC1

Kth

HC2

P5

P6

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

flautando 9/8 1/1 15/8 9/5 7/4 27/16 7/4 norm. 1/1 9/8

*p* *mf* *p*

*p* *mf* *p*

*p* *mf* *p*

*p* *mf* *p*

50 Part IV - Power

(♩=♩) ♩ = 126

Rosa Luxemburg quote  
spoken

202

The musical score is arranged in a standard orchestral format. The vocal parts are at the top, followed by the string section. The vocal parts include AG (Alto), HC1 (Horn 1), HC2 (Horn 2), DM (Drum Major), BM (Bass Major), and SoW (Solo Wind). The instrumental parts include Ch. I (Chamber I), Vln. I (Violin I), Vln. II (Violin II), Vla. (Viola), and Vc. (Violoncello). The score features a Rosa Luxemburg quote in the vocal parts, with the lyrics "Power concedes nothing without a demand." and "It never did and it never will." The instrumental parts include dynamic markings such as *ff*, *mp*, and *f*, and articulation markings such as accents and slurs. The score is in 3/4 time and features a key signature of one flat.

208

P1  
 HC1  
 Kth  
 HC2  
 DM  
 BM  
 SoW  
 Ch. I  
 Vln. I  
 Vln. II  
 Vla.  
 Vc.

Musical score for measures 208-213. The score includes parts for Percussion 1 (P1), Horns 1 (HC1), Trumpets (Kth), Horns 2 (HC2), Drum Major (DM), Bass Drum (BM), Snare Drum (SoW), Chamber Strings (Ch. I), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). Measures 208-210 show a dynamic shift from *mp* to *ff* with a  $\frac{9}{8}$  time signature change. Measures 211-213 show a dynamic shift from *pp* to *mf* and then *p* to *f* to *mp*, with a  $\frac{7}{5}$  time signature change. The DM part features triplets and accents. The BM part features a steady eighth-note pattern. The SoW part features a pattern of eighth notes with rests. The string parts (Vln. I, Vln. II, Vla., Vc.) play a similar eighth-note pattern with dynamic markings and accents.

214

AG

HC1

Kth

HC2  
with dulcimer hammers

DM

BM

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

24 37 43 37 35 37 24 37 43

*f*

*mp* *f*

*ff* *mp* *f*

*ff* *mp* *f*

*ff* *mp* *f*

*ff* *mp* *f*

IV III

IV III

III II

III II

220

AG

HC1

Kth

HC2

DM

BM

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

37 35 37 24 37 43 37 35 37

7/5

*f* *mp* *f* *mp*

IV III

*mp* *f* *mp* *f*

4/3

III II

*mp* *f* *mp* *f*

5/4

II

*mp* *f* *mp*

III II

*mp* *f* *mp*

I 6/5

*mp*

226 1/1

AG *f*

HC1 *f* 23 43

Kth

HC2 24 37 43 37 35 37 24 37 43

DM 3 3 3 3 3 3

BM

SoW L

Ch. I

Vln. I *ff*

Vln. II *ff* 7/4 *p* sul pont.

Vla. *ff* *p* sul pont. *f* *p*

Vc. *ff* sul pont. *p* *f* *p*

232

AG

with mallets  
43

HC1

3

Kth

HC2

37 35 37 24 37 43 37 35 37

DM

BM

SoW

Ch. I

Vln. I

sul pont.

ord. I II

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

Vln. II

ord. II III

*f* *p* *p* *f* *p*

Vla.

ord. II III

*p* *f* *p* *p*

Vc.

ord. II III

*p* *f* *p*



244

AG

with mallets  
43

HC1

3

Kth

HC2

37 35 37 24 37 43 37 35 37

DM

BM

SoW

Ch. I

Vln. I

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

Vln. II

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

Vla.

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

Vc.

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

250 1/1

AG

HC1 *f* [23] [43]

Kth

HC2 [24] [37] [43] [37] [35] [37] [24] [37] [43]

DM [3] [3] [3] [3] [3] [3]

BM

SoW

Ch. I *f* [3] [3] [3] [3] [3] [3]

Vln. I *mp* *mf* *f* *sfz* *mp*

Vln. II *mp* *mf* *f* *sfz* *mp*

Vla. *mp* *mf* *f* *sfz* *mp*

Vc. *mp* *mf* *f* *sfz*

256

AG

HC1 *with mallets* 43

Kth

HC2 37 35 37 24 37 43 37 35 37

DM

BM

SoW

Ch. I 3 3 3 3 3 3 *8va*

Vln. I *mf f sfz mp ff*

Vln. II *mf f sfz mp ff*

Vla. *mf f sfz mp ff*

Vc. *mp mf f sfz mp ff*

♩ = 72

262

AG to Ad. Gtr. II

HC1 to harmonic canon II

Kth to cloud chamber bowls

HC2 to cloud chamber bowls

DM to cloud chamber bowls

BM to cloud chamber bowls

SoW

Ch. I

Vln. I *p* *mf*

Vln. II *p* *mf*

Vla. *p* *mf*

Vc. *p* *mf*

265

P1

HC1

P3

P4

P5

P6

SoW

Ch. I

Vln. I

Vln. II

Vla.

Vc.

271

P1

HC1

P3

P4

P5

P6

SoW

cloud chamber bowls

8

pp

cloud chamber bowls

6

pp

cloud chamber bowls

1

pp

SoW

pp

Ch. I

Vln. I

Vln. II

Vla.

Vc.

sub *p*

*mf*

*p*

*mf*

*p*

*mf*

*pp*

II

277

P1  
 HC1  
 P3  
 CCB  
 CCB  
 CCB  
 SoW  
 Ch. I  
 Vln. I  
 Vln. II  
 Vla.  
 Vc.

Musical score for page 277, measures 1-6. The score includes parts for Percussion (P1, HC1, P3), Cymbals (CCB), Snare Drum (SoW), Chamber Horns (Ch. I), Violins (Vln. I, Vln. II), Viola (Vla.), and Violoncello (Vc.). The time signature changes from 5/4 to 4/4 to 3/4 and back to 4/4. Dynamics range from *mf* to *pp*. The CCB parts feature complex rhythmic patterns with slurs and accents.

P1  
 HC1  
 P3  
 CCB  
 CCB  
 CCB  
 SoW  
 Ch. I  
 Vln. I  
 Vln. II  
 Vla.  
 Vc.

Musical score for measures 283-286. The score includes parts for P1, HC1, P3, three CCBs, SoW, Ch. I, Vln. I, Vln. II, Vla., and Vc. The time signature alternates between 3/4 and 4/4. Dynamics include pp, mf, and p. The CCB parts feature complex rhythmic patterns with slurs and dynamic markings. The Vln. I part has a tremolo effect. The Vln. II part has a tremolo effect and dynamic markings. The Vla. part has a tremolo effect and dynamic markings. The Vc. part has a tremolo effect and dynamic markings.

Ad. Gtr. II

with pick  
1/1

289

P1  
 HC1  
 P3  
 CCB  
 CCB  
 CCB  
 SoW  
 Ch. I  
 Vln. I  
 Vln. II  
 Vla.  
 Vc.

with pick  
 23  
 HC II  
 22  
 with pick  
 8  
 7  
 4  
 7.1  
 4  
 sub bass  
 mf  
 pp  
 p  
 mf  
 p  
 mf  
 pp  
 p  
 mf  
 p  
 p  
 mf  
 p

W. E. B. Du Bois quote  
spoken

295

P1

HC1

HC2

P4  
to kithara

CCB

P6  
to surrogate kithara

P7  
to bass marimba

Ch. I

Vln. I

Vln. II

Vla.

Vc.

"Nations reel and stagger on their way; they make hideous mistakes; they commit frightful wrongs; they do great and beautiful things. ..."

302

AG2

... And shall we not best guide humanity by telling the truth about all this, so far as the truth is ascertainable?"

HC1

HC2

P4

CCB

SoW

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.



♩ = 92

314

AG2

HC1

HC2

Kth

CCB

SK

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.



323

AG2

HC1

P3

P4

P5

P6

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.

Detailed description of the musical score: The score is divided into two main sections. The upper section contains percussion parts for AG2, HC1, P3, P4, P5, P6, and P7. The lower section contains string parts for Ch. I, Vln. I, Vln. II, Vla., and Vc. The percussion parts feature various rhythmic patterns, often marked with 'v' for vibrato or 'V' for accents. The string parts show melodic lines with dynamic markings like 'v' and 'f'. The Ch. I part is mostly silent. The Vln. I and Vln. II parts have complex rhythmic patterns in the first two measures, followed by melodic lines. The Vla. and Vc. parts also have complex rhythmic patterns in the first two measures, followed by melodic lines. The score is numbered 323 at the top left.

327

AG2

HC1

HC2

Kth

CCB

SK

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

331

AG2

HC1

HC2

Kth

CCB

SK

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

rub with dowel

35

23

44

23

13

1

44

1

7

4/3

6/5

6/5

6/5

sim.

sim.

sim.

sim.

336

AG2

HC1

HC2

Kth

CCB

SK

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

ascend chromatically as fast as possible

strike frame

44

1

23

44

1

27/16 27/16 27/16 3/2 9/8 9/8 9/8 1/1 3/2 3/2 4/3

27/16 27/16 27/16 3/2 9/8 9/8 9/8 1/1 3/2 3/2 4/3

27/16 3/2 9/8 9/8 9/8 1/1 3/2 3/2 4/3

27/16 3/2 9/8 9/8 9/8 1/1 3/2 3/2 4/3

m.vib. s.vib. 16/9

m.vib. s.vib. 16/9

m.vib. s.vib. 1/1 16/9 1/1 3/2

m.vib. s.vib. 1/1 16/9 1/1 3/2

341

AG2

HC1

HC2

Kth

CCB

SK

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

31

10

12

7

*fp*

*fp*

*fp*

*fp*

Detailed description: This page of a musical score, numbered 75, begins at measure 341. It features ten staves for percussion and strings. The percussion staves (AG2, HC1, HC2, CCB, SK, BM) are in 3/4 and 4/4 time signatures. The string staves (Vln. I, Vln. II, Vla., Vc.) are in 3/4 and 4/4 time signatures. The woodwinds (Kth, Ch. I) are in 3/4 and 4/4 time signatures. The score includes various musical notations such as notes, rests, and dynamic markings like *fp*. There are also some boxed numbers (31, 10, 12, 7) and a large brace for the Ch. I staff.

Part VI - Emotion

*rit. allargando*

Alessandro Striggio Quote

$\text{♩} = 112$

*continue after player 1 says "wanderings"*

345

AG2

HC1

HC2

Kth

CCB

SK

BM

23

1

While I vary my songs, now happy, now sad,  
No small bird shall move among these bushes,  
Nor these birds a sounding wave be heard,  
and every breeze shall stay its wanderings.

to cloud chamber bowls

to cloud chamber bowls

to cloud chamber bowls

Ch. I

(normal keyboard)

*mf*

Vln. I

Vln. II

Vla.

Vc.

*ff*

*ff*

*ff*

*ff*

MUTE (leather or rubber)

MUTE (leather or rubber)

MUTE (leather or rubber)

MUTE (leather or rubber)

11/8

*ppp*

6/5

*ppp*

349

AG2

HC1

HC2

P4

CCB

P6

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.

bend down approx. 1/3 tone (for all gliss lines until m180)

1/1

9/8

sim.

9/8

3/2

1/1

sim.

1/1

3/2

bend down approx. 1/3 tone (for all gliss lines until m180)

6/5

sim.

6/5

bend down approx. 1/3 tone (for all gliss lines until m180)

8/5

8/5

sim.

8/5

*mp* *pp*

*mp* *p* *poco*

*p* *poco*

*ppp*

*mp* *p* *poco*

*p* *poco*

*ppp* *mp* *p* *poco* *p* *poco*

354

AG2

HC1

HC2

P4

CCB

P6

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.

359

AG2

HC1

HC2

P4

CCB

P6

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.

5/4

4/3

4/3

5/3

1/1

5/3

3/2

4/3

364

AG2

HC1

HC2

P4

CCB

P6

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.

bend up approx. 1/3 tone

$3/2$

$16/9$

$1/1$

$5/4$

$9/8$

$4/3$

$5/4$

$1/1$

$5/3$

$5/4$

$16/9$

$9/8$

$1/1$

$5/4$

$3/2$

$1/1$

$15/8$

$5/3$

$15/8$

$3/2$

$mp$

$p$

$mp$

$p$

$mp$

$p$

$mp$

$p$

369

AG2

HC1

HC2

P4

CCB

P6

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.

*mf*

*f*

*mf*

cloud chamber bowls

1 5

27 37

7

3

*mf*

3/2 5/3 16/9 5/3 4:3

5/4 3/2 3/2 bend up about 13c to match CCB 4:3 4:3

9/8 4/3 15/8 bend up about 50c to match CCB 4:3 4:3

1/1 4/3 4:3 4:3

373

AG2

HC1

HC2

P4

CCB

cloud chamber bowls

P6

CCB

Ch. I

Vln. I

Vln. II

Vla.

Vc.

mf

f

mf

4:3

4:3

1/1

5/4

9/8

4/3

4:3

4:3

3/2

5/4

5/3

5/4

16/9

9/8

4:3

4

1/1

5/4

+43c, match pitch with P7's cloud chamber bowl

1/1

15/8

5/3

15/8

3/2

♩ = 56

377

AG2

HC1

HC2

P4

CCB

CCB

CCB

Ch. I

Vln. I

Vln. II

Vla.

Vc.

cloud chamber bowls

7

mf

9

f

7

f

4

mf

3

mf

3/2

5/3

16/9

5/3

-37c, match pitch with P4's cloud chamber bowl

4:3

5/4

3/2

bend up about 13c to match CCB

4:3

9/8

4/3

15/8

bend up about 50c to match CCB

4:3

1/1

4/3

4:3

1

5

(L.V.)

27

37

(L.V.)





390

AG2

HC1

HC2

CCB

CCB

CCB

CCB

Ch. I

Vln. I

Vln. II

Vla.

Vc.

-19c, tune to cloud chamber bowl overtone

+16c, tune to cloud chamber bowl overtone

+18c, tune to cloud chamber bowl overtone

+23c, tune to cloud chamber bowl overtone 8vb

395

rub with pyrex bar to create dissonant bowing sound

gradually shift pyrex bar up the fret board next 4 measures

AG2

pp mp

HC1

strum with pick

1 44 sim.

3

pp

HC2

strum with pick

1 44 sim.

3

pp

CCB

pp mp pp mp pp mp pp mp

CCB

pp mp pp mp pp mp pp mp

CCB

mp dd mp dd mp dd mp dd

CCB

mp dd mp dd mp dd mp dd

Ch. I

Vln. I

pp mp pp mp pp mp pp mp

Vln. II

pp mp pp mp pp mp pp mp

Vla.

mp dd mp dd mp dd mp dd

Vc.

mp pp dd mp dd mp dd mp dd



quote from Harry Partch  
spoken while continuing to pluck

405

AG

Music is not desire - it is an omnipresent condition. Tones, like the colors of the sky, mountain, trees, and the body, are inescapable...

HC1

HC2

P4

P5

P6

P7

Ch. I

Vln. I

Vln. II

Vla.

Vc.

*ppp*





417 9/8 XII 1/1 15/8 27/16 2/1 15/8

AG  
*f* *mf*

HC1  
 strum, metallic *f* with mallets *f*

HC2  
 with mallets *f* strum, metallic *f* with mallets *f*

Kth

DM  
*f* *f* *f* *f* *f* *f*

SoW  
*f* *f* *f* *f* *f*

BM

Ch. I

Vln. I  
*p < f* *sempre f*

Vln. II  
*p < f* *sempre f*

Vla.  
 pizz. *p < f* *sempre f* arco pizz. *f* arco

Vc.  
*p < f* *sempre f*



425 9/7 5/4 6/5 7/6 9/8 ♩ = 56

AG

HC1 with mallets *f* 39 37 35 33 31 → 43 23

HC2 25 24 36 34 25 23 37 16 24 22 22 44

Kth 4 3 10 9 7 4

DM 5 2 2 4 5 1 *f*

SoW *f* R R 3 R 3

BM 3

Ch. I

Vln. I 9/8 1/1 9/8

Vln. II 9/5 11/6 9/5 16/9 1/1

Vla. 8/5 3/2

Vc. 9/7 5/4 6/5 7/6 9/8

429

AG *mp* <sup>6</sup> sul pont.

P2

P3

Kth 11 strum close to the end of the string for a more metallic tone

DM 2 long ricochet to squelch *mp*

SoW *mp*

BM *mp*

Ch. I

bend, like measured vibrato  
(ornamental, upper pitch  
need not be precise)

Vln. I *mf* <sup>9/8</sup> flautando *p* <sup>3</sup> *mp* <sup>8/7</sup> <sup>9/8</sup> *p* *mp* *p* <sup>3</sup> <sup>5/4</sup> *mp* *p* <sup>14/11</sup> <sup>14/11</sup> <sup>5/4</sup> <sup>5/4</sup> *mp* *p*

Vln. II <sup>9/8</sup> flautando *pp* *mp* *p* *mp* *p*

Vla. <sup>9/8</sup> pizz. *mf* arco <sup>9/8</sup> *p* *mp* *p* <sup>14/11</sup> <sup>14/11</sup> <sup>5/4</sup> <sup>5/4</sup> <sup>5/4</sup> bend, like measure vibrato (ornamental, upper pitch need not be precise)

Vc. <sup>9/8</sup> flautando *mf* *p*

432

AG

HC1

HC2

Kth

DM

SoW

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

435

AG

HC1

HC2

Kth

DM

SoW

BM

Ch. I

Vln. I

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

Vln. II

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

Vla.

arco 9/8 5/4

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

Vc.

*pp* *mp* *pp*



441

AG

HC1

P3

Kth

DM

SoW

BM

Ch. I

Vln. I

*mp* *pp* *mp* *pp* *mp*

Vln. II

*mp* *pp* *mp* *pp* *mp* *pp*

Vla.

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

*espressivo*

Vc.

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

444

AG

HC1

HC2

Kth

DM

SoW

BM

Ch. I

Vln. I

*pp* *mp* *pp* *mp* *pp*

Vln. II

*mp* *pp* *mp* *pp* *mp* *pp*

Vla.

7/6 6/5 5/4

*mp* *pp*

Vc.

5/4

*mp* *pp*

447

AG

HC1

HC2

Kth

DM

SoW

BM

Ch. I

Vln. I

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

Vln. II

*pp* *mp* *p*

Vla.

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

pizz. arco

9/8 5/4 14/11 5/4 14/11 5/4

Vc.

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

450

AG

HC1

HC2

Kth

DM

SoW

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

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

pizz.

*mp*

Pauline Oliveros quote  
spoken

454

AG

6 Listening... is not the same as hearing... and hearing... is not the same as listening.

HC1

HC2

Kth

DM

SoW

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.

5/4 norm.

*pp*

pizz.

*mp*

458

AG

HC1

HC2

Kth

DM

SoW

BM

to cloud chamber bowls

Ch. I

Vln. I

Vln. II

Vla.

Vc.

*pp* *mp* *poco*

5/4 14/11 14/11 5/4 5/4 5/4 5/4 14/11 14/11 5/4 5/4 14/11 5/4 14/11 5/4 14/11 5/4 14/11 5/4 14/11

1/1 norm. 1/1 33/32 1/1 81/80 1/1 81/80 1/1

3/2 norm. 3/2 5/3 3/2

arco 1/1 5/3 1/1 5/3 11/8 4/3 1/1 5/3

*pp* *mp*

462

AG

HC1

HC2

Kth

P5

SoW

BM

Ch. I

Vln. I

Vln. II

Vla.

Vc.



472

ord. → sul pont. → ord.

AG

*mp* → *pp* → *f*

HC1

23

ord. → sul pont. → ord.

*mp* → *pp* → *f*

HC2

44

ord. → sul pont. → ord.

*mp* → *pp* → *f*

Kth

with pick

ord. → sul pont. → ord.

*mp* → *f*

cloud chamber bowls

bottom (resonant) → on curve → bottom

P5

*mp* → *f*

SoW

bottom (resonant) → on curve → bottom

*mp* → *f*

BM

middle → end → middle

*mp* → *f*

Ch. I

*f*

Vln. I

$\frac{11}{8}$   $\frac{4}{3}$   $\frac{11}{8}$   $\frac{7}{5}$

*fp* → *fp* → *fp* → *fp*

Vln. II

$\frac{11}{8}$   $\frac{4}{3}$   $\frac{11}{8}$   $\frac{7}{5}$

*fp* → *fp* → *fp* → *fp*

Vla.

$\frac{3}{2}$   $\frac{11}{8}$   $\frac{7}{5}$

*fp* → *fp* → *fp* → *fp*

Vc.

$\frac{3}{2}$   $\frac{11}{8}$   $\frac{7}{5}$

*fp* → *fp* → *fp* → *fp*

475  $\frac{7}{6}$  sul pont.  $\frac{7}{4}$  ord.

AG *pp* *ff*

HC1 sul pont. ord. *pp* *ff*

HC2 sul pont. ord. *pp* *ff*

Kth sul pont. ord. *pp* *ff*

P5 on curve bottom *pp* *ff*

SoW on curve bottom *pp* *ff*

BM end middle *pp* *ff*

Ch. I

Vln. I  $\frac{3}{2}$  *fp* *fp* *fp* *fff*

Vln. II  $\frac{3}{2}$  *fp* *fp* *fp* *fff*

Vla.  $\frac{7}{4}$  *fp* *fp*  $\frac{3}{2}$  *fp* *fff*

Vc.  $\frac{7}{4}$  *fp* *fp*  $\frac{3}{2}$  *fp* *fff*