

Richard Barrett

# *heliocentric*

2005-2011  
ten instruments

full score

# heliocentric

(2005-2011) for ten instruments

Commissioned by the City of Liverpool as part of CONSTRUCTION

to Harry Gilonis

duration: approximately 15 minutes

## Instrumentation:

<b>duo 1</b>	bass flute bass recorder
<b>duo 2</b>	clarinet in A 1 & 2
<b>duo 3</b>	quartertone flugelhorn alto trombone
<b>quartet</b>	percussion (one player): at least 2 kalimbas or similar instruments - see below baroque triple harp electric guitar cello

## Staging and electronics

All instruments should be amplified. *Heliocentric* is conceived for performance with live three-dimensional spatialisation of the instrumental sounds. The sounds of each of the three duos should be projected so as to "rotate" slowly and independently of the other duos around the centre of the performing space, with the members of the duo diametrically opposite one another - duo 1 closest to the centre and to ground level, duo 2 in an intermediate position and duo 3 furthest from the centre and furthest from the ground. The quartet sounds should be placed together in the centre like a single complex instrument. Amplification should be differentially used to give all ten instruments a comparable dynamic range. Reverberation is added to the quartet sounds as specified in the score. If necessary the music can be performed without the spatialisation, but still amplifying all the instruments and adding reverb where indicated, and also placing the three duos in different positions around the central quartet as facilitated by the nature of the performing space.

## Organisation of the score

The score consists of four components: the quartet score, which is used by the quartet and by the conductor, and the three duo scores which also exist as separate duos: *Adocentyn* for bass flute and bass recorder, *Hypnerotomachia* for two clarinets in A and *Aurora* for quartertone flugelhorn and alto trombone. The versions of those scores used for *heliocentric* differ slightly from the duo versions in that there are more and subtler tempo changes, and the music is mostly split into fragments with numbered cues, sometimes necessitating a division of long sustained passages into separate "phrases". The changes in tempo are mostly close to the conducted tempo and are intended principally to desynchronise the layers of the music from one another. Some sections are also rebarred relative to the duo versions to make conducting easier, without altering the material. The cues are given by the conductor, generally to one duo at a time but sometimes two, at which point the duo plays until the end of that fragment, usually at its own tempo independently of the rest of the ensemble, and then stops to await the next cue. In some places one of the duos plays continuously for an extended period together with the conductor.

The quartet score contains all the cues for all duos. The rehearsal numbers next to the boxes refer to points in the duo scores. A box with an attached arrow indicates that the activity continues until the end of the arrow. A box without an arrow indicates that the activity continues until (approximately!) the vertical position of the end of the box.

In sections B and D, timings in seconds are given between cues. Many of these depend on the precise tempo taken by one or other of the duos, so the timings in the score should be taken only as an approximate guide to the order of entries and exits, and their durational proportions.

## General performing notes

Trills, tremoli and gracenotes always as fast as possible; trills and mordents are always to the nearest semitone unless otherwise indicated.

Quartertones: (♯) ♭ ♮ ♯ (♯) Smaller intervals are notated using an arrow pointing up or down from one of these accidentals; the precise intonation of such pitches may be inferred from the notated fingering. "Normal" fingering for a given pitch is indicated by N when this might not otherwise be clear. The use of circular breathing is assumed during extended unbroken passages.

] = tongue-stop at the end of a sound (winds); stop bow on string (cello), damp all sound (harp, guitar)



### Performing notes for duo 1

Glissandi should be executed by changes of fingering except for the few indicated embouchure-glissandi in the flute part.

### Performing notes for duo 2

The passages in two-part counterpoint work by juxtaposing multiphonic dyads which have one pitch in common so that, with care, one pitch will sound as sustaining while the other changes.

Glissandi are sometimes to be executed using the embouchure, sometimes with the fingers and sometimes by a combination of both. Where no indication of embouchure-glissando (as a sloping line above the staff prefixed by *emb.*) is given, the glissando is intended to be produced by changes in fingering.

◇ = pitch produced by "normal" fingering, when this fingering is altered (typically by adding trill keys) to produce a different pitch or microtonal sequence. This pitch is shown only as a shorthand for its fingering and is not intended to be heard! Resultant pitches are shown with normal noteheads.

▷ = slaptongue (not necessarily staccato!)       = throat tremolo

### Performing notes for duo 3

In the flugelhorn part, the number after the "tr" in a trill indicates the valve to be trilled; "tr(L)" indicates a lip-trill.

All multiphonics are "split sounds" rather than involving the voice.

Arrows on accidentals indicate justly-intoned deviations from equal temperament, although these may, depending on context, also be approximated to the nearest quartertone. The flugelhorn quartertones are produced with a fourth valve whose tubing is half the length of that of the second valve. Valves are notated in the score as necessary, as are trombone slide positions (i-VII) and harmonics (pedal=1).

● (above staff) = "normal" tone production.

◆ = "air sound" (extremely faint pitch sounding a major seventh lower than the played pitch - these resultants are shown as small notes)

◇ = intermediate between these (a "breathy" sound but with "normal" pitch still audible).

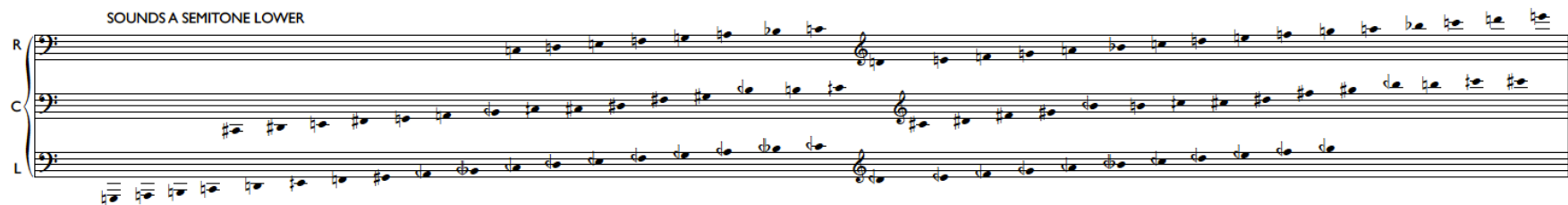
○ ⊕ + = open, half-closed and closed mute (plunger or harmon).

[x:] ————— = throat-flutter (x = "ch" as in "loch") for indicated duration, sometimes simultaneously with fluttertongue.

### Performing notes for quartet

The **percussionist** should use at least two kalimbas or similar instruments. Two are specified in the score (kalimba 1 smaller and higher in general pitch-range, kalimba 2 larger and lower) but these may be augmented *ad libitum*, particularly by instruments with distinctively different timbres, to replace the specified ones for one or other section of the score. Kalimbas in tempered tuning should be retuned so that their tuning is irregular. In particular, no two tongues should be exactly in unison. Pitches are not specified in the score. Each instrument is notated using one line to represent the central and longest tongue, and noteheads without lines either side to represent however many other tongues the instruments used may have. Therefore the pitch goes up the further away (in either direction!) from the centre line. Kalimbas with a larger number of tongues are to be preferred, and kalimbas with buzzing metal rings around the tongues are welcome.

The **triple harp** is tuned thus:




The harp requires five crocodile clips as "preparations" on its lowest strings.

The **electric guitar** should use as default a "clean", semi-acoustic type sound: bright but without distortion or significant compression. A volume pedal should be used to realise the often gradual and/or wide changes in dynamic. In the first and fifth sections the lowest three strings are "prepared" using crocodile clips clipped to the strings near the bridge. In the first section, these preparations are also to be moved to unspecified different positions as indicated, in order to produce a variety of different timbres at different times. In the fourth section, the open B string is played throughout with an EBow and varies only in timbre - alternations between 5 basic "sounds" are indicated, to correspond to 5 different basic effect-combinations, which should be highly distinct from one another except in dynamic (although without clear pitch-shifting, or delays or other effects which produce a discernible regular "rhythm" or pulsation), but each of these may be slowly varied *during* their duration by gradually adjusting one or other parameter. The most practical way to organise the effects would probably be to assign each of the five sounds to a different effects pedal (with all five pedals connected in series), so that each change would involve simultaneously switching one pedal off and the next on. If this is done accurately the resultant audible clicks will be masked by the kalimba sounds.

In the **cello** part:

(a) *psp*, *mzp* = *poco* and *molto sul ponticello* respectively, the former already being noticeably different in timbre from *nat.*, the latter being as extreme as possible consistent with the fundamental pitch remaining audible. *pst*, *mst* = *poco* and *molto sul tasto* (similarly).

(b)  = ascending degrees of bow pressure: *flautando*; "normal"; exaggerated and distorted (pitch only just discernible); completely pitchless scraping.

For suggestions and inspirations on instrumental techniques, thanks to Katja Blischke, Daryl Buckley, Rhodri Davies, Peter Evans, Ben Marks, Carl Rosman and Tristram Williams.

# heliocentric

Richard Barrett  
2005-11

DUO 1 @ ♩ = 48  
with conductor

A1

DUO 2 @ ♩ = 56  
independent

(DUO 3 tacet until bar 37)

4  
8 ♩ = 48

kalimbas  
1  
2  
R  
L  
triple harp C  
L  
prepared electric guitar  
cello

l.v. sempre  
PPP  
pp → PPP  
p → PPP  
PPP  
pizz sempre (put down bow)  
make slight change in position to one of the preparations  
PPP  
PPP

quartet sent to reverb



(DUO 1 sim.)

A2

DUO 2 @ ♩ = 40  
independent

kalimbas  
1  
2  
R  
L  
triple harp C  
L  
prepared electric guitar  
cello

PPP  
pp → PPP  
mp → pp  
PPP  
p  
PPP  
pp  
PPP  
pp  
pizz  
PPP  
pp

make slight change in position to one of the preparations

(DUO I sim.)

A3  
DUO 2 @  $\text{♩} = 54$   
independent

Musical score for Duo 2, measures 11-14. The score is written for four instruments: kalimbas, triple harp C, prepared electric guitar, and cello. The kalimbas part (measures 11-14) features two staves with notes and rests, with dynamics *mf* → *p*, *p* → *ppp*, and *ppp*. The triple harp C part (measures 11-14) has notes in the right and left hands, with dynamics *ppp* → *pp*. The prepared electric guitar part (measures 11-14) includes fingerings (5, 4, 6) and dynamics *mf* → *p*, *p* → *ppp*, and *ppp*. The cello part (measures 11-14) has notes and rests, with dynamics *pp*. Performance instructions include "make slight change in position to one of the preparations" for the prepared electric guitar and triple harp C parts.

(DUO I sim.)

A4  
DUO 2 @  $\text{♩} = 42$   
independent

Musical score for Duo 2, measures 15-18. The score is written for four instruments: kalimbas, triple harp C, prepared electric guitar, and cello. The kalimbas part (measures 15-18) features two staves with notes and rests, with dynamics *mp* → *pp*, *mp* → *pp*, and *pp* → *ppp*. The triple harp C part (measures 15-18) has notes in the right and left hands, with dynamics *mp* → *f* and *ppp*. The prepared electric guitar part (measures 15-18) includes fingerings (5, 4, 6) and dynamics *mp* → *pp*, *mp* → *pp*, and *pp* → *ppp*. The cello part (measures 15-18) has notes and rests, with dynamics *mp* → *f* and *ppp*. Performance instructions include "make slight change in position to one of the preparations" for the prepared electric guitar and triple harp C parts.

(DUO I sim.)

A5 DUO 2 @ ♩ = 52 independent

(DUO 2)

A6 DUO 2 @ ♩ = 44 independent

Musical score for Duo 2 (measures 19-23). The score includes parts for kalimbas (2 staves), triple harp C (R and L staves), prepared electric guitar, and cello. The tempo is marked as DUO 2 @ ♩ = 52. Performance instructions include dynamics such as *p*, *ppp*, *mf*, *ff*, and *mf*. Fingerings and specific techniques like *pizz* are indicated. A bracket labeled '9:10' spans measures 22 and 23. Annotations for the prepared electric guitar include 'make slight change in position to one of the preparations' and 'make slight change in position to one of the preparations'.

(DUO I sim.)

(DUO 2)

A7 DUO 2 @ ♩ = 50 independent

Musical score for Duo 2 (measures 24-28). The score includes parts for kalimbas (2 staves), triple harp C (R and L staves), prepared electric guitar, and cello. The tempo is marked as DUO 2 @ ♩ = 50. Performance instructions include dynamics such as *p*, *ppp*, *ppp*, *pp*, *mp*, *f*, and *mp*. Fingerings and specific techniques like *pizz* are indicated. Annotations for the prepared electric guitar include 'make slight change in position to one of the preparations'.

(DUO 1 sim.)

29

kalimbas

triple harp C

prepared electric guitar

cello

*fff* *f* *mp* *pp* *ppp*

(7~) 4:3 5:4 5:6

5:4 6:7 4:5 5:4

(pizz) II I III



(DUO 1 sim.)

A8 DUO 2 @  $\text{♩} = 46$  independent

A9 DUO 2 @  $\text{♩} = 48$  independent

33

kalimbas

triple harp C

prepared electric guitar

cello

*p* *ppp* *pp* *mf* *fff* *mf*

(7~) 7:6 4:5 4:5

make slight change in position to one of the preparations

make slight change in position to one of the preparations

remove preparations

(pizz) IV III I 4:3 take bow

15" 12" (wait for duo 2) 2" 4" 6" 18" (wait for duo 2) 3"

B1 DUO 3 @ ♩ = 57 independent  
 B2 DUO 2 @ ♩ = 51 independent  
 B3 DUO 3 @ ♩ = 60 independent  
 B4 DUO 1 @ ♩ = 63 independent  
 B5 DUO 2 @ ♩ = 54 independent

triple harp C  
 R mp  
 L pp mp mf pp  
 table nat. table

cello  
 mst. pst.  
 ppp ← p

cello: the part for this section consists of a single continuous glissando over three octaves and lasting three minutes, using harmonic finger-pressure throughout, reaching the positions specified at the 14 conducted cues. The glissando (this applies also to the gradual movement from *molto (!) sul tasto* to *molto (!) sul ponticello*) isn't intended to be constant, but may dwell momentarily on harmonic nodes and (especially) multiphonics during its course, exploring gradual changes in dynamic (between the indicated limits) and bow-pressure, so that the continuous thread of sound comes in and out of focus, splits up and reforms, etc.

6" 7" 18" (wait for duo 2) 7"

B6 DUO 3 @ ♩ = 54 independent  
 B7 DUO 2 @ ♩ = 57 independent  
 B8 DUO 1 @ ♩ = 51 independent

triple harp C  
 R mp  
 L pp f  
 table nat.

cello  
 (sim.) nat.  
 (ppp ← p)

14" (wait for duo 3) 18" 7" 8" 19" 16" (wait for duo 3)

B9 DUO 2 @ ♩ = 60 independent  
 B10 DUO 1 @ ♩ = 57 independent  
 B11 DUO 3 @ ♩ = 51 independent  
 B12 DUO 2 @ ♩ = 63 independent  
 B13 DUO 1 @ ♩ = 60 independent  
 B14 DUO 1 @ ♩ = 54 independent

triple harp C  
 R table nat. mp pp mf mf  
 L mp pp mf mf  
 table nat.

cello  
 psp msp

5  
16

DUO 3 @ ♩ = 68  
with conductor (@giving downbeats only)

♩ = 68

40

5/16 (always 2 adjacent tongues - always a different pair if possible)

2/8

7/16

15/32

kalimbas

triple harp C

electric guitar

cello

quartet sent to reverb (less than in first section)

(DUO 3 sim.)

52

15/32

11/32

3/8

15/16

11/16

6/8

7/16

kalimbas

triple harp C

electric guitar

cello

(DUO 3 sim.)

59

7/16

3/8

19/32

15/32

6/8

5/8

3/8

9/32

kalimbas

triple harp C

electric guitar

cello

(DUO 3 sim.)

65

9/32 17/32 15/32 17/32 19/32 5/8 11/32 21/32

kalimbas

triple harp C

electric guitar

cello

Performance instructions: (nat.), table, sul pont., arco nat, arco psp sul III, clb nat sul I, pizz, mp, p, f, nat. (bend).

(DUO 3 sim.)

72

21/32 23/32 13/32 21/32 5/16 11/32 13/32

kalimbas

triple harp C

electric guitar

cello

Performance instructions: ppp, f, mp, fff, sul pont., arco psp, pizz sul IV, arco psp, table, clb mst -> nat, ppp, f.

(DUO 3 sim.)

79

13/32 5/16 15/32 17/32 5/8 15/32 13/32 6/8

kalimbas

triple harp C

electric guitar

cello

Performance instructions: mp, pp, mf, p, f, sul pont., arco nat, pizz, nat, (bend).



(DUO 3 sim.)

85  
6/8  
23/32  
17/32  
13/32  
7/16

kalimbas  
triple harp C  
electric guitar  
cello

pp fff mf arco mst pizz arco msp

(DUO 3 sim.)

89  
7/16  
5/8  
29/32  
6/8

kalimbas  
triple harp C  
electric guitar  
cello

f mf fff sul pont. arco psp sul III mst nat take E-Bow

place preparations on lowest five strings (G, A, B, C and C#)

6" (wait for duo 1) 3" 2" 5" 5" (wait for duo 1) 5" (wait for duo 3) 5" 3" 5" (wait for duo 2) 12" (wait for duo 1) 8"

D1 DUO 1 @  $\dot{\lambda} = 81$  independent  
D2  
D4 DUO 1 @  $\dot{\lambda} = 90$  independent  
D5 DUO 2 @  $\dot{\lambda} = 85.5$  independent  
D6 DUO 1 @  $\dot{\lambda} = 72$  independent  
D7 DUO 3 @  $\dot{\lambda} = 72$  independent  
D8 DUO 1 @  $\dot{\lambda} = 72$  independent  
D9 DUO 2 @  $\dot{\lambda} = 85.5$  independent  
D11 DUO 1 @  $\dot{\lambda} = 72$  independent  
D3 DUO 3 @  $\dot{\lambda} = 85.5$  independent

mf p f mp f mp mp pp

sounds: 1 2 3 1 4 5 2 1

mp mp mp

reverb off

hold open B with E-Bow, continuously except for the three rests, changing between the five different sounds at the indicated points (and making gradual transformations within them if possible) and changing the dynamic gradually with the volume pedal. (See preface to score)

4" (wait for duo 3) 5" 4" (wait for duo 2) 23" (wait for duo 1) 5" 6" (wait for duo 2) 7" (wait for duo 3) 5"

D12 DUO 2 @  $\text{♩} = 72$  independent D13 D14 DUO 1 @  $\text{♩} = 76.5$  independent D15 D16 D17 DUO 2 @  $\text{♩} = 90$  independent D18 D19 DUO 3 @  $\text{♩} = 81$  independent

94 kalimbas 1 2 *mp* *ff* *p* *mp* *mf* *mp* *f* *fff*

electric guitar *(mp)* 3 4 2 5 1 3 5 4

6" 15" 5" (wait for duo 2) 6" (wait for duo 1) 3" (wait for duo 3) 7" 4" 4" (wait for duo 2) 11" (wait for duo 3)

D20 DUO 1 @  $\text{♩} = 85.5$  independent D21 DUO 3 @  $\text{♩} = 90$  independent D22 DUO 2 @  $\text{♩} = 76.5$  D23 D24 D25 D26 DUO 3 @  $\text{♩} = 76.5$  independent D27 DUO 2 @  $\text{♩} = 81$  D28

95 kalimbas 1 2 *p* *f* *p* *pp* *f* *mp* *p*

electric guitar *mp* 2 3 5 1 4 2 3 5

4 8

**E1** DUO 1 @ ♩ = 90 independent

DUO 2 @ ♩ = 96 with conductor (giving downbeats only)

**E2** DUO 3 @ ♩ = 99 independent

**E3** DUO 1 @ ♩ = 108 independent

96

4/8 2/8 4/8 21/16 12/8 2/8 17/16 19/16

kalimbas

prepared triple harp C

prepared electric guitar

cello

replace preparations, return to default sound and put down EBow

sul pont.

arco msp

table

naturale

pizz I IV III I II 6:5

II III IV 4:3

I IV II I 3:2

quartet sent to reverb (more than in first section)

**E4** DUO 3 @ ♩ = 93 independent

**E5** DUO 1 @ ♩ = 102 independent

(DUO 2 sim.)

103

19/16 15/32 57/32 69/32 2/8

kalimbas

prepared triple harp C

prepared electric guitar

cello

sul pont.

arco msp

pizz III IV III 11:8

I IV II I III 3:2

10:9

**E6** DUO 1 @ ♩ = 96 independent (DUO 2 sim.)

**E7** DUO 3 @ ♩ = 96 independent

**E8** DUO 1 @ ♩ = 105 independent

**107** kalimbas 2/8 21/16 47/32 8/8 12/8 21/32

prepared triple harp C (R, L) nat. 4-5 f pp f

prepared electric guitar sul pont. 1 2 3 4 5 6 nat. 5-4 6 4 5 6 nat. 4 5-6 4 f pp f

cello arco msp I II III 3-2 IV I III III pizz IV I III arco msp I IV I III f pp f

**E9** DUO 3 @ ♩ = 84 independent

**E10** DUO 1 @ ♩ = 99 independent (DUO 2 sim.)

**E11** DUO 3 @ ♩ = 87 independent

**112** kalimbas 21/32 9/8 25/16 2/8 49/32 25/16

prepared triple harp C (R, L) table 3-2 mf nat. ff table 8-7 mp

prepared electric guitar nat. 5 4 6 nat. 6 5 4 nat. 5 4 3-2 6 4 mp

cello arco msp II III IV mf II III III pizz I III IV I arco msp I III IV 4-5 ff

**E12**

DUO 1 @ ♩ = 87  
independent

(DUO 2 sim.)

**E13**

DUO 3 @ ♩ = 102  
independent

117 25 16 10 8 39 32 13 32

kalimbas

2

prepared triple harp C

prepared L

prepared electric guitar

cello

**E14**

DUO 1 @ ♩ = 93  
independent

(DUO 2 sim.)

DUO 3 @ ♩ = 108  
independent

**E15**

DUO 1 @ ♩ = 84  
independent

121 13 32 3 32 5 8 1 8 2 8 3 16 9 32 7 32 15 16 2 8 53 32

kalimbas

2

prepared triple harp C

prepared electric guitar

cello

(DUO 2 sim.)

E16

DUO 3 @ ♩ = 90  
independent

53  
32

15  
8

131

kalimbas

2

R

prepared triple harp C

L

prepared electric guitar

cello

nat. 4:3

nat. ④ ⑤ ④ ⑤ ④

pizz. 3:2 IV I

pp

In a complete performance of CONSTRUCTION, the following part *Omaggio a Chirico* begins after a silence of a few seconds.

DUO I (bass flute and bass recorder)

play continuously with conductor until end of bar 36

$\text{♩} = 48$  both instruments: dynamic shifts between bars should be as abrupt as possible (like "edits")

4/8

bass flute

bass recorder

*ppp*

*ppp*

*ppp*

N

N+R1

4:3

5

bass flute

bass recorder

*p*

*ppp*

*pp*

N

N+R1

11:8

7:5

4:3

3:2

4:5

3:2

3:2

3:2

4:5

3:2

9:8

6:7

6

bass flute

bass recorder

*mp*

*ppp*

*pp*

*mp*

*pp*

7:~

11:8

3:2

3:2

7:6

7

bass flute

bass recorder

*ppp*

*p*

*mf*

*ppp*

*p*

9:6

9:8

7:8

6:5

(R1)

4:3

7:5

(R4)

(R4)

4:5

8

bass flute

bass recorder

*p*

*ppp*

*pp*

*ppp*

*pp*

4:3

9:8

9:6

13:10

5:4

15:10

12:9

5:6

6:5

3:2

11:12

9

bass flute

bass recorder

*mp*

*f*

*pp*

*mf*

*pp*

*p*

*mf*

*mp*

*f*

3:6

9:8

7:8

3:2

6:7

5:4

3:2

17

bass flute

bass recorder

*mp*

18

bass flute

bass recorder

*pp*

9-8 3:2 5-6 13-10

7-8 9-6 7-5

*ppp*

20

bass flute

bass recorder

*p*

4:5 7:6 4:3

16-15 9-8 4:5

3:2 4:3

21-16

(R1) (R3)

embouchure-glissandi (begin each diminuendo with pitch already dropped as far as possible using the embouchure, then returning gradually to "normal")

22

bass flute

bass recorder

*ff*

*ppp-ff* *ppp-ff* *ppp-ff* *ppp*

*mf*

*p*

8-9 9-8 3:2 5-6

4:3 3:2

4-3

9-8 9-6 8-7 3:2 4:3 5-4

(R1) (R1) (R1)

allow pitch to drop naturally through the course of each diminuendo

25

bass flute

bass recorder

*ppp*

*pp*

9-6 9-8 10-9

4:3 9-8 11-9 9-6

27

bass flute

bass recorder

*mp*

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

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

3:2 3:2 11:13 5-4

11-8 15-13



29

bass flute

bass recorder

fff mp f pp mf p f mp f pp mf

fff p mf f pp mf mp p f

31

bass flute

bass recorder

mp pp

mp pp

33

bass flute

bass recorder

ppp p

ppp p

35

bass flute

bass recorder

mf ff ppp ff ff ppp

mf ff ppp ff ff ppp

(tacet about 33")

**B4** cued by conductor; continue independently until end of bar 38, then stop and wait for next cue

**63** both instruments: transitions to multiphonics should be gradual where possible, completing the transition at the notated point where the multiphonic begins. Where a trill is indicated, the notated pitches are an approximation to those present in the absence of the trill, which is normally a slight pitch/timbre inflection.

**B8** sim.

**51**

37

bass flute

bass recorder

p < mf p < mp p < f p mp

p < mf p < mp p < mf p < mf p < f p < mp



18 D14 ♩ = 76.5

52 bass flute  $\frac{5}{8}$   $\frac{11}{8}$   $\frac{2}{8}$   $\frac{11}{16}$

bass recorder  $\frac{9}{8}$   $\frac{5}{4}$   $\frac{7}{8}$

*pp* *mf* *pp* *mf*

55 bass flute  $\frac{11}{16}$   $\frac{5}{8}$   $\frac{11}{16}$   $\frac{5}{8}$

bass recorder  $\frac{18}{13}$   $\frac{5}{8}$   $\frac{8}{7}$

*mf* *pp* *mf*

D20 ♩ = 85.5

58 bass flute  $\frac{8}{5}$   $\frac{4}{8}$   $\frac{6}{8}$   $\frac{4}{8}$

bass recorder  $\frac{7}{6}$   $\frac{5}{4}$

*mf* *pp* *mf* *pp* *mf*

61 bass flute  $\frac{4}{8}$   $\frac{3}{8}$   $\frac{13}{16}$

bass recorder  $\frac{9}{8}$   $\frac{3}{2}$

*pp*

64 bass flute  $\frac{13}{16}$   $\frac{11}{16}$   $\frac{6}{8}$

bass recorder  $\frac{14}{13}$   $\frac{7}{8}$

*pp* *mf* *pp*

66 bass flute  $\frac{6}{8}$   $\frac{3}{2}$   $\frac{4}{5}$   $\frac{11}{8}$

bass recorder  $\frac{3}{2}$

*mf* *pp* *mf*

(tacet about 30 seconds)

Until the end of heliocentric, DUO 2 plays continuously and the conductor cues DUO 1, DUO 3 and the quartet.

E1

♩ = 90

68

bass flute

bass recorder

*mf*

*mf*

5 8

4 8

7 16

E3

♩ = 108

71

bass flute

bass recorder

*mp*

*mp*

7 16

3 8

6-5

both instruments: brief dynamic pulsations two degrees above the prevailing dynamic

75

bass flute

bass recorder

*mp*

*pp*

*pp*

11 16

4 8

3 8

9 16

E5

♩ = 102

78

bass flute

bass recorder

*mp*

*mf*

*mp*

*mf*

*mp*

*mf*

*mp*

*mf*

9 16

7 16

6 8

3 8

81

bass flute

bass recorder

*mf*

*mp*

*mf*

*pp*

*f*

*>mp*

*mf*

*pp*

*f*

3 8

5 8

7 16

4 8

6 8

E6

♩ = 96

85

bass flute

bass recorder

*f*

*p*

*f*

*p*

*f*

*p*

*f*

6 8

3 8

6 8

9 16

both instruments: unaccented sounds given as little articulation as possible!

E8  
♩ = 105

9 7 4 3 15  
16 8 8 16

bass flute  
bass recorder

*ff*

15 7 5 7  
16 16 16 16

bass flute  
bass recorder

*pp* *ff*

E10  
♩ = 99

7 5 4  
16 8 8

bass flute  
bass recorder

*ff* *pp* *ff* *mf*

7 4 3 7  
16 8 8 16

bass flute  
bass recorder

*ff* *mf* *ff* *ff* *mf* *mf*

E12  
♩ = 87

7 11 2  
16 16 8

bass flute  
bass recorder

*ff* *ppp*

2 3 7 5  
8 8 16 8

bass flute  
bass recorder

*ff* *ppp*

109  
bass flute  
bass recorder  
5:4 17:12 3:2 3:2 3:2 4 17:14 9 16  
fff

E14  
E15  
112  
bass flute  
bass recorder  
9 16 4:5 3:2 N 3 5:6 4 7:8 5 8:7 3 8  
p fff mf ff pp mp  
+R2 N +R2 N N +R123 N +R123 N +R123  
p fff mf ff pp mp

116  
bass flute  
bass recorder  
3 ("pizzicato") 4:3 7:6 5 9 16  
ppp f mp mf p  
N .R1 N N 10:7 N +R1 N  
ppp f mp mf p

\* momentary depression of R1, just enough to produce a hint of multiphonic

119  
bass flute  
bass recorder  
9 4 7:8 5:4  
p) f) ppp  
(sim.) N .L2 N (sim.)  
p) f) ppp

DUO 2 (2 clarinets in A)

22 **A1**  $\sqrt{=56}$  **A2**  $\sqrt{=40}$

23  
16  $\flat(L1)$  (smorz.)

clarinet 1 in A  
clarinet 2 in A

*p* sempre \*

$\flat(R2\sharp)$   
4:3 F

3  
13:10 F

21  
16

\* hold constant perceived dynamic level while emphasising all variations in timbre

21  
16 **A3**  $\sqrt{=54}$  11  
8

clarinet 1 in A  
clarinet 2 in A

$\flat(L1)$   
12:11 F

9:7 F  
5:6 F N  
5  
7:5 F

$\flat(L1)$  (smorz.)

11  
8 **A4**  $\sqrt{=42}$  **A5**  $\sqrt{=52}$  10  
8

clarinet 1 in A  
clarinet 2 in A

$\flat(R1\sharp)$   
 $\flat(T)$   
3  
 $\flat(R1)$

$\flat(L1)$

10  
8 **A4**  $\sqrt{=42}$  8

clarinet 1 in A  
clarinet 2 in A

$\flat(R)$   
7:9 F  
8:7 F  
N  
 $\flat(L1)$

$\flat(R)$   
4:3 F  
7:8 F

**A6**  $\sqrt{=44}$  **A7**  $\sqrt{=50}$

8  
5

clarinet 1 in A

clarinet 2 in A

4:3 F (p) RA (R123) (R123) 9:11 F (4) 23 16

**A8**  $\sqrt{=46}$

23 16

clarinet 1 in A

clarinet 2 in A

4:3 F (p) 10:7 F (L3) (b) 11:9 F (4) 19 16

13:12 F RA R E (L1) 3 (b) 6:5 F (b) 3

**A9**  $\sqrt{=48}$

19 16

clarinet 1 in A

clarinet 2 in A

6:5 F (sim) (L1) (R123) 3 N (L1) RA (R123) +R N 10 8

12:11 F (b) (L1) N (L1) (L1+2) 5



24  
**(B2)** 10  
 8  $\sqrt{=51}$

clarinet 1 in A  
 pp sempre

clarinet 2 in A  
 pp sempre

10  
 8 **(B5)**  $\sqrt{=54}$

clarinet 1 in A  
 (pp)

clarinet 2 in A  
 (pp)

9  
 8 **(B7)**  $\sqrt{=57}$

clarinet 1 in A  
 (pp)

clarinet 2 in A  
 (pp)

11  
 8 **(B11)**

clarinet 1 in A  
 (pp)

clarinet 2 in A  
 (pp)

37  
32

45  
32

clarinet 1  
in A

clarinet 2  
in A

(12)

Musical score for clarinet 1 and 2, measures 37-45. The score includes notes, rests, and performance markings such as *(pp)*, *RA*, *RGH*, and fingerings (3, 5). There are also dynamic markings like *8:9 F* and *5:6 F*.

45  
32

23  
16

clarinet 1  
in A

clarinet 2  
in A

(13)

Musical score for clarinet 1 and 2, measures 45-53. The score includes notes, rests, and performance markings such as *(pp)*, *RA*, *RGH*, and fingerings (3, 5). There are also dynamic markings like *9:7 F* and *7:8 F*.

23  
16

(B9)

11  
8

clarinet 1  
in A

clarinet 2  
in A

(14)

Musical score for clarinet 1 and 2, measures 53-61. The score includes notes, rests, and performance markings such as *(pp)*, *RA*, *RGH*, and fingerings (3, 5). There are also dynamic markings like *10:11 F* and *7:9 F*.

11  
8

(15)

clarinet 1  
in A

clarinet 2  
in A

Musical score for clarinet 1 and 2, measures 61-69. The score includes notes, rests, and performance markings such as *(pp)*, *RA*, *RGH*, and fingerings (3, 5). There are also dynamic markings like *5:6 F* and *6:7 F*.

**B12**

26  $\frac{11}{8}$   $\frac{16}{8}$   $\text{♩} = 63$

clarinet 1 in A

clarinet 2 in A

(pp)

(upper notes add  $\flat$  &  $\flat$  to following note)

(finger B $\flat$ )

12  $\frac{8}{8}$   $\frac{17}{16}$

clarinet 1 in A

clarinet 2 in A

(pp)

19  $\frac{16}{16}$   $\frac{18}{16}$   $\frac{25}{16}$

clarinet 1 in A

clarinet 2 in A

(pp)

25  $\frac{16}{16}$   $\frac{19}{16}$   $\frac{17}{8}$   $\frac{8}{8}$

clarinet 1 in A

clarinet 2 in A

(pp)

(tacet approximately 3 minutes)

D5

12  
8

$\sqrt{=85.5}$  each phrase *legatissimo* (quasi portamento);  
second notes brief but clear.

23  
16

clarinet 1 in A  
mp sempre

clarinet 2 in A  
mp sempre

\*bill-key(s) added to (diamond-utchead) fingering to produce upper resultant pitch

23  
16

21  
16

clarinet 1 in A  
(mp)

clarinet 2 in A  
(mp)

(sim.) 6:7F, 10:7F, 8:7F, 6:7F

(sim.) 6:7F, 10:7F, 8:7F, 6:7F

pp

D12

$\sqrt{=72.5}$

21  
16

clarinet 1 in A  
mp

clarinet 2 in A  
mp

①②③④⑤⑥⑦⑧ 22:16F

①②③④⑤⑥⑦⑧ 15:16F

8:9F

①②③④⑤⑥⑦⑧ +B  
+F

D17

$\sqrt{=90}$

21  
16

clarinet 1 in A  
(mp)

clarinet 2 in A  
(mp)

8:9F

8:9F

mf

mf

D22  $\text{♩} = 76.5$

clarinet 1 in A  
mp  
9 8 13 16  
3:6 F  
ppp mp  
5 3  
\* R...E / 8  
o o o o o o o o o o o o

clarinet 2 in A  
mp  
8:6 F  
ppp mp  
5 3

D27  $\text{♩} = 81$

clarinet 1 in A  
13 16  
(mp)  
7:6 F  
3  
R BA  
o o o o o o  
o o o o o o

clarinet 2 in A  
(mp)  
8:6 F  
b(b)\*  
3  
\* ie. Bb till key  
(R123)

E1 play with conductor (giving downbeats only) until end.  
(bar numbers now relate to the full score of *heliocentric*)

4/8  $\text{♩} = 96$

clarinet 1 in A

clarinet 2 in A

\* (r123)

2/8 4/8 21/16

9:8 F 10:7 F 9:8 F 9:7 F

ppp mp mf ppp

21/16 12/8

clarinet 1 in A

clarinet 2 in A

sim...

p ppp p ppp p ppp p ppp

E2 12/8

clarinet 1 in A

clarinet 2 in A

ppp pp

ppp pp

E3 2/8 17/16

clarinet 1 in A

clarinet 2 in A

mf (mp)

mf (mp)

30 **E4** 19 16 15 32

clarinet 1 in A  
mp cresc.

clarinet 2 in A  
mp cresc.

\* in bars 33 and 34, use fingerings of the upper pitch of the glissando (whether it is at the beginning or end thereof) and produce (or gliss. to) the lower pitch using the embouchure.

15 57 **E5** 32 69 32

clarinet 1 in A  
(cresc.)  
...f  
pppp sempre

clarinet 2 in A  
(cresc.)  
...f  
pppp sempre

\*\* slightly irregular throat-tremolo, the sound always on the verge of disintegrating.

69 **E6** 21 32 8 16

clarinet 1 in A  
(pppp)

clarinet 2 in A  
(pppp)

21 47 16 32

clarinet 1 in A  
(pppp)

clarinet 2 in A  
(pppp)

E7

47  
32

clarinet 1 in A (pppp) R. 3# etc. 7:6F 5 8:7F 9:7F 3

clarinet 2 in A (pppp) R. 3# etc. 6:7F 7:6F 5:6F RA 4# -b+b etc. 4:3 5 5 10:7F

\*relationship between fingerings and embouchure as in bars 33 and 34.

8

clarinet 1 in A (pppp) R. 3# etc. 6:5F 3 3 7:6F 3

clarinet 2 in A (pppp) R. 3# etc. 3 3 3 3 3 3 3 3

E8

clarinet 1 in A (f) sample etc. sim. 12 8 21 32

clarinet 2 in A (f) sample etc. sim.

clarinet 1 in A (f) (sim.) 21 32 9 8

clarinet 2 in A (f) (sim.)



32 **(E9)** 25  
16

clarinet 1 in A 8

clarinet 2 in A

(f) dim... etc. sim.

10:7 F 10:7 F 5 10:9 F

5:6 F 10:7 F 5

25 **(E10)** 25  
16

clarinet 1 in A 114

clarinet 2 in A

(dim.)

10:9 F 10:11 F 10:13 F 5

25 25  
16

clarinet 1 in A 115

clarinet 2 in A

49 **(E11)** 32

mp cresc. ...ff

25 **(E12)** 25  
16

clarinet 1 in A 117

clarinet 2 in A

7:5 F 12:11 F 7:5 F mp

4:5 F 9:8 F 10:13 F 7:6 F 7:6 F

f mp

25  
16

(118)

clarinet 1 in A

clarinet 2 in A

mp mf p pp ppp

9:8 F 5:6 F 6:7 F 3 5

10 (E13)

8

(119)

clarinet 1 in A

clarinet 2 in A

p

5 4:3 F 3

6 F 5:6 F 5:6 F 3

\*fingered glissandi

39  
32

39  
32

(120)

clarinet 1 in A

clarinet 2 in A

3 4:3 F 5:6 F 5

6:7 F 7:5 F 3

13  
32

13 (E14)

32

3 5

1 2 3

8 8 16

(121)

clarinet 1 in A

clarinet 2 in A

TR -R TR -R TR 16:13 F -R TR

TR -R TR 18:13 F -R TR -R

sim. 6:5 F 7:5 F

sim. 4:5 F

(-R) +b (quasi br.)

(-R) +A (quasi br.)

mf

mf

\*using low E fingering

34

E15

16 3 9 32 7 15 2 53 32

clarinet 1 in A

clarinet 2 in A

as before

fff

sim.

6:5F 6:5F 6:5F

4:5F 4:5F 4:5F 14:15F

53 32 15 8

clarinet 1 in A

clarinet 2 in A

mf < f mp < f f mf mp f mf mp (ppp)

emb.

15 E16 8

clarinet 1 in A

clarinet 2 in A

ppp dim.

\* *legatissimo*: emphasizing the transitions between widely-separated pitches. As always, emphasise timbral differences (especially for low quartertones involving embouchure-alterations) while minimising their dynamic effects.

15 8

clarinet 1 in A

clarinet 2 in A

(dim.)

...pppp

tacet (3 minutes) **B1**  $\text{♩} = 57$  absolutely without nuance

14 8

flugelhorn in Bb (have plunger ready!) mp sempre

alto trombone (have plunger ready!) IV sempre! mp sempre

12

3

4:5

**B3**  $\text{♩} = 60$

flugelhorn in Bb (mp) 9:8 F

alto trombone (mp) (IV) 5 III II 1/2

3

flugelhorn in Bb (mp) 3 24 10:7 F 23

alto trombone (mp) 3

2

**B6**  $\text{♩} = 54$

flugelhorn in Bb (mp) 11:8 F 14 5 1234 2

alto trombone (mp) VII 8:7 F 4:5 F 6:7 F II

2

B9  $\sqrt{=63}$

5  
flugelhorn in Bb  
(mp)  
124 23 124

8:7<sup>F</sup> 7:6<sup>F</sup> 4:3<sup>F</sup> 10:7<sup>F</sup>

2 1 23 124

alto trombone  
(mp)  
VI<sup>1/2</sup> 6:5<sup>F</sup> 1<sup>1/2</sup> 1<sup>1/2</sup> 7:5<sup>F</sup> II

B11  $\sqrt{=51}$

6  
flugelhorn in Bb  
(mp)  
12 23 14 124 4 4

25  
16

5:6<sup>F</sup> II III<sup>1/2</sup> IV V II IV

C

play with conductor (giving downbeats only) until bar 92  
(bar numbers now relate to the full score of heliocentric)

$\text{♩} = 68$

37  $\frac{2}{8}$

5  
16

40

Hugelhorn in Bb (plunger)

alto trombone (plunger)

2

45

Hugelhorn in Bb (plunger)

alto trombone (plunger)

(half-valve gliss.)

2

50

Hugelhorn in Bb (plunger)

alto trombone (plunger)

7 16

15 32

11 32

3

3

54

Hugelhorn in Bb (plunger)

alto trombone (plunger)

15 16

11 16

38  $\frac{11}{16}$   $\frac{6}{8}$  7  $\frac{16}{16}$

56  
Hugelhorn in Bb (plunger)  
pp (134) mf pp 14 4 12 10:9 F (ff)

alto trombone (plunger)  
pp 9:6 F ff pp f pp mf mp (colla parte) (ff)

7  $\frac{16}{16}$  3  $\frac{8}{8}$  19  $\frac{32}{32}$  15  $\frac{32}{32}$

58  
Hugelhorn in Bb (plunger)  
ff 4:3 F 9:8 F 9:6 F 7:5 F 4:5 F 4:3 F (p)

alto trombone (plunger)  
ff 9:10 F f pp 1 9:8 F 3 4:3 F mp

15  $\frac{32}{32}$  6  $\frac{8}{8}$  +sub. 5  $\frac{8}{8}$

61  
Hugelhorn in Bb (plunger)  
p 8:7 F 11:8 F 1234 (b) ff p < ff > P

alto trombone (plunger)  
pp +sub. mf p f mp ff

5  $\frac{8}{8}$  3  $\frac{8}{8}$  9  $\frac{32}{32}$  17  $\frac{32}{32}$

63  
Hugelhorn in Bb (plunger)  
ff f dim... 7:8 F 5 12 13 12 10:9 F 2 (p)

alto trombone (plunger)  
ff VII (VII) 5 3 7:6 F 5:6 F 4:3 F (dim.) (p)

17 32      15 32      17 32      19 32

39

Flügelhorn in Bb (plunger) *66*

Alto Trombone (plunger)

*18:13F*, *6(L)*, *34*, *9:7F*, *9:8F*, *34*, *3*, *3*, *5*

*f*, *mp*, *PPP*, *p*, *mp*, *pp*, *p*, *PPP*

*6:7F*, *3*, *6(10)11\**, *sim...*, *4:3F*, *10:7F*

*p*, *f*, *9:7F*, *9:8F*, *mp*, *PPP*, *ppp < p*, *mp*, *p*, *PPP*, *PP*, *mp > PP*, *PPP*

\* (auxiliary notes of these bills are omitted for clarity)

19 32      5 8      11 32      21 32

Flügelhorn in Bb (plunger) *69*

Alto Trombone (plunger)

*6:5F*, *6:5F*, *6:5F*, *10:13F*, *8:7F*, *9:11F*

*mp*, *pp*, *p*, *mp*, *p*, *pp*, *mp*, *p*, *mp*, *pp*, *PPP*

*5:6F*, *4:3F*, *5*, *4:3F*, *4:3F*, *11:9F*

*mp*, *p*, *pp*, *mp*, *pp*, *mp*, *p*, *mp*, *pp*, *ppp*

21 32      23 32      13 32

Flügelhorn in Bb (plunger) *72*

Alto Trombone (plunger)

*ppp*, *ppp sempre*, *6(4)*, *8:7F*, *3*

*ppp*, *(non cresc.)*

13 32      21 32      5 16      11 32

Flügelhorn in Bb (plunger) *74*

Alto Trombone (plunger)

*9:10F*, *6(4)*, *6(L)*, *16:11F*, *9:8F*, *3*, *3*, *3*, *3*, *3*

*ppp*, *mp*, *pp*, *ppp*, *mp*

*III*, *IV $\frac{1}{2}$* , *9:11F*, *I*, *III*, *II $\frac{1}{2}$* , *13:10F*, *VII*, *II $\frac{1}{2}$*



40 11 32 13 32 5 16 15 32 17 32

flügelhorn in Bb (plunger) (f) mf

alto trombone (plunger) f mp f (mp)

6:7F 9:7F 5:6F 10:9F

br(3) 1 24 1 14 12 124

17 32 5 15 32

flügelhorn in Bb (plunger) mp cresc... (cresc)... f

alto trombone (plunger) mp f

11:9F 7:8F 8:7F 6:5F

br(A) 13 123 2 5 123 1 3 3

8:7F 6:5F

\*\* here a sequence of multiphonics with common pitches is intaked as a "utopian" counterpoint

\* the upper pitch of each multiphonic remains the same when third valve is down.

15 32 13 32 6 23 32

flügelhorn in Bb (plunger) mp pp ppp pp

alto trombone (plunger) mp pp ppp pp

7:6F 7:9F 4:3F 14:11F 15:10F

(sub!) (sub!) (sub!)

23 32 17 32 13 32

flügelhorn in Bb (plunger) # #

alto trombone (plunger) # # pp (mf)

7:8F 9:11F 6:5F

br(3) 9:11F 6:5F

13 32 7 16 5 8 29 32

88

flugelhorn in Bb (plunger)

mp ppp

67(23)

5

3 3 4:5 F

mf mp f ppp

II VIII II V II I

13:10 F

III<sup>1</sup> V<sup>1</sup> etc. 8:7 F

29 32 6 8

91

flugelhorn in Bb (plunger)

alto trombone (plunger)

# #

# #

# #

put down plunger/s

42  $\frac{10}{8}$   $\boxed{\text{♩} = 72}$

93  
flugelhorn in Bb (senza sord.)  
*f sempre*

IV

alto trombone (senza sord.)  
*f sempre*

$\frac{10}{8}$

$\frac{11}{8}$

94  
flugelhorn in Bb  
*(f)*

alto trombone  
*(f)*

$\boxed{\text{D10}}$   $\boxed{\text{♩} = 85.5}$

$\frac{11}{8}$

95  
flugelhorn in Bb  
*mp sempre*

alto trombone  
*mp sempre*

*pp*

\*except where indicated, end each sound/phrase with a tongue-stop

$\frac{10}{8}$

$\frac{11}{8}$

96  
flugelhorn in Bb  
*(mp)*

alto trombone  
*mp*

*pp* *mp*

*(colla parte)*

11 8 12 8 43

flügelhorn in Bb (mp) sub. mp ppsub ppp

alto trombone (mp) sub. mp ppsub ppp

23 5:6F 3 1234 4:5F 5:6F

D14  $\tau = 81$

12 8

flügelhorn in Bb (mp) sub. mp

alto trombone (mp) sub. mp

6:7F 16:15F

\* Creating a fluid legato in this passage will typically involve glissandi between the stated slide positions (which are often not the obvious ones!). These glissandi have been omitted from the faster slide values for clarity.

12 8

flügelhorn in Bb (mp) sub. mp mf

alto trombone (mp) sub. mp mf

9:8F 3 3 3 19:16F

12 8

flügelhorn in Bb (mf) sub. mf f

alto trombone (mf) sub. mf f

12:11F 3

44  $\frac{12}{8}$  (101)

flügelhorn in Bb

f

12:9<sup>F</sup> 4:5<sup>F</sup> 16:12<sup>F</sup> 19:16<sup>F</sup>

alto trombone

f

III IV VI V 12:9<sup>F</sup> III 13:10<sup>F</sup> VI 12:9<sup>F</sup> IV V 13:10<sup>F</sup> III 16:12<sup>F</sup> 12:9<sup>F</sup> III

(ff)

$\frac{12}{8}$  (102)

flügelhorn in Bb

#

9:8<sup>F</sup> 8:9<sup>F</sup>

alto trombone

#

III 16:11<sup>F</sup> 4:5<sup>F</sup> VI 12:9<sup>F</sup> VII II 12:9<sup>F</sup> I I VII III VI V

(fff)

(D21)  $\square = 90$

$\frac{12}{8}$  (103)

flügelhorn in Bb

#

9:8<sup>F</sup> 9:8<sup>F</sup> 9:8<sup>F</sup> 6:5<sup>F</sup>

chaff valve

mf

mp

p

mf

pp

f

alto trombone

#

9:8<sup>F</sup> 9:8<sup>F</sup> 9:8<sup>F</sup> 6:5<sup>F</sup>

mf

mp

p

mf

pp

f

\* ± 1 semitone

$\frac{11}{8}$  (104)

flügelhorn in Bb

mp

pp

9:7<sup>F</sup>

9:7<sup>F</sup>

alto trombone

mp

pp

9:7<sup>F</sup>

$\frac{12}{8}$

12 8 10 45  
8

(105) Flugelhorn in Bb

alto trombone

*(random and rapid valve activity while holding F#)*

*p mp PPP*

10 8 11  
8

(106) Flugelhorn in Bb

alto trombone

*take harmons (stems extended)*

*pp PPP*

(D26)  $\sqrt{=76.5}$

11 8 12  
8

(107) Flugelhorn in Bb (harmon)

alto trombone (harmon)

*sub.*

*f sub. p # pp mf*

12 8

(108) Flugelhorn in Bb (harmon)

alto trombone (harmon)

*(mf) PPP mp*

(tacet about 13")

46 **E2**  $\sqrt{=99}$  **E4**  $\sqrt{=93}$

(agitate all valves rapidly and randomly while holding E4)

flügelhorn in Bb (harmon)  $f$  pp sempre 16:13 F 4:5 F

alto trombone (harmon)  $f$  pp sempre 10:7 F 5:6 F 6:5 F

\* random and rapid slide movements between II and VI while holding D4.

19 16 **E6**  $\sqrt{=105}$  43 32

flügelhorn in Bb (harmon) (pp) 17:13 F 17:16 F 7:8 F

alto trombone (harmon) (pp) 3 4:5 F 3 3 3 3

43 32 **E7**  $\sqrt{=96}$  41 32

flügelhorn in Bb (harmon) (pp) 7:8 F 5:6 F 7:6 F

alto trombone (harmon) (pp) 12:9 F 7:8 F 12:13 F

(as before)

41 32 **E9**  $\sqrt{=84}$  17 16

flügelhorn in Bb (harmon) (pp) 16:11 F 3 7:5 F

alto trombone (harmon) (pp) 6:7 F 5:6 F 4:3 F 4:3 F 5

**E11**  $\text{♩} = 87$

17  
16

23  
16

Horn in Bb (harmon)

Alto trombone (harmon)

(pp)

16:15 F

5

15:11 F

11:14 F

Detailed description: This block contains the musical score for rehearsal mark E11, measures 16 to 23. The tempo is marked as quarter note = 87. The horn part (Horn in Bb, harmon) and trombone part (Alto trombone, harmon) are both marked piano-piano (pp). The horn part features a series of sixteenth-note patterns with various articulations (diamonds and dots) and dynamic markings. The trombone part has a similar rhythmic structure with some rests. Specific intervallic relationships are noted as 16:15 F, 15:11 F, and 11:14 F. A measure rest of 5 is indicated at the end of measure 23.

**E13**  $\text{♩} = 102$

23  
16

**E14**  $\text{♩} = 108$

12  
8

Horn in Bb (harmon)

Alto trombone (harmon)

(pp)

5

8:9 F

4:3 F

12:13 F

4:3 F

4:3 F

Detailed description: This block contains the musical score for rehearsal marks E13 and E14, measures 16 to 23. The tempo for E13 is quarter note = 102, and for E14 it is quarter note = 108. The horn part (Horn in Bb, harmon) and trombone part (Alto trombone, harmon) are both marked piano-piano (pp). The horn part has a complex rhythmic pattern with many sixteenth notes and rests, marked with articulation symbols. The trombone part has a more rhythmic pattern with some rests. Intervallic relationships are noted as 8:9 F, 4:3 F, 12:13 F, and 4:3 F. A measure rest of 5 is indicated at the end of measure 23.

**E16**  $\text{♩} = 90$

12  
8

Horn in Bb (harmon)

Alto trombone (harmon)

(pp)

16:13 F

4:5 F

9:11 F

10:7 F

8:7 F

9:10 F

Detailed description: This block contains the musical score for rehearsal mark E16, measures 8 to 12. The tempo is marked as quarter note = 90. The horn part (Horn in Bb, harmon) and trombone part (Alto trombone, harmon) are both marked piano-piano (pp). The horn part has a complex rhythmic pattern with many sixteenth notes and rests, marked with articulation symbols. The trombone part has a more rhythmic pattern with some rests. Intervallic relationships are noted as 16:13 F, 4:5 F, 9:11 F, 10:7 F, 8:7 F, and 9:10 F.