

# Enclosures (No.41)

for voice, viola, keyboard & sines

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for Trio Scordatura

**Ca. 20'**

# Enclosures



## Performance Notes:

*Enclosures 1 - 3* deal with the interaction between long, sustained pitches of static or moving nature (keyboard & sines) - and regularly recurring pitches, of microtonal nature (voice and viola). The overall ambitus of the piece expands with each section and is set in such a way that each register, or grouping, is "surrounded" by another one.

- The score is divided into three groups; the highest set of staves being for the voice and viola (or any other duo of musicians); the middle set of staves for a midi-controlled keyboard and the lowest set of staves for the sinetones. The sines will need to be operated by one of the musicians, switching them on and off at beginning and end of each section. There is also a staff marked 'A.P.' (for 'available pitches') from which the musicians can select at choice.
- The piece is notated in real time and should be performed with the aid of a monitor stopwatch. Each section lasts approximately 6.5 minutes - including fade-in and fade-out if the sinetones - and visually subdivides each minute into sections of 4, 6 or 8 time units (ie. 15", 10" and 7.5" respectively). The musicians make their changes within these time units but should not aim at being perfectly exact. Purpose is to create a continually changing panorama in which each musician responds to the other and to the overall environment.

## Alternating pitches:

- The top part of the score (Instr.) consists of alternating pitches to be played by any instruments capable of producing microtones. Each section explores a different interval (minor second in # 1, major 2nd in #2 and minor 3rd in # 3) against which the alternating pitches either contract or expand symmetrically. As the piece progresses, intervals and density increase.
- Specific gradations of tuning are given for each individual pitch, where decimal numbers signify the amount of deviation in cents. These gradations should be approached as exactly as *possible*, but are not expected to be perfectly accurate.
- The musicians follow their own particular line, indicated by a number over or under the staff. Entries should occur within a given time frame, lasting a maximum of 15 seconds and entering and exiting on a *cresc - decresc* curve. In individual cases some pitches may be extended. The players should try to create a sense of *regularity* and entries should be allowed to overlap more and more as the time between entrances diminishes from # 1 to # 3.
- In sections 1 & 2 regular entries from instr. should be combined with periodic entries from the 'Available Pitches' staff. The notated pitches remain unaltered until changed. Entries can occur at any point and have any length.
- Specific notes pertaining to sound quality are also given for each section.

## Keyboard:

- The keyboard part is notated on 2 to 4 staves and is generally static of nature - revolving only marginally around a central set of pitches, mostly emphasizing matters of *density* through the addition and subtraction of pitches - making the sound grow or diminish. A volume pedal should not be necessary, but would be handy if able to control each individual pitch.
- Each section specifies certain amplitude-widths; pitch deviations will need to be programmed in advance, allotting a specific region of the keyboard to each section of the piece. From sections 1 to 3 the overall amplitude-width expands from 15-cent deviations in # 1, to 25-cent deviations in # 2 and then diminishes again to 5-cent deviations in # 3.
- The keyboard should enter and exit at approximately the same time as the sines and in advance of the other musicians.
- The sound quality of the keyboard should be generally pure and transparent, complementing, but blending well with the sines. To this purpose, the attacks should probably be programmed to enter on a slight ramp.

## Sines, dynamics + Balance:

The sines should be clearly present but never dominating. The specified dynamics should be perceived as indications only; generally these should naturally follow the overall density. Since two of the sound sources are already amplified, it is recommended that all musicians be amplified.

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**Viola:** follow line # 1; combine regular entries from *instr.* (12 entries) with periodic entries from *A.P.* (free & of indefinite length (ca.15"↔30").  
 Play *flaut* with light bowing; harmonics (artificial or real) wherever possible;  
 Use practice mute, alternating thin, fragile sounds in the upper register (*A.P.*) with warmer sounds in the lower register (*instr.*).  
**Voice:** 12 entries, follow line # 2

**Instr.** *p*  
 b: 466 hz  
 15<->30 (100) 45<->00 (80) 15<->30 (60) 45<->00 (50) 15<->30 (40) 45<->00 (20)

**A.P. (Voice/ Viola)** *p/mf*  
 a: 440 hz  
 30<->45 (00) 00<->15 (20) 30<->45 (40) 00<->15 (60) 30<->45 (80)  
 b: 932 hz 00<->30 (+c.33) 30<->60 (+c.33) *sim* (-c.33) 00 (+c.66) (+c.66)  
 (each arrow: ca. 1/3 of a semi-tone, or play closest natural harmonic)

**Keyboard**  
 b: 932 hz (0'10") +15c  
 +7.5c (00) +7.5c +7.5c +7.5c +7.5c  
 a: 880 hz  
 Keyboard: oscillate regularly between pitches while sustaining throughout.  
 All entries: swell in & out imperceptibly

**Sines**  
 a: 440 hz (00) (sweep up: 80") (27.5) (55) (sweep up: 60") 2'00" (77.5)  
 a: 440 hz (-10c) (-10) 0'40" (17.5) (45)  
 (sweep up: 80") +27.5c +27.5c +27.5c

**Keyboard:** prepare 14 keys  
 (a:4) -22.5, -15c, -7.5c, 0, +7.5c, +15c / (b:4) -15c, -7.5c, 0, +7.5c, +15c, +22.5

15<->30 (00)      45<->00 (20)      15<->30 (40)      45<->00 (60)      15<->30 (80)      45<->00 (100)

Instr. 2

Instr. 1

00<->15 (100)      30<->45 (80)      00<->15 (60)      30<->45 (50)      00<->15 (40)      30<->45 (20)      00<->15 (00)

..... *decresc* .....

3'      4'      5'      6'

(00)      (-c.66)      (-c.33)      (00)      (-c.33)      (-c.66)      (00)

A.P. (Voice/ Viola)

Keyboard

-7.5c      -15c      -22.5c      -7.5c

ca. 6' 30"

3'      4'      5'      6'

(sweep down: 60°)

3'00"      ..... -22.5c      ..... -22.5c      ..... -32.5c      ..... -32.5c

(100)      (77.5)      (55)      (sweep down: 80°)      (22.5)      (-10)

(45)      4'00" (45)      (17.5)      5'20" (-10)

6'00"

(sweep down: 80°)      ..... -27.5c      ..... -27.5c

Voice/Viola: combine regular entries from 'instr' with periodic entries from A.P.  
 Allow upper register to stand out significantly.

Scenario 1: Voice: (7'-9'): line 1; (9'- 11'): line 2; (11'-13'): line 1.  
 Viola: (7'-9'): line 2; (9'- 11'): line 1; (11'-13'): line 2.

Scenario 2: 'instr.' all '2': switch positions every 80", starting with voice as line 1.  
 Viola: Use differing gradations of *sul tasto* -> *ord* for a diffuse sound; regularly enter with double-stops in lower register.

**2** 00<->15 (100) **1** 30<->45 (90) **2** 00<->15 (80) **1** 30<->45 (70) **2** 00<->15 (60) **1** 30<->45 (50)

**2** 20<->35 (00) **1** 52.5<->07.5 **2** 25<->40 **1** 57.5<->12.5 **2** 25<->40 **1** 52.5<->07.5

**1** 10<->25 (00) **2** 40<->55 (10) **1** 10<->25 (20) **2** 40<->55 (30) **1** 10<->25 (40) **2** 40<->55 (50)

**7'** **8'** **9'**

**1** 00<->20 (00) 20<->40 (00) 40<->60 (00) *sim* (+c.50) (00) (00) ↑ (-c.25) (00)

(each arrow: ca. 1/4 of a semi-tone) (-c.25) ↑ (+c.50) ↓

**Keyboard:** blend carefully; avoid coinciding with vla/voice & swell in and out twice with combined beatings of 36.3 + 72.6 + 73.33 hz

ca. 6' 30"

**7'** **8'** **9'**

**Sines:** e: 622 hz (speed: 35" per 25 cents) (50) 1'10" (00) 2'20"

d: 587 hz (sweep up: 120") 1'00" (50)

e: 302 hz (311 - 50c) (50) (sweep down: 165") (40) 0'33" (30) 1'06" (20) 1'39" (10) 2'12" (00) 2'45" (sweep up: 165")

c: 285 hz (277 + 50c) (50) (sweep up: 165") 0'15" (-40) 0'48" (-30) 1'21" (-20) 1'54" (-10) 2'27"

(speed: 33" per 10 cents)

Keyboard: prepare 40 keys  
 (d:2)0/(d:2) -40c,-30c,-20c,-10c (d:3)0/(d:4) -100c,-75c,-50c,-20c,-10c,  
 +10c,+20c,+50c,+75c,+100c/(d:4) -100c,-75c,-50c,0,+10c,+20c,+25c,+50c,+75c,+100c/  
 (d:4) -100c,-75c,-50c,-20c,-10c,0,+10c,+20c,+50c,+75c,+100c  
 Free entries: d0&1: 36.3 hz + 72.6 hz + 73.33 hz

**2** 20<->35 (50)      **1** 47.5<->02.5 (60)      **2** 15<->30 (70)      **1** 47.5<->02.5 (80)      **2** 20<->35 (90)      **1** 52.5<->07.5 (100)

**Instr.**  
**2** 00<->15      **1** 30<->45      **2** 00<->15      **1** 30<->45      **2** 00<->15      **1** 30<->45  
**1** 10<->25      **2** 40<->55      **1** 10<->25      **2** 40<->55      **1** 10<->25      **2** 40<->55  
(50)      (40)      (30)      (20)      (10)      (00)

**A.P. (Voice/Viola)**  
(00)      ↑ (-c.25)      ↓ (-c.50)      (00)      (00)      ↓ (-c.50)      ↑ (+c.25)      (00)      (00)

**Keyboard**  
(-75)      (c#) (-100)      (75)      (d#) (-10)      (-20)      (e) (50)      (c#) (-50)      (-25)      (00)  
(d#) (10)      (-20)      (-30)      (-30)      (-75)      (-50)      (-10)      (00)  
(50)      (75)      (100)      (75)      (10)      (20)      (10)  
(e)      (e)      (e)      (d#)

**Sines**  
(20) 3'18"      (40) 3'51"      (60) 4'24"      (80) 4'57"      (100) 5'30"      (100) 6'00"  
(sweep up: 140")      (50)      (sweep up + decres: 30")

**10'**      **11'**      **12'**      **13'**

3'00" (00)      (sweep up: 165")      3'48" (20)      4'21" (40)      4'54" (60)      5'27" (80)      6'00" (100)

(speed: 33" per 20 cents)

ca. 13'30"



Viola (#1): Play *ord.* throughout.  
Where two registers are notated in front of the system  
(staves 2 & 3): choose and combine ad lib.

gr 428 hz (415 + 50c)

7.5<->22.5 (50)    37.5<->52.5 (60)    7.5<->22.5 (70)    37.5<->52.5 (80)    7.5<->22.5 (90)    37.5<->52.5 (100) (a<sup>2</sup>)

00<->15 (150)    30<->45 (120)    00<->15 (90)    30<->45 (60)    00<->15 (30)    30<->45 (00)

1 1  
2 2

Instr. a: 415.30 hz    22.5<->37.5 (00)    52.5<->07.5 (30)    22.5<->37.5 (60)    52.5<->07.5 (90)    22.5<->37.5 (120)    52.5<->07.5 (150) (gr+50)

gr 392 hz    15<->30 (50)    45<->00 (40)    15<->30 (30)    45<->00 (20)    15<->30 (10)    45<->00 (00) (f<sup>2</sup>)

g: 381 hz (370 + 50c)

----- *cresc* ----->

14'

15'

16'

keyboard: staves 3 & 4 - deviations apply to both staves.  
Set amplifier to bring out accelerating increments in left hand (i.e. left hand should be louder than right)

a: 880 hz (00) -----> (+5c) -----> (-5c) ----->

gr 830 hz (+10c) +15c +20c +15c +10c +5c -5c -10c -15c -10c -5c +10c

Keyboard <----->

gr 392 hz (+02c) +04c +06c +08c +10c +12c +14c +16c +18c +20c +22c +24c

f<sup>2</sup> 185 hz

SAMPLE

ca. 13' 30"

14'

15'

16'

gr 830 hz (00)    0'30" (sweep up: 150") (25)    (50)    (75)

(200)    0'20" (sweep down: 320") (175)    (150)    (125)

Instr. gr 415.30 hz (sweep up: 160") (25)    (50)    (75)    (sweep down: 160") (100)

f<sup>2</sup> 185 hz (00) (sweep up: 160") (25)    (50)    (75)    (sweep down: 160") (100)

(100) (sweep down: 165") (75)    (50)    (25)    (00)

g: 92.5 hz

g: 46.2 hz

Keyboard: prepare 42 keys (place weights on tonics)  
(f<sup>2</sup>) 0, +01c, +02c, +03c, +04c, +05c, +06c, +07c, +08c, +09c, +10c, +11c, +12c/ (or double)  
(g<sup>3</sup>) 0, +01c, +02c, +03c, +04c, +05c, +06c, +07c, +08c, +09c, +10c, +11c, +12c/ (or double)  
(g<sup>4</sup>) -20c, -15c, -10c, -05c, 0, +05c, +10c, +15c/ (a<sup>4</sup>) -15c, -10c, -05c, 0, +05c, +10c, +15c, +20c

