

UCLA

Contemporary Music Score Collection

Title

Set

Permalink

<https://escholarship.org/uc/item/8dn1p687>

Author

Brook, Taylor

Publication Date

2020

Set

for bassoon and electronics

Taylor Brook
2019

about Set

Set, for solo bassoon and electronics, was written for Dana Jessen in the Summer of 2019 and is approximately 30 minutes in duration. *Set* is a suite of four pieces with quasi-improvised interludes. Although the score was designed to be played in full, individual pieces and improvisations could be performed separately.

While the four pieces that make up this score are fully composed, the interludes feature computer improvisation to accompany the improvising bassoonist. These improvisations aren't completely free, each with a set of rules for the improviser. This piece, then is a back-and-forth between written and improvised music. Beyond the musical effect, this creates an interesting dynamic between the composer and performer, as the performer becomes the central author of the improvised section and I become a performer through the electronics. This piece was developed with Dana Jessen, who taught me a great deal about bassoon technique during the process. Indeed, the composer-performer dichotomy further breaks down when one considers that large sections of this piece were based upon special techniques that Dana has developed through her work as an improviser.

microtonal notation

The following acccidental nomenclature is used:

\flat - \sharp approximately 1/4 tone flat or sharp (50 cents)

\downarrow - \uparrow approximately 1/6 tone flat or sharp (33 cents)

$\flat\flat$ - $\flat\sharp$ - $\sharp\flat$ - $\sharp\sharp$ - $\sharp\flat\sharp$ approximately 1/12 tone flat or sharp (17 cents)

The quarter-tone and sixth-tone alterations constitute significant changes in pitch, while the 12th-tone alterations provide something closer to a shift in intonation. In any case, the more the performer understands the harmonic role of their part and they are able to use their ear to tune, the more accurate the tuning becomes. The microtones are used almost exclusively to achieve acoustically consonant harmonies in just intonation from the scale below:

1/1	16/15	12/11	9/8	6/5	5/4	81/64	4/3	11/8	7/5	3/2	8/5	5/3	27/16	7/4	9/5	11/6	15/8
0c	+18c	-49c	+4c	+16c	-14c	+8c	-2c	-49c	-12c	+2c	+16c	-16c	+6c	-31c	+18c	-51c	-12c

electronics

This piece is run using a Max patch. Detailed instructions on running the elctronics are provided in the performance package.

This piece combines amplification, live processing, the diffusion of pre-made soundfiles, and sound synthesis.

This piece can be run on mono, stereo, quadraphonic, or hexaphonic systems.

Tech requirements:

- computer with Max 8 (free version works)
- bassoon microphone (AMT BAS-W or similar) for amplification and sound processing
- audio interface
- mixer
- speaker system
- trigger (midi pedal, usb pedal, space bar, etc.)

speakers

This piece can be diffused with anywhere between 1 and 6 speakers. The speakers can be placed on stage or surrounding the audience. The speakers are numbered from left to right in the following manor:



technique indications

Smorz. - smorzando, produce a tremolo effect using the jaw

t.vib. - tongue vibrato, produce a tremolo effect using the tongue under the lower lip

bisb. - bisbigliando trill, tremolo effect between two or more fingerings for the same pitch

alt. fingerings - alternate fingerings, use an alternate fingering to produce the same pitch, indicated with encircled numbers corresponding to the number of alternate fingerings.

flz. - flutter tongue

norm. - normale, marks an end to the t.vib. or timbral indications

improvisation sections

There are three sections in the piece that call for improvisation. Each of these three improvisation sections are controlled using timing indications and a set of “rules.”

These improvisation sections set up dynamic relationships between the soloist and the electronics, especially in the case of improvisations 1 and 2. It is integral that the soloist is able to rehearse these sections and get a feel for how the electronics will react to them.

multiphonics

The majority of the multiphonics in this piece were taken from Sampson’s book: *Contemporary Techniques for the Bassoon: Multiphonics*. For these multiphonics I have used her preferred notation and included the index number of the multiphonic from her book. In this piece I use both types of multiphonics covered in the book: polyvalent and monovalent. The monovalent multiphonics provide a static combination of pitches, while the polyvalent multiphonics are capable of moving between a single pitch and a multiphonic.

I have also used a few multiphonics that occur when playing notes in the third octave of the bassoon with weak lip pressure, as described in Gallois’ *The Techniques of Bassoon Playing* in the section “12 stable multiphonics.”

Set
for Dana Jessen

Taylor Brook

Introduction

Bassoon $\text{♩} = 76$

(alt. fingerings)
 $\begin{smallmatrix} 2 & 1 \\ 2 & 1 \end{smallmatrix}$ $\begin{smallmatrix} 2 & 1 \\ 2 & 1 \end{smallmatrix}$ $\begin{smallmatrix} 2 & 1 \\ 2 & 3 & 1 & 2 \\ 3 & 2 & 1 \end{smallmatrix}$ $\begin{smallmatrix} 2 & 3 & 4 & 2 & 1 \\ 3 & 2 & 1 \end{smallmatrix}$ $\begin{smallmatrix} 2 & 3 & 4 & 2 & 1 \\ 3 & 2 & 1 \end{smallmatrix}$ $\begin{smallmatrix} 2 & 3 & 1 \\ 4 & 3 \\ 2 & 1 \end{smallmatrix}$

Trigger light amplification and delay on

Bsn. articulate rhythm with tongue vibrato
 microtonal segment bisb. (many fingerings)

tr. bend up slowly and unevenly

m8 cue
 click begins

Bsn. nasal
 bisb.

tr.

El. Bsn. 1

El. Bsn. 2

Bsn. bisb.

norm. → nasal

t.vib. (fast as possible)

bisb.

norm. → nasal

tr.

El. Bsn. 1

El. Bsn. 2

2

21

Bsn. tr. El. Bsn. 1 El. Bsn. 2

bisb. norm. nasal

f = *mp* *fp* = *ff* = *mp* *pp* *fp* *f* = *mp*

sub p *sub p* *f*

27

Bsn. tr. El. Bsn. 1 El. Bsn. 2

bisb. bisb. norm. nasal

fp = *f* = *mp* *fp* = *f* = *mp* < *f* > *mp* *pp* = *mp* = *pp* *pp* =

m.vib. *s.vib.* *nasal*

sub p *sub p* *sub p* *nasal*

34

Bsn. tr. El. Bsn. 1 El. Bsn. 2

nasal bisb. bisb. flz.

fp = *f* = *mp* *fp* < *f* > *mp* *fp* < *f* > *mp* *p* = *ff* =

f *sub p* *f* *sub p* *f*

poco rit. $\text{♩} = 63$

non flz. norm. (non nasal) t.vib. slow → fast as pos. t.vib. slow → fast t.vib. slow → fast

40

Bsn. tr. El. Bsn. 1 El. Bsn. 2

nasal bisb. click ends m41 cue

fp = *ff* = *p* < *mp* > *pp* *pp* < *p* > *pp pp* < *p* > *pp*

sub p *p* *p* *p*

47

Bsn. t.vib. slow → fast t.vib. slow → fast dull tone

tr.

El. Bsn. 1

El. Bsn. 2

m54 cue

55

Bsn. *3*

tr.

El. Bsn. 1

El. Bsn. 2

m59 cue

61

Bsn. flz. *3* *3*

tr. m61 cue

3

fff

M

sub p

fff

M

fff

M

fff

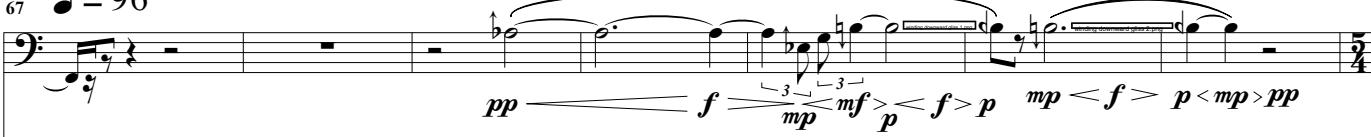
M

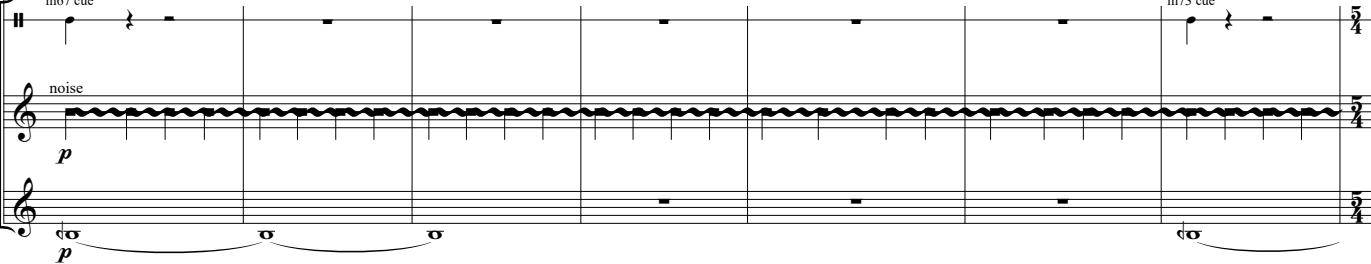
fff

4

Song I

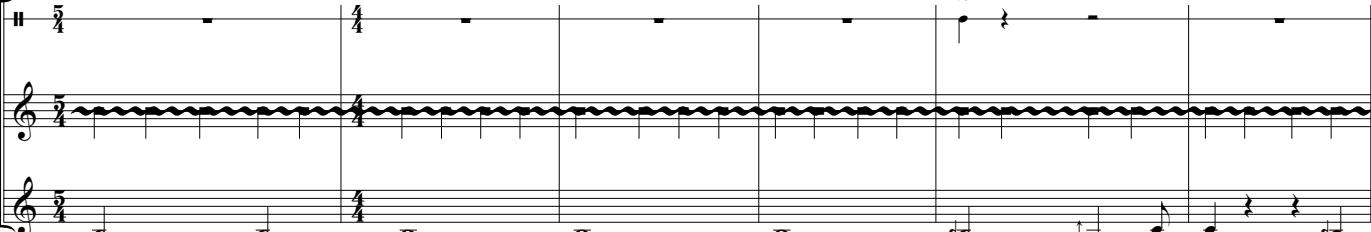
67 $\text{♩} = 96$

Bsn. 

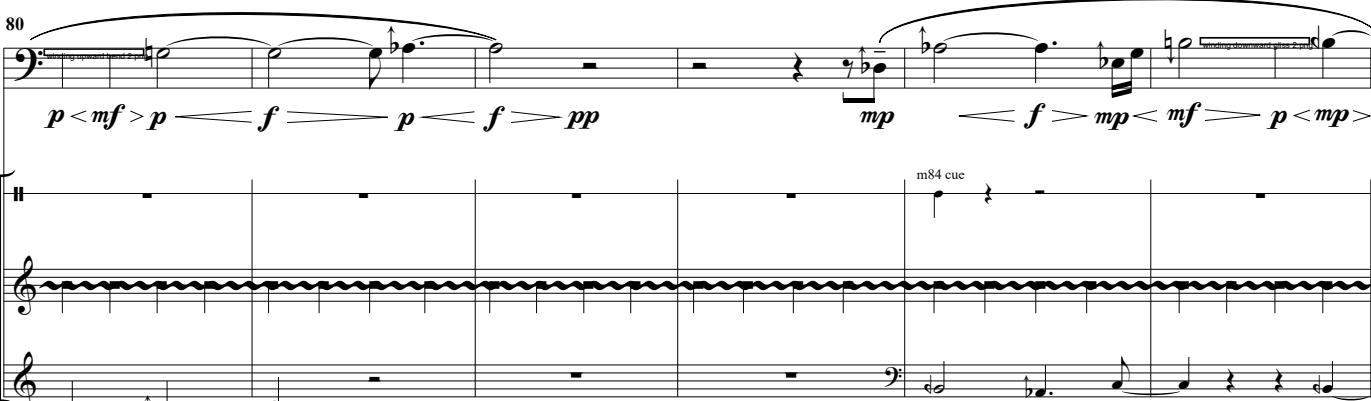
tr. 

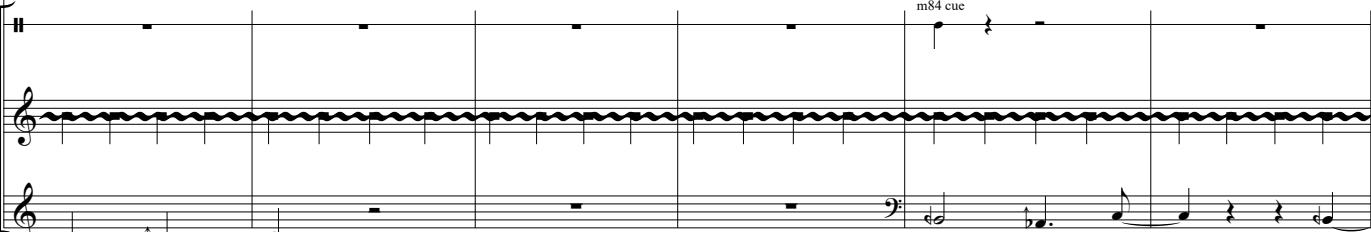
74

Bsn. 

tr. 

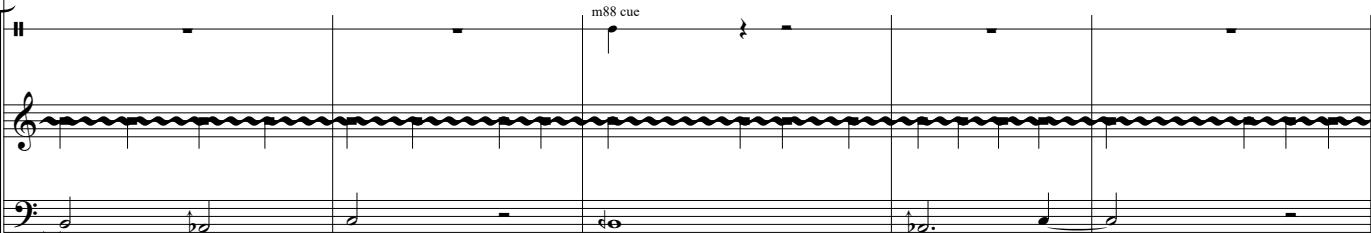
80

Bsn. 

tr. 

86

Bsn. 

tr. 

5

Bsn.

m91 cue

tr.

tr.

96

Bsn.

*t.vib.
fast as pos.*

m98 cue

tr.

101

Bsn.

norm.

*t.vib.
fast as pos.*

norm.

norm.

norm.

m102 cue

tr.

107

Bsn.

winding upward bend 1, pos.

m108 cue

tr.

Bsn. 112 rapid and intense upward gesture
mp < f == pp
fff
fp — ff
fzp — fz

tr.

Bsn. 117 unmeasured, fast as possible
ff
sffz

tr.

Bsn. 119 calm and neutral
p winding downward gliss 2 prg
mf > p — mp — pp — mp
p < f > p < f > p < f > p

tr.

nasal t.vib. slow → fast → slow → fast → slow → fast → slow

Improv. I

rules:

- no multiphonics or vocalizations
- no references to melodic materials of the previous section

Bsn. 124 ~ 1'
 short irregular staccatto attacks | ~ 2'
 long notes using full breath | *f* | ~ 1'30"
 rising lines and gestures | ~ 3'
 free improvisation |

tr. m124 cue (improv 1.1) | m125 cue (improv 1.2) | m126 cue (improv 1.3) | m127 cue (improv 1.4)

electronics react to live bassoon, triggering samples and granular synthesis effects

Song II

 $\text{♩} = 96$

128

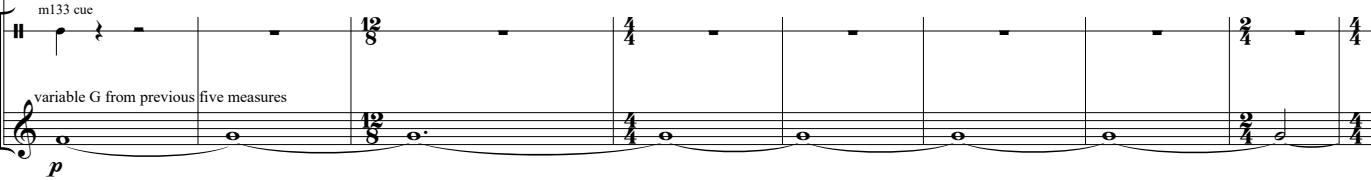
Bsn. 

tr. 

cantabile

133

Bsn. 

tr. 

variable G from previous five measures

141 (265)

Bsn. 

(269)

tr. 

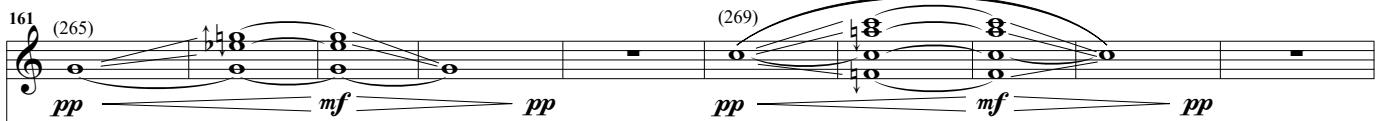
151 (267)

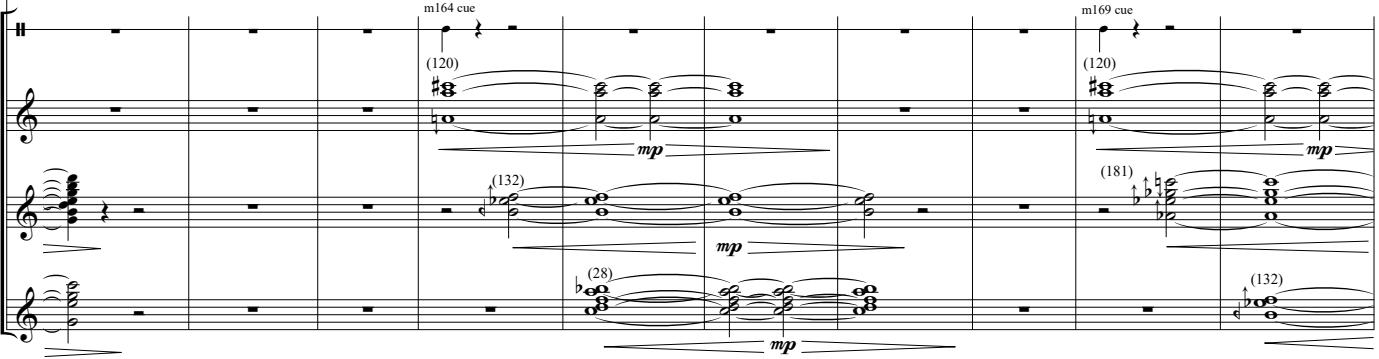
Bsn. 

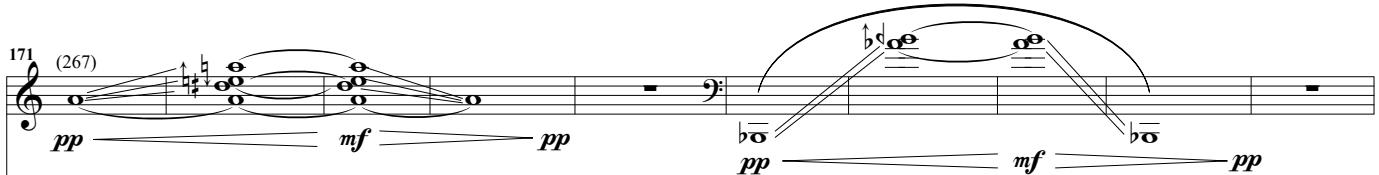
m154 cue

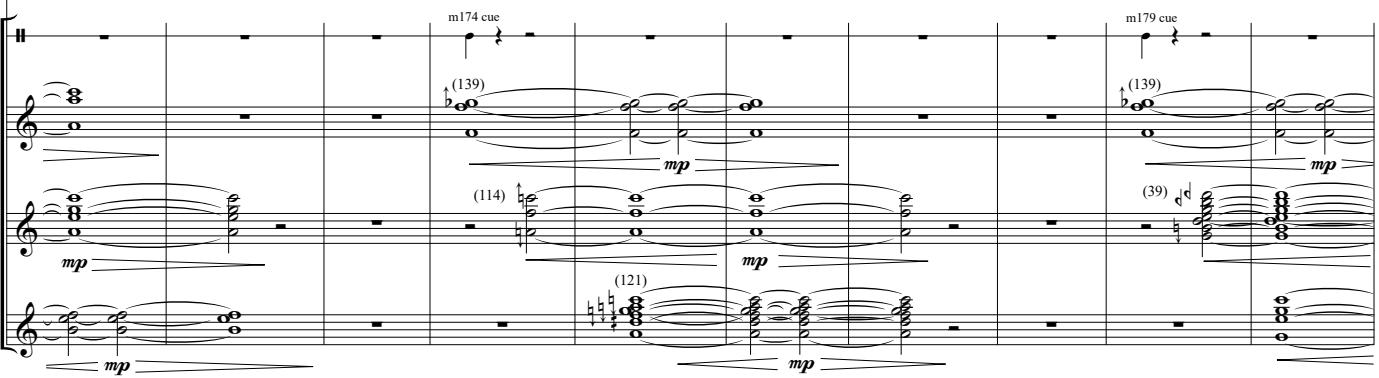
tr. 

$\text{♩} = 72$

Bsn. 161 (265) 

tr. m164 cue (120) (132) (28) (181) (132) 

Bsn. 171 (267) 

tr. m174 cue (139) (114) (121) (39) 

Bsn. 181 (265) (269) 

tr. m185 cue (120) (132) (28) (181) (132) 

Bsn. 192 (267) (114) (132) tr. m196 cue m200 cue

Bsn. 202 tr.

Bsn. 202 tr. (11) (42) (132) (120) (120) (120)

Bsn. 213 (132) (28) (114) tr. m216 cue (265) (269) (267) (132) (28)

♩ = 48

220

Bsn. (132) *cantabile* 3 (28)

< f > *mp* *< f >*

m220 cue tr.

(120) (181) (121) (120) (120)

(132) (139) (39) (132) (28)

(28) (139) (114) (120)

228 (114)

mp *< f >* *p < f >* *p*

Bsn. (181) (121) (139) (132) (139) (39) (114)

tr. (132) (139) (114)

Improv. II

236

Bsn.

tr.

m236 cue (improv 2)

slowly changing synthesizer doubling live bassoon input
synth tone reacts in diverse ways to bassoon input

Rules:

1. move through part I-V in order
2. provided fragments may be played in any order, repeated, or used as a basis for further improvisations
3. each part should be at least 1 minute in duration
4. dynamics indicate the possible dynamic range when provided with a fragment
5. tempo may be varied freely

cantabile

mp - mf

p - f

Part I:

cantabile

mp - mf

(long note in low register)

p < f > p

with high E-flat key

mp - mf

Part II:

mp - mf

cantabile

mp - mf

cantabile

mp - mf

tongue vib.

p - f

mp - mf

mp - mf

mp - mf

Part III:

mf - ff

mp - f

mf - ff

with high E-flat key

p - f

with high E-flat key

mf - ff

with high E-flat key

p - f

with high E-flat key

p - f

with high E-flat key

p - f

with high E-flat key

mf - ff

with high E-flat key

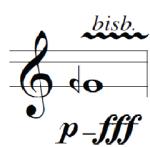
p - f

with high E-flat key

mf - ff

Part IV: Improvise freely in the extreme high and low registers.

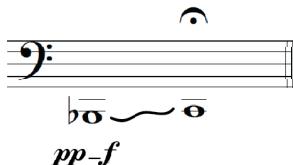
Part V:



frenetic improvisation using these notes as basis



Ending:



Song III

$\text{♩} = 96$

with high E key throughout section

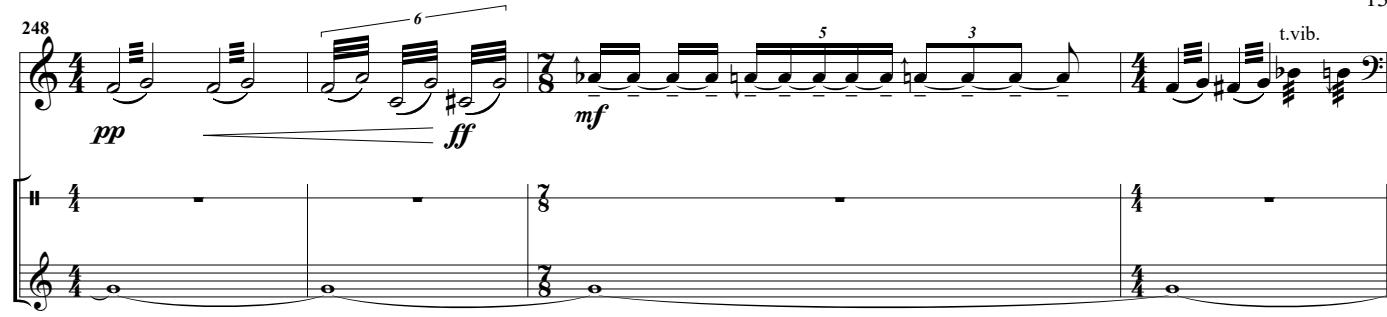
Bsn. 237 t.vib. norm. smorz. 3 bisb. 6

tr. m237 cue synth with heavy rapid tremolo

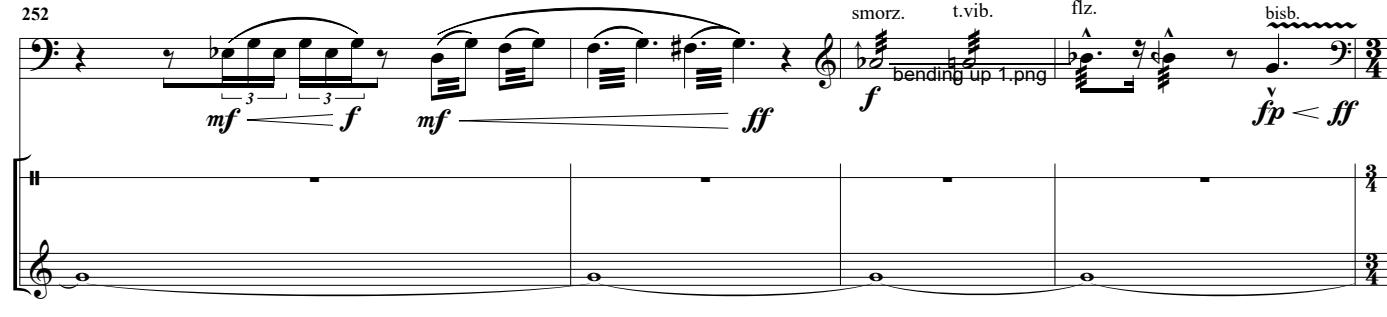
Bsn. 242 poco 3 t.vib. fast as pos. gliss. harmonics, teeth on reed norm. 3 4

tr. 2 3 4 4 3 4 4

248

Bsn. 

252

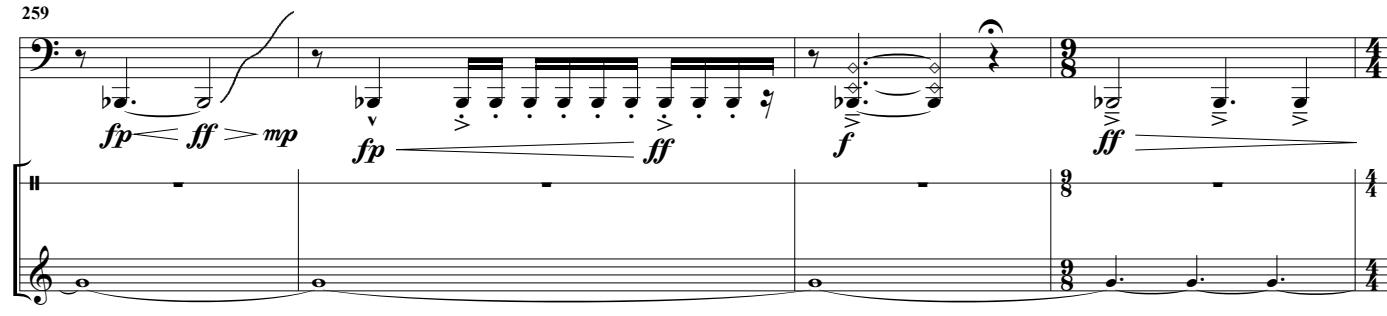
Bsn. 

fast as possible (unmeasured)

256

Bsn. 

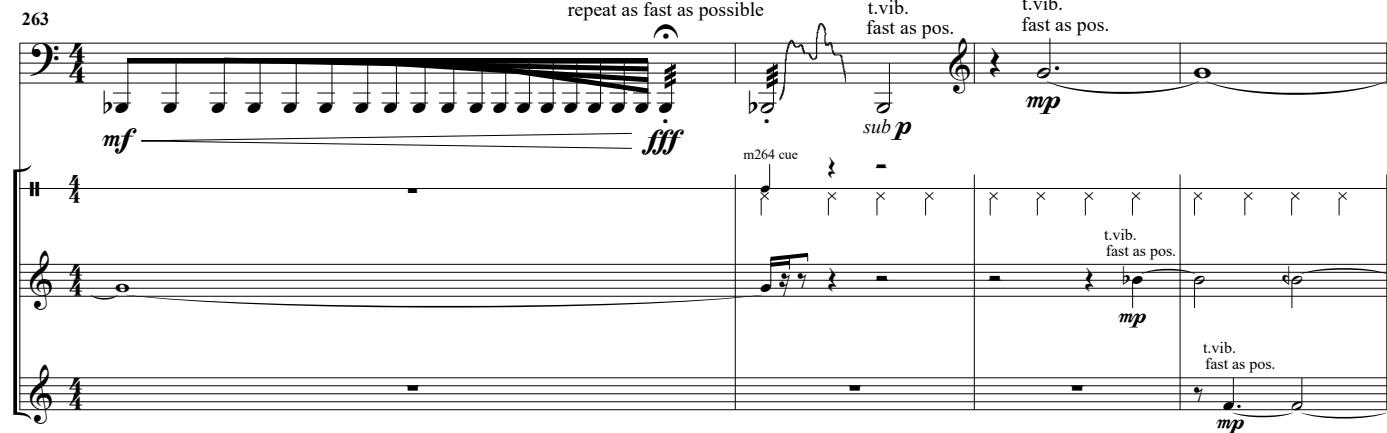
259

Bsn. 

random harmonics

repeat as fast as possible

263

Bsn. 

267 (t.vib. fast as pos.)

Bsn.

tr.

(t.vib. fast as pos.)

(t.vib. fast as pos.)

274 norm.

Bsn.

tr.

norm.

t.vib.

norm.

norm.

fp

t.vib.

fp

t.vib.

fp

278 (t.vib. fast as pos.)

Bsn.

tr.

(t.vib. fast as pos.)

(t.vib. fast as pos.)

f

mp

285 (t.vib. fast as pos.)

Bsn.

tr.

(t.vib. fast as pos.)

(t.vib. fast as pos.)

winding upward bend 2.png

norm. (non t.vib.)

f

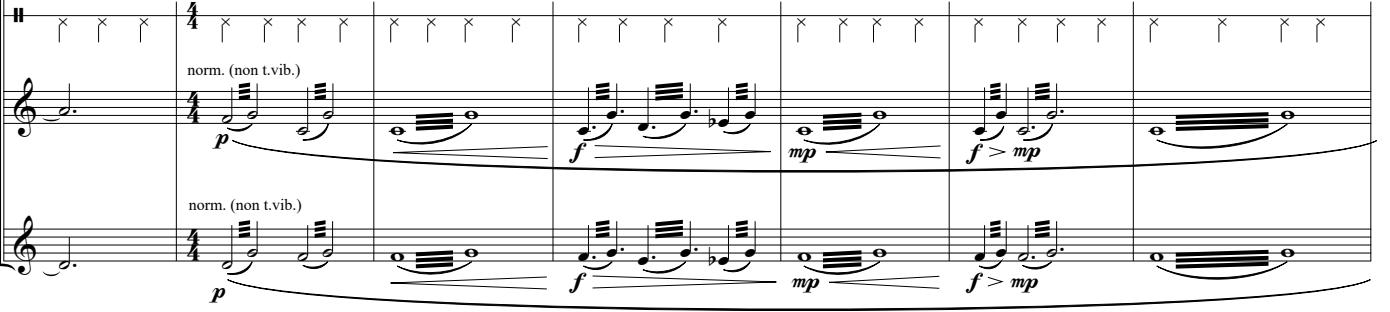
mp

5

Until m323, use the high E key for a rapid tremolo.
For the F-G trill, rapidly slide the index finger over the open hole, creating a "fuzzy trill" effect.

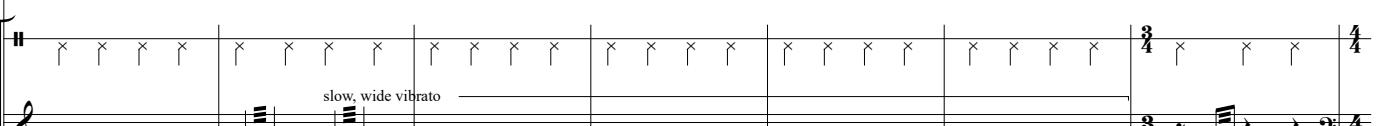
291

Bsn. 

tr. 

298 slow, wide vibrato (dizzy, drunken)

Bsn. 

tr. 

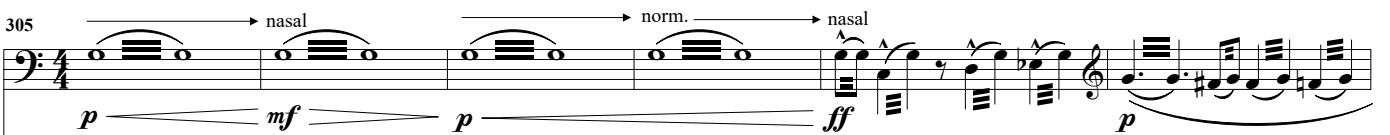
slow, wide vibrato

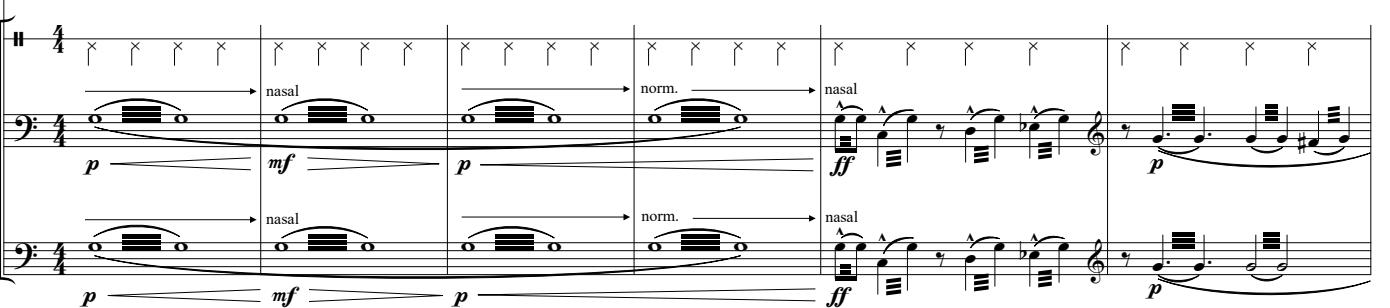
slow, wide vibrato

ff

sffz

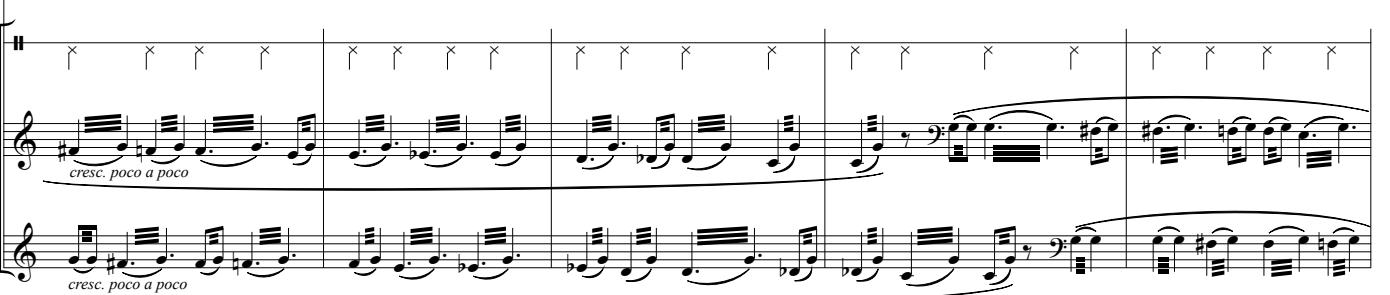
305 → nasal → norm. → nasal

Bsn. 

tr. 

311 cresc. poco a poco

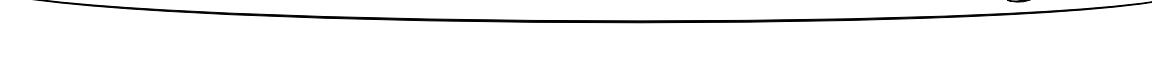
Bsn. 

tr. 

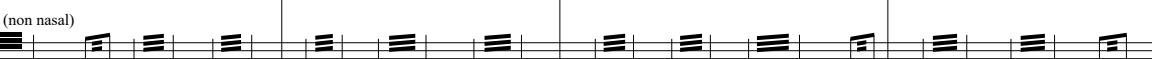
Musical score for Bassoon (Bsn.) and Trombone (tr.). The score consists of two staves. The top staff is for Bassoon, starting with a dynamic of ***ff***. The bottom staff is for Trombone, starting with a dynamic of ***ff***. Measure 316 starts with a sixteenth-note pattern in the Bassoon part. Measure 317 begins with a sustained note in the Trombone part.

319 norm. (non nasal)

Bsn. 

tr. 

norm. (non nasal) 

norm. (non nasal) 

Improv. III

- no rules, improvise freely
 - harmonic progression plays out as shown below
 - move onto next section anywhere between 10 seconds and 2 minutes once the final chord in the electronics is reached
 - your input may randomly trigger samples
 - shifting spectral harmonizer applied throughout improvisation

Song IV

$\text{♩} = 126$

tremolo effect

328 (E-flat key)

Bsn.

mp — *ff* *mp* — *f* *f*

m328 cue
delay and click track
bassoon

p

mf

Bsn. 333

tr.

2-BEAT COUNT IN
m335 cue

f

f

f

f

345

Bsn. *ff*

tr.

p

mp

mp

mp

mp

349

Bsn.

tr.

f

f

f

f

353

Bsn.

tr.

356

Bsn.

tr.

359

Bsn.

tr.

362

Bsn.

tr.

365

Bsn.

tr.

368

Bsn.

tr.

372

Bsn.

tr.

376

Bsn.

tr.

379

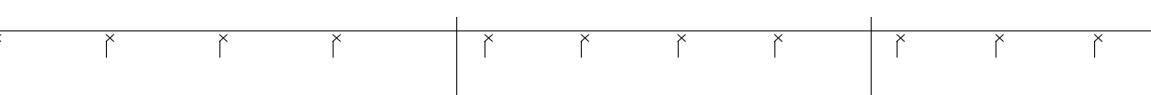
Bsn.

tr.

382

Bsn. 

tr. 



385

Bsn.

388

Musical score for Bassoon (Bsn.) and Trombones (tr.) showing measures 3-7. The score consists of two systems of four measures each. The first system starts with a bassoon part featuring eighth-note patterns and sixteenth-note figures. The second system begins with a rest followed by a bassoon part. The trombone parts are indicated by 'tr.' above the staff, with specific entries marked by vertical lines and rests.

391

Bsn.

This musical score page contains two staves. The top staff is for the Bassoon (Bsn.), showing a continuous eighth-note pattern with a '3' below each group of three notes. The bottom staff is for the Trombone (tr.), featuring six measures of sixteenth-note patterns. Measures 1-3 start in common time (indicated by a 'C') and transition to 2/4 time in measure 4. Measures 4-6 start in 2/4 time and transition back to common time in measure 7. Measure 7 starts with a bass drum 'D' followed by a sixteenth-note pattern.

394

Bsn.

This musical score page contains two staves. The top staff is for the Bassoon (Bsn.), showing a continuous eighth-note pattern with a '3' below each group of three notes. The bottom staff is for the Trombone (tr.), featuring six measures of sixteenth-note patterns. Measures 1-3 start in common time (indicated by a 'C') and transition to 2/4 time in measure 4. Measures 4-6 start in 2/4 time and transition back to common time in measure 7. Measure 7 starts with a bass drum 'D' followed by a sixteenth-note pattern.

397

Bsn.

This musical score page contains two staves. The top staff is for the Bassoon (Bsn.), showing a continuous eighth-note pattern with a '3' below each group of three notes. The bottom staff is for the Trombone (tr.), featuring six measures of sixteenth-note patterns. Measures 1-3 start in common time (indicated by a 'C') and transition to 2/4 time in measure 4. Measures 4-6 start in 2/4 time and transition back to common time in measure 7. Measure 7 starts with a bass drum 'D' followed by a sixteenth-note pattern.

t.vib.
fast as pos.

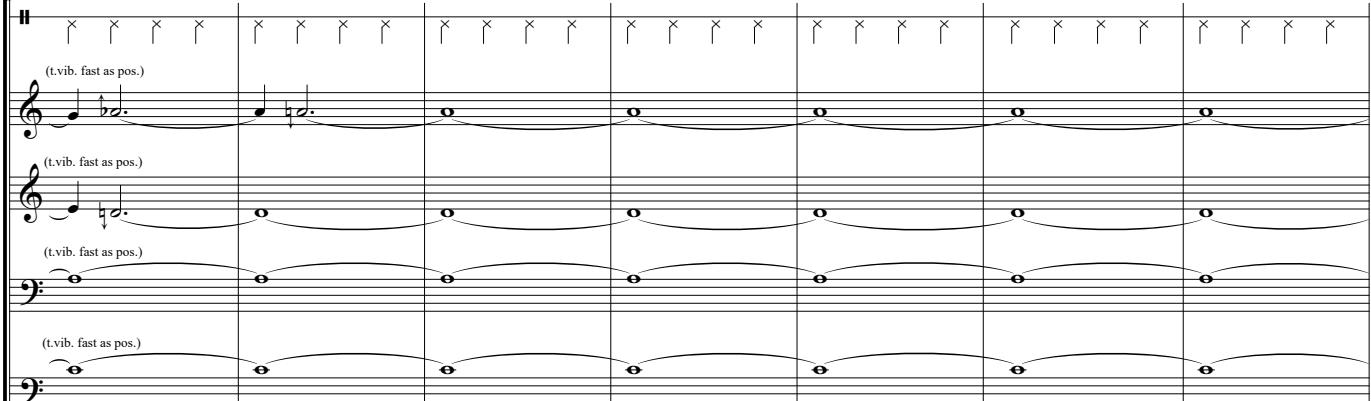
400

Bsn. 

tr. 

404 (t.vib. fast as pos.)

Bsn. 

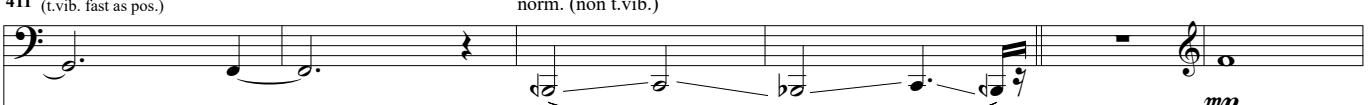
tr. 

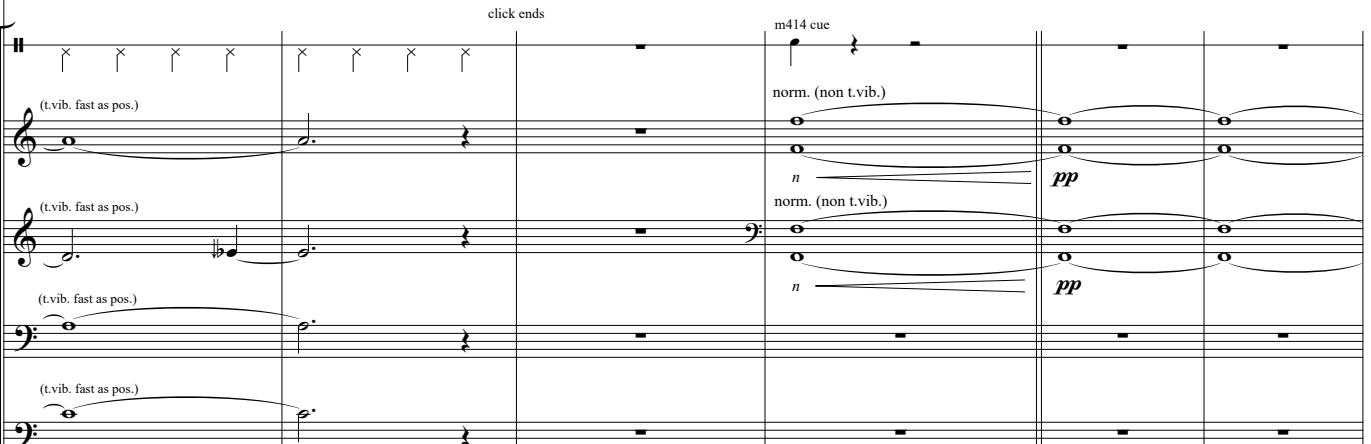
rit.

norm. (non t.vib.)

 = 69

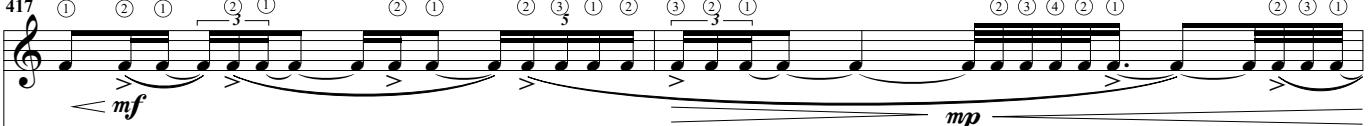
411 (t.vib. fast as pos.)

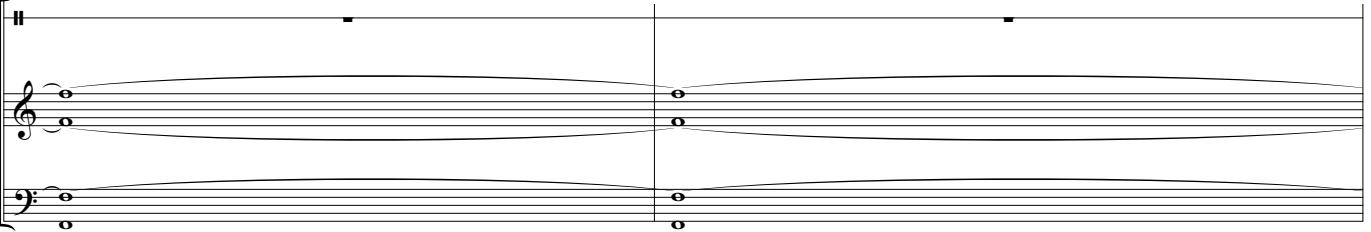
Bsn. 

tr. 

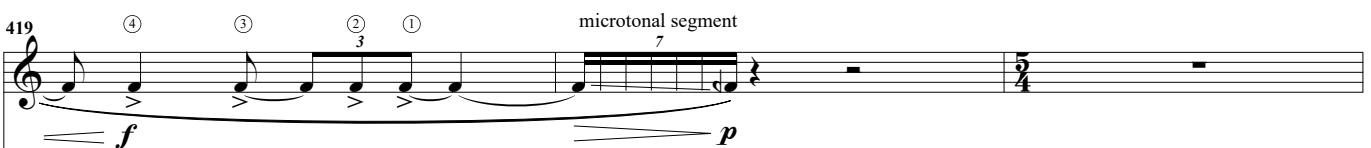
(alt. fingerings)

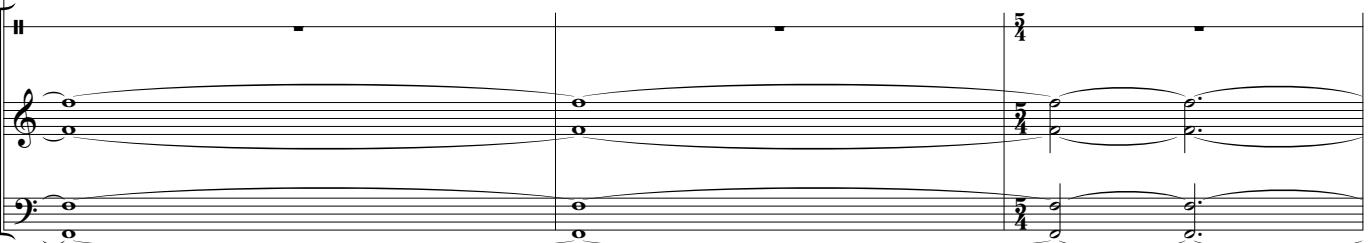
417

Bsn. 

tr. 

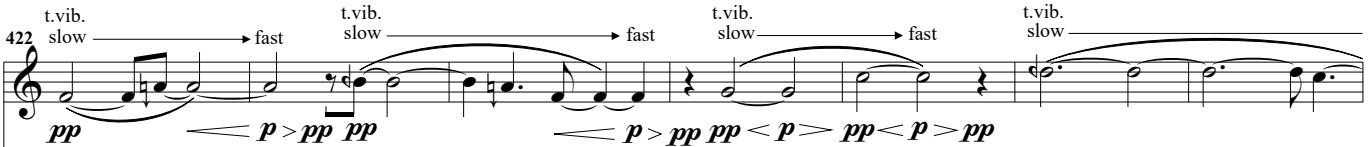
419

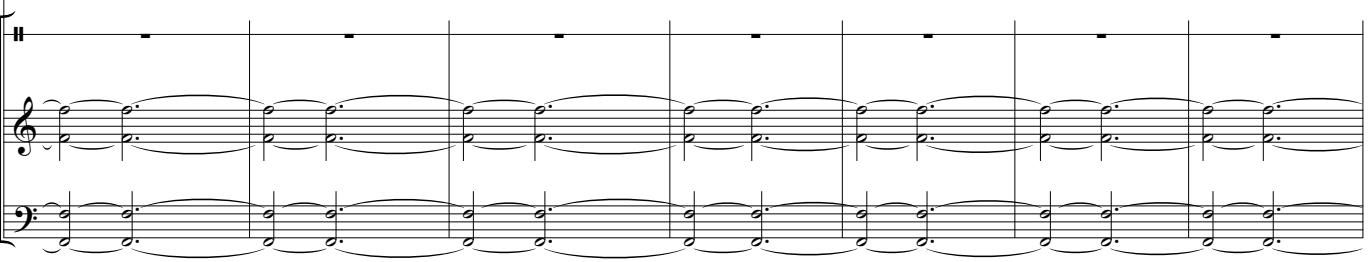
Bsn. 

tr. 

422

t.vib. slow → fast t.vib. slow → fast t.vib. slow → fast t.vib. slow → fast

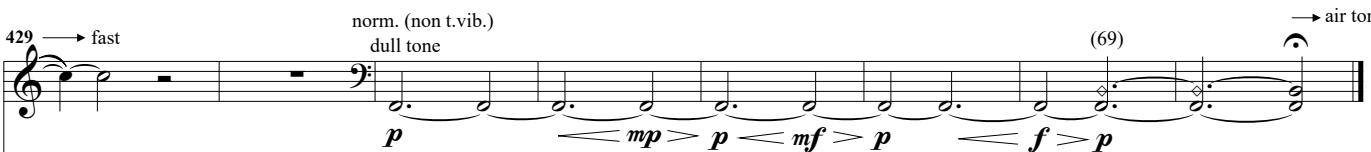
Bsn. 

tr. 

429 → fast

norm. (non t.vib.) dull tone

(69) → air tone

Bsn. 

tr. 