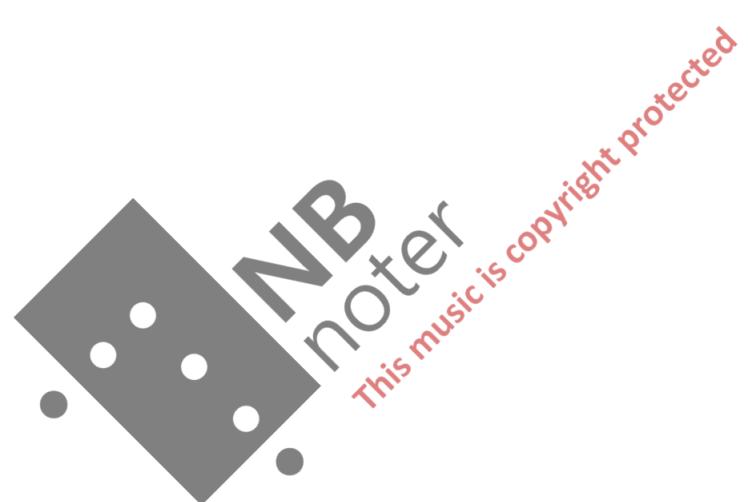


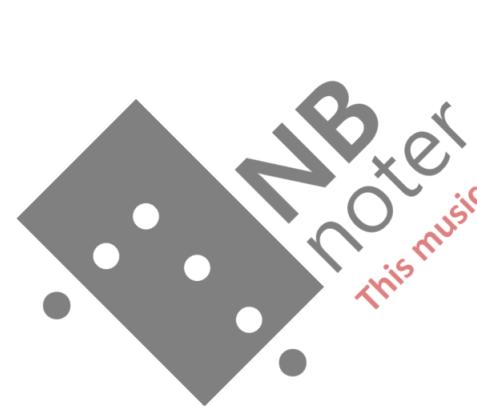
Bioluminescence

for reduced orchestra

score



Kristine Tjøgersen 2017
rev 2020



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Kristine Tjøgersen: Bioluminescence for orchestra (2017/2020)

Version for SWR Symphonie Orchester (reduced orchestra due to the Covid-19 restrictions) commissioned by SWR for the ECLAT Festival 2021.

28 LED lights* for the orchestra, 1 LED light* for the conductor

Screen with timer, connected to computer with film* with timer.

3 Flutes, player 3 doubling on Piccolo

2 Oboes

2 Bb Clarinets, player 2 doubling on Bass Clarinet

2 Bassoons

1 Horn, doubling on Wind Wand* and Wine Glass* tuned in A2

1 Trumpet in C, doubling on Wind Wand* and Wine Glass* tuned in quarter tone high G2

1 Trombone, doubling on Wind Wand* and Wine Glass* tuned quarter tone high A2

1 Tuba, doubling on Wind Wand* and Wine Glass* tuned in G2

Percussion 1: Bass Drum played with sponge and mallet, Plastic tube, Flexatone played with a bow
Vibraphone with motor played with bow + mallet

Percussion 2: Timpani (29 inch) played with sponge and hex bug*, Flexatone played with a bow,
Small thunder sheet, Ratchet (soft in sound can be a plastic toy ratchet)

Percussion 3: Timpani (32 inch) played with sponge, super ball mallet, rubber ball, hex bug* and Milk steamer with
gaffa tape*, Air spray (dust spray)*

6 Violin I

6 Violin II

4 Viola

3 Violoncello

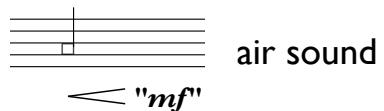
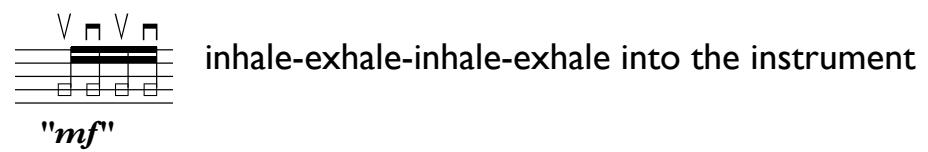
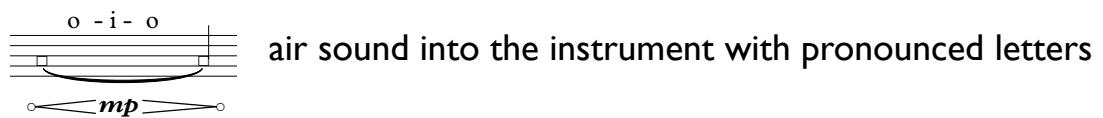
2 Double Bass

All the violin, viola and cello players must have a pencil.

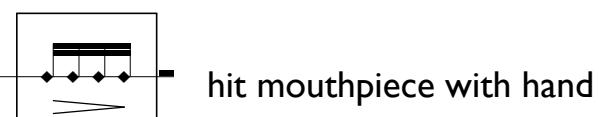
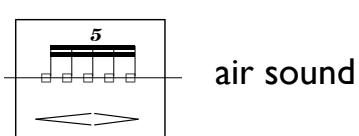
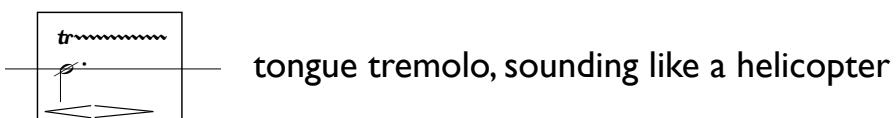
Duration: approx. 10-12 minutes

Score in C

Winds:

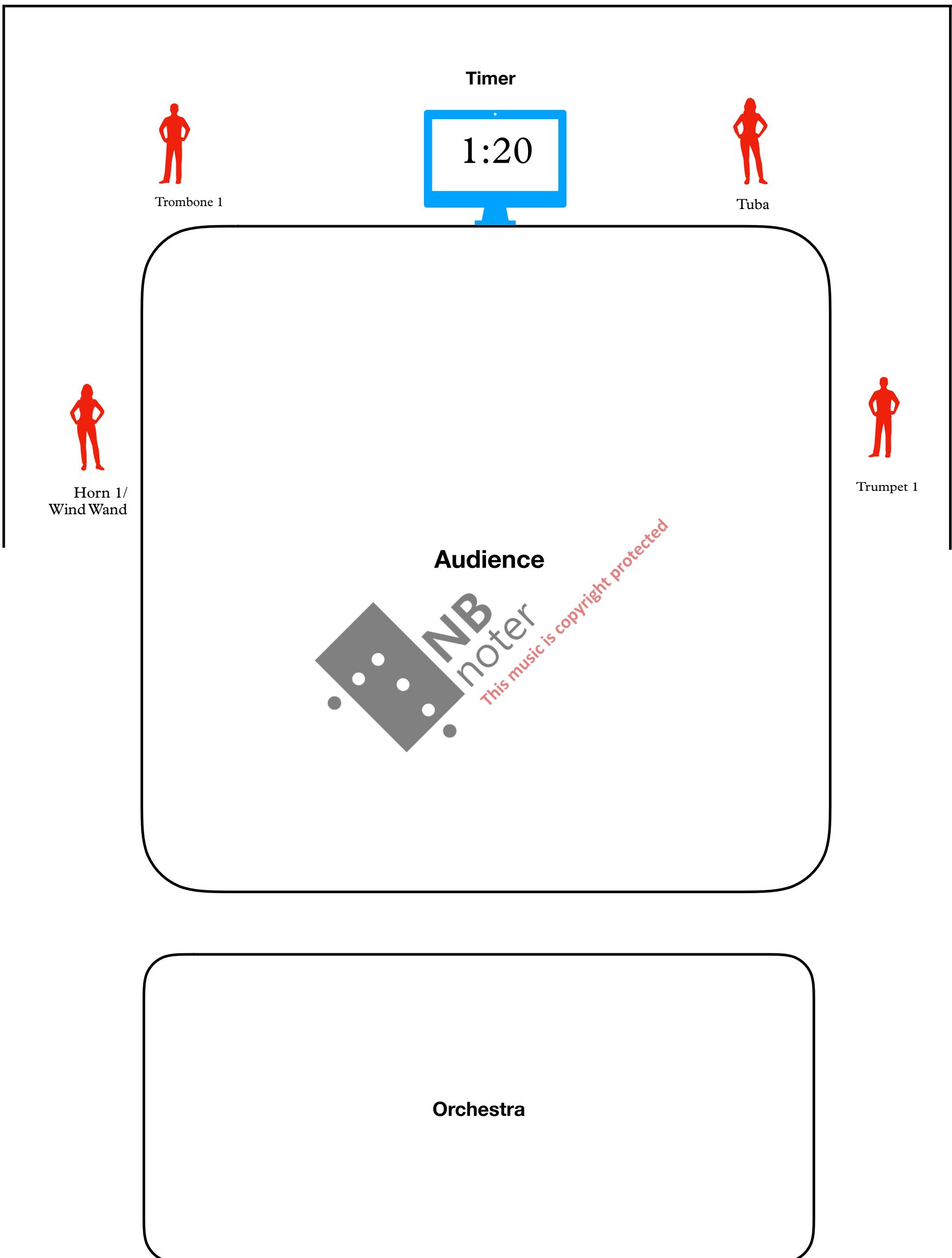


Brass:



NB
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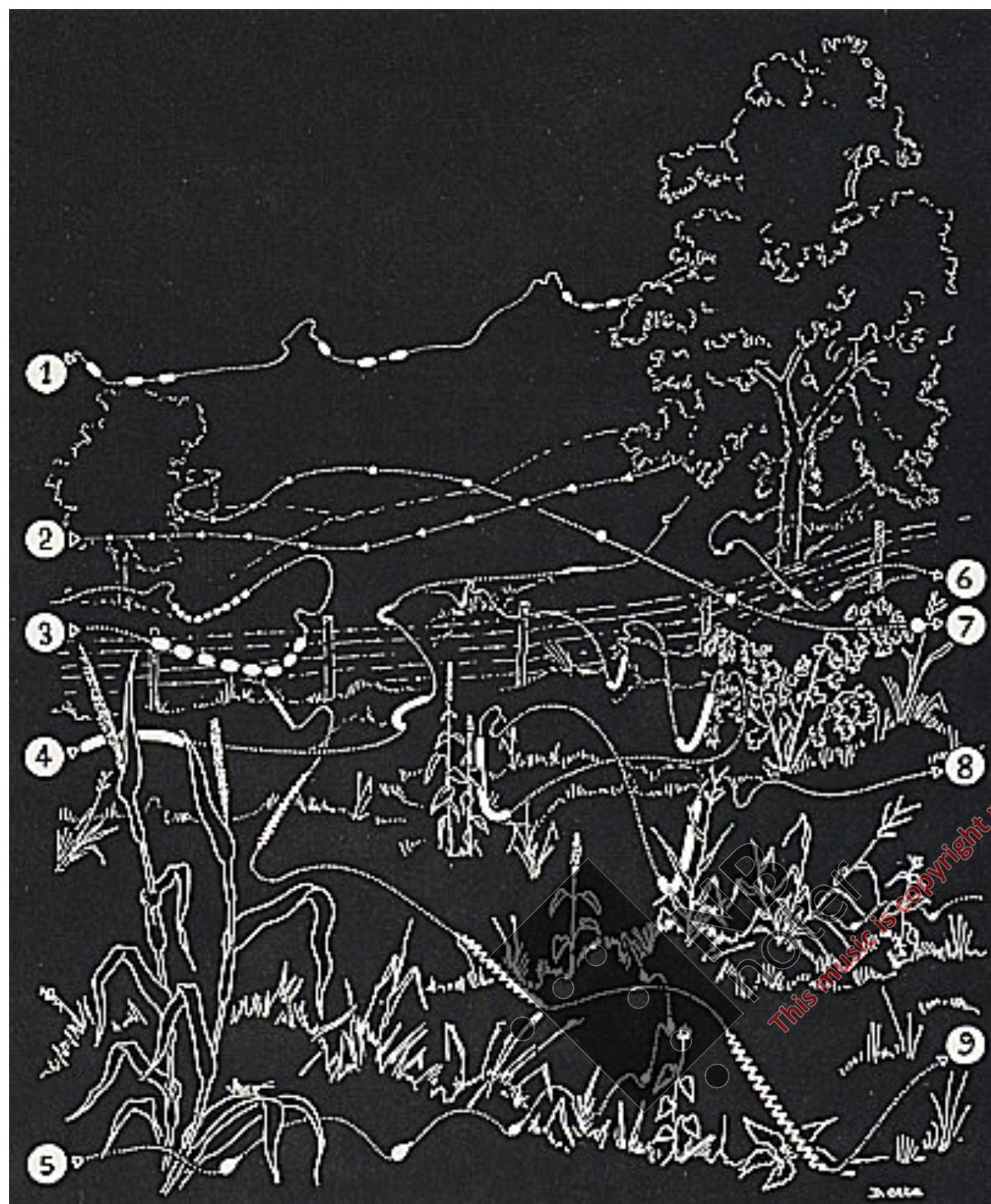
Suggested Stage Plot



Bioluminescence is the production and emission of light by a living organism, a chemical reaction where light is produced.

This piece is based on prof. James E. Lloyd's studies on Flash Communication Systems of Photinus Fireflies.
MUSEUM OF ZOOLOGY, UNIVERSITY OF MICHIGAN, 1966

The timing and pattern of these flashes is unique for each species.



Female flash length: Female flash lengths given are from tape recordings made with the PT using the MF as the stimulus.

Notes were taken on the general physical and biological characteristics of the habitats, male flight paths, and male approaches to responsive females.

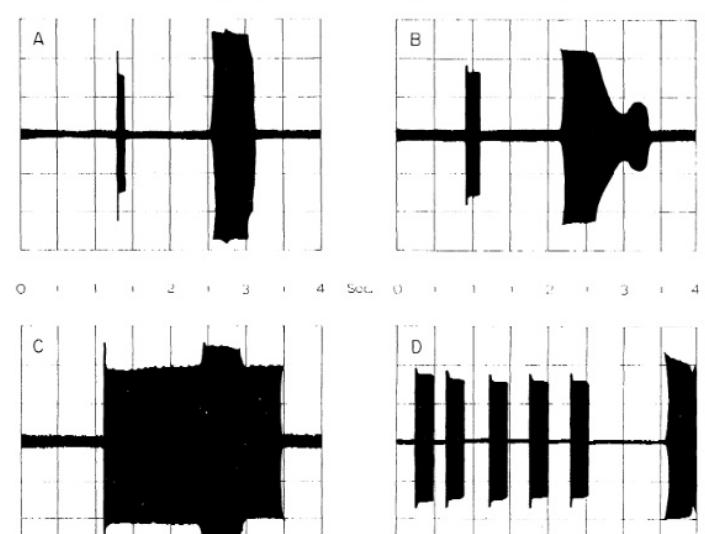
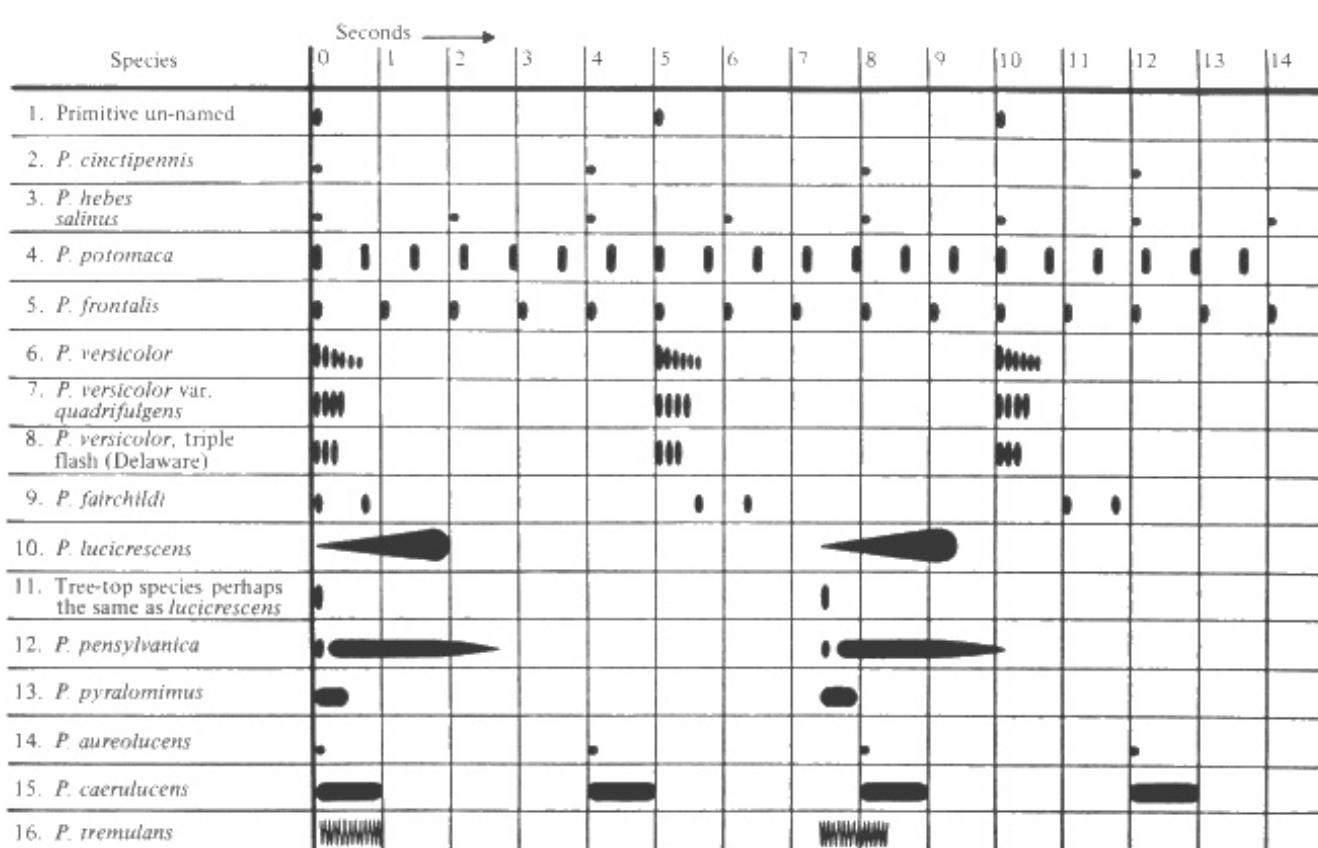


FIG. 2. Drawings from oscilloscope traces showing responses of a single female of *Photinus australis* to different kinds of electronic flashes. Initial low intensity pulses are electronic flashes; high intensity pulses following them are female responses. Note consistent time delay in all four responses: (A) normal short stimulus; (B) slightly longer stimulus (note intensity increase at end of female flash); (C) female interrupts long stimulus indicating that she times from the beginning of the stimulus flash; (D) female answers last pulse of a series (responses to early flashes must have been inhibited by subsequent flashes).



The piece begins in darkness.
Players are repeatedly blinking individual firefly flash patterns with flashlights/LED-lights holding the hand high, facing the audience.
Attend the pauses!
Timer is shown on a screen in the back of the hall.
The piece is to be played by heart up to 4:00 (mark F)

SCORE IN C

Bioluminescence

for Orchestra
Version for SWR Symphonie Orchester

Kristine Tjøgersen
2017
rev. 2020

0:00 min
conductor gives
one blink cue to start
the timer

0:10 min

0:20 min

Throughout the piece, all brass players are situated around the audience in the concert hall (see stage plot)

Flute 1
5
4

Flute 2
solo
hand upwards
5
4
6

Flute 3/Piccolo

Oboe 1
5
4

Oboe 2

Clarinet 1

Clarinet 2/Bass Clarinet
make pauses in between
p/mp

Bassoon 1

Bassoon 2
5
4
3
2
1

Horn

Trumpet

Trombone

Tuba

Percussion 1

Percussion 2

Percussion 3
sponge on timpani, like wind
variate tempo and length, leave gaps in between

Violin I player 1
sol

Violin I player 2
5
4

Violin I player 3

Violin I player 4

Violin I player 5

Violin I player 6

Violin II player 1
5
4
3
2
1

Violin II player 2

Violin II player 3

Violin II player 4
solo
hand upwards
8
4

Violin II player 5

Violin II player 6

Viola player 1

Viola player 2
4
3
2
1

Viola player 3

Viola player 4

Violoncello player 1
5
4

Violoncello player 2

Violoncello player 3

Double Bass player 1
solo
molto sul pont, sul A, rich overtones, small variations of position of trill, leave gaps in between
tr.....
mp

Double Bass player 2

2

0:30 min

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Bs. Cl.

Bsn. 1

Bsn. 2

Perc. 1

Perc. 2

Perc. 3

Vln. I (1)

Vln. I (2)

Vln. I (3)

Vln. I (4)

Vln. I (5)

Vln. I (6)

Vln. II (1)

Vln. II (2)

Vln. II (3)

Vln. II (4)

Vln. II (5)

Vln. II (6)

Vla. (1)

Vla. (2)

Vla. (3)

Vla. (4)

Vlc. (1)

Vlc. (2)

Vlc. (3)

Db. (1)

Db. (2)

0:40 min

0:50 min

Performance Instructions:

- Fl. 1:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Fl. 2:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Fl. 3:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Ob. 1:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Ob. 2:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Cl. 1:** 0:30 min (shake hand), 0:40 min (rest), 0:50 min (rest).
- Bs. Cl.:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Bsn. 1:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Bsn. 2:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Perc. 1:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Perc. 2:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Perc. 3:** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. I (1):** 0:30 min (solo trem. high as possible leave gaps in between, sounding like an insect), 0:40 min (rest), 0:50 min (rest).
- Vln. I (2):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. I (3):** 0:30 min (rest), 0:40 min (solo), 0:50 min (rest).
- Vln. I (4):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. I (5):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. I (6):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. II (1):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. II (2):** 0:30 min (rest), 0:40 min (solo), 0:50 min (rest).
- Vln. II (3):** 0:30 min (rest), 0:40 min (rest), 0:50 min (solo shake hand).
- Vln. II (4):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. II (5):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vln. II (6):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vla. (1):** 0:30 min (rest), 0:40 min (solo trem. high as possible leave gaps in between, sounding like an insect), 0:50 min (rest).
- Vla. (2):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vla. (3):** 0:30 min (rest), 0:40 min (sol hand upwards), 0:50 min (rest).
- Vla. (4):** 0:30 min (rest), 0:40 min (rest), 0:50 min (solo).
- Vlc. (1):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vlc. (2):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Vlc. (3):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Db. (1):** 0:30 min (rest), 0:40 min (rest), 0:50 min (rest).
- Db. (2):** 0:30 min (solo make pauses in between), 0:40 min (p), 0:50 min (rest).

1:00 min

1:10 min

1:20 min

3

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Bs. Cl.

Bsn. 1

Bsn. 2

Hn.

Trp.

Trb.

Tba.

Perc. 1

Perc. 2

Perc. 3

Vln. I (1)

Vln. I (2)

Vln. I (3)

Vln. I (4)

Vln. I (5)

Vln. I (6)

Vln. II (1)

Vln. II (2)

Vln. II (3)

Vln. II (4)

Vln. II (5)

Vln. II (6)

Vla. (1)

Vla. (2)

Vla. (3)

Vla. (4)

Vlc. (1)

Vlc. (2)

Vlc. (3)

Db. (1)

Db. (2)

7

repeat the boxes in ad lib order,
make small variations of playing with long
breaks after one or two boxes, misterioso

NB
noter
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*air trem. between
F and Bb side*

tr

o - i

tr

x x x

tr

o - i

tr

x x x

tr

o - i

tr

i - o

tr

6

tr

sol

5

4

sol

5

4

sol hand upwards

8

4

sol

5

4

sol

5

4

A

4

1:30 min 2:00 min

Fl. 1
Fl. 2
Fl. 3
Ob. 1
Ob. 2
Cl. 1
Bs. Cl.
Bsn. 1
Bsn. 2

repeat the boxes in ad lib order,
make small variations of playing, with long
breaks after one or two boxes, misterioso

Hn. air trem. between F and Bb side

C Tpt. wah-wah mute

Trb. wah-wah mute

Tba. vibrato

Perc. 1
Perc. 2
Perc. 3

Vln. I (1)
Vln. I (2)
Vln. I (3)
Vln. I (4)
Vln. I (5)
Vln. I (6)
Vln. II (1)
Vln. II (2)
Vln. II (3)
Vln. II (4)
Vln. II (5)
Vln. II (6)
Vla. (1)
Vla. (2)
Vla. (3)
Vla. (4)
Vlc. (1)
Vlc. (2)
Vlc. (3)

Db. (1) solo
5 4

Db. (2) solo
5 4

Strings:
Make breaks of uneven lengths in
between each repetition of the box.
Clarinets can be more static/held longer,
flickering sound

5

B 2:10 min

Fl. 1 bisb. tr~~~~~ , <p>

Fl. 2 bisb. tr~~~~~ , <p>

Fl. 3 bisb. tr~~~~~ , <p>

Ob. 1 bisb. tr~~~~~ , <p>

Ob. 2 bisb. tr~~~~~ ,

Cl. 1 b s. * mp , b s. * mp

Bs. Cl. b s. * mp , b s. * mp

Bsn. 1 bisb. tr~~~~~ , <p>

Bsn. 2 bisb. tr~~~~~ , <p>

Hn.

Trp.

Trb.

Tba.

Perc. 1

Perc. 2

Perc. 3

Vln. I (1)

Vln. I (2)

Vln. I (3)

Vln. I (4)

Vln. I (5)

Vln. I (6)

Vln. II (1)

Vln. II (2)

Vln. II (3)

Vln. II (4)

Vln. II (5)

Vln. II (6)

Vla. (1)

Vla. (2)

Vla. (3)

Vla. (4)

Vlc. (1)

Vlc. (2)

Vlc. (3)

Db. (1)

Db. (2)

make breaks of uneven lengths in
between each repetition of the box.
Clarinets can be more static/held longer,
flickering sound

C 2:30 min

D 2:40 min 2:45 min

String instructions:

Make breaks of uneven lengths in
between each repetition of the box.
Make small variations of the material.
Boxes can be both short and long in
duration. Soft dynamics with energy,
like insects.

NB This music is copyright protected

plastic tube in the air variate tempo

hexbug on timpani 29 inch

hexbug on timpani 32 inch

solo - player 2 turns on the stand light

trem. high as possible irregular

2:50 min 2:55 min 3:00 min 3:05 min 3:10 min 3:15 min 3:20 min 3:25 min

Perc. 2							
Perc. 3							
Vln. I (1)							
Vln. I (2)	II						
Vln. I (3)	II						
Vln. I (4)				solo turn on the stand light 			
Vln. I (5)	II			col legno battuto, damped strings			
Vln I (6)							
Vln II (1)	II						
Vln. II (2)	II						
Vln. II (3)	II						
Vln. II (4)			solo turn on the stand light col. leg. bat. damped strings irregular				
Vln. II (5)	II						
Vln. II (6)	II			solo turn on the stand light trem. high as possible irregular			
Vla. (1)	Bass clef						solo turn on the stand light trem. high as possible irregular
Vla. (2)	Bass clef						
Vla. (3)	Bass clef						
Vla. (4)	Bass clef		solo turn on the stand light small irregular gliss. as high as poss.				
Vlc. (1)	Bass clef						
Vlc. (2)	Bass clef				solo turn on the stand light nail pizz behind bridge sul A, damped strings		
Vlc. (3)	Bass clef						solo turn on the stand light col legno tratto vertical/circular bow, damped strings
Db.(1)	Bass clef						
Db. (2)	Bass clef		solo turn on the stand light fast ricochet high as possible pitch				

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3:30 min 3:35 min 3:40 min 3:45 min 3:50 min 4:00 min

Hn. Trp. Trb. Tba. Wind Wand Wind Wand Wind Wand Wind Wand

Perc. 2 Perc. 3 rubber mallet on timpani 32 inch tune the timpani slowly up and down solo

Vln. I (1) Vln. I (2) Vln. I (3) Vln. I (4) Vln. I (5) Vln. I (6)

Vln. II (1) Vln. II (2) Vln. II (3) Vln. II (4) Vln. II (5) Vln. II (6)

Vla. (1) Vla. (2) Vla. (3) Vla. (4) Vlc. (1) Vlc. (2) Vlc. (3)

Db. (1) Db. (2)

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3:30 min 3:35 min 3:40 min 3:45 min 3:50 min 4:00 min

solo turn on the stand light
fast ricochet, damped strings, molto sul tasto

solo turn on the stand light
fast ricochet, damped strings, molto sul tasto

solo turn on the stand light
sp. st. col legno tratto vertical/circular bow, damped strings

solo turn on the stand light
small irregular gliss., as high as poss.

solo turn on the stand light
col legno battuto, damped strings

solo - player 2 turns on the stand light
small irregular gliss., as high as poss.

solo turn on the stand light
sp. st. 3 col legno tratto vertical/circular bow, damped strings

solo turn on the stand light
col legno battuto, damped strings

solo turn on the stand light
fast ricochet, damped strings, molto sul tasto

solo turn on the stand light
col. leg. bat. damped strings irregular

solo turn on the stand light
sp. st. col legno tratto vertical/circular bow, damped strings

31

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Cl. 2

Bsn. 1

Bsn. 2

Hn.

Trb.

Perc. 1

Perc. 2

Perc. 3

Vln. I

Vln. I

Vln. I

Vln. II

Vln. II

Vln. II

Vla.

Vlc.

Vlc.

Db.

piccolo irregular whistle tone
mf

reed off o - i - o
mp

reed off o - i - o
mp

bass clarinet o - i - o
mp

wine glass wine glass

sponge on bass drum air sound
5
mp mf

sponge on timpani continuous sound (white noise)
"mp"

sponge on timpani
5
p mf

player 1-3 con sord.
p

player 4-5 colour rich in overtones sul A
molto pont.

player 6 sul A
p

player 1-3 con sord.
p

player 4-5 colour rich in overtones sul D
molto pont.

player 6 sul A
p

arco on bridge (white noise)
div.

arco on bridge (white noise)

"mp"
player 1 arco on bridge (white noise)
"mp"

player 2-3 arco on bridge (white noise)
"mp"

arco on bridge (white noise)
div.

fast ricochet, high as poss. pitch
tutti

vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound
"mf" 5 "f"

vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound
"mf" 5 "f"

vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound
"f" 5

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cover the embouchure hole
completely by the lips

9

37

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Cl. 2

Bsn. 1

Bsn. 2

Hn.

Trb.

Perc. 1

sponge on timpani
continuous sound (white noise)

Perc. 2

Perc. 3

Vln. I

colour rich in overtones
molto pont.

Vln. I

sul A

Vln. I

sul A

Vln. II

colour rich in overtones
molto pont.

Vln. II

sul D

Vln. II

sul A

Vla.

arco on
bridge (white noise)

Vlc.

"mp"
player 1
arco on
bridge (white noise)

Vlc.

"mp"
player 2-3
arco on
bridge (white noise)

Vlc.

"mp"

piccolo

irregular whistle
tone

reed off

reed off

o - i - o

o - i - o

o - i - o

o - i - o

o - i - o

o - i - o

wine glass

wine glass

solo
fast ricochet,
high as poss. pitch

cover the embouchure hole
completely by the lips

rrrr...
flz

mf

irregular whistle
tone

i - o

mp - f

i - o

mp - f

mp

mp

mp

mp

mp

mp

sponge on bass drum
air sound

mp

p

sponge on timpani
air sound

mp

con sord.

p

con sord.

p

con sord.

p

div.

arco on
bridge (white noise)

div.

vertical bowing, big movement
with hair of the bow,
damped strings, no bow pressure
air sound

"mf"

vertical bowing, big movement
with hair of the bow,
damped strings, no bow pressure
air sound

"mf"

vertical bowing, big movement
with hair of the bow,
damped strings, no bow pressure
air sound

tutti

mf

rrrr...
flz

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G

10

43

Fl. 1 o - i f mp cover the embouchure hole o - i - o

Fl. 2 o - i f mp cover the embouchure hole o - i - o

Fl. 3 flute cover the embouchure hole o - i - o

Ob. 1 o - i f mp cover the embouchure hole o - i - o

Ob. 2 o - i f mp cover the embouchure hole o - i - o

Cl. 1 o - i f mp cover the embouchure hole o - i - o

Cl. 2 o - i f mp cover the embouchure hole o - i - o

Bsn. 1 o - i f mp cover the embouchure hole o - i - o

Bsn. 2 o - i f mp cover the embouchure hole o - i - o

Hn. wine glass wine glass

Trb wine glass wine glass

Perc. 1 bass drum bass drum mallet 3 p pp sponge on bass drum air sound mp

Perc. 2 continuous sound (white noise) p mp

Perc. 3 p pp

Vln. I colour rich in overtones molto pont. p

Vln. I colour rich in overtones molto pont. p

Vln. I colour rich in overtones molto pont. p

Vln. II colour rich in overtones molto pont. p

Vln. II arco on bridge (white noise) p

Vla. arco on bridge (white noise) mp

Vla. arco on bridge (white noise) mp

Vc. player 1 molto sul pont. arco on bridge (white noise) mp

Vc. player 2 molto sul pont. arco on bridge (white noise) mp

Vc. player 3 ord arco on bridge (white noise) mp

Vc. fast ricochet on damped A-string, dark sound player 1 player 2 player 1 arco on bridge (white noise) mp

Db. tutti arco on bridge (white noise) mp

div.

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H

cover the embouchure hole completely by the lips, aim for overtones when exhale

Fl. 1 exhal - inhale *ff*

Fl. 2 exhal - inhale *ff*

Fl. 3

Ob. 1 o - i *mf* exhale - inhale *ff* o *mf*

Ob. 2 o - i *mf* exhale - inhale *ff* o *mf*

Cl. 1 air flutter *rrr...* *ff* air o - *ff*

Cl. 2 air flutter *rrr...* *ff* air o - *ff*

Bsn. 1 exhal - inhale *ff* exhal - inhale *ff* slap *mf* o

Bsn. 2 exhal - inhale *ff* exhal - inhale *ff* *mf* *mf*

Perc. 1 sponge on bass drum air sound *mp* *mf* f

Perc. 2 sponge on timpani air sound *mf* *mf* f

Perc. 3 bounce rubber ball, pedal action only on timpani big glissandi with the pedal

Vln. I

Vln. I

Vln. I

Vln. II

Vln. II

Vln. II

Vla. tutti vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound *mf'*

Vc. player 1 molto sul pont *mf* *mp* vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound *mf'*

Vc. player 2 molto sul pont player 3 ord *mf* *mp* vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound *mf'*

Db. fast ricochet, high as poss. *mf* vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound *mf'*

Db. fast ricochet, high as poss. *mf* molto sul pont, sul A, rich overtones, small variations of position of trill *pp*

NB Noter
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53

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Cl. 2

Bsn. 1

Bsn. 2

Perc. 3

Vln. II

Vln. II

Vla.

Vla.

Vlc.

Db.

Db.

inhale - exhale
 v \square v
 $\text{mf} \longrightarrow \text{f}$

inhale - exhale
 v \square v
 $\text{mf} \longrightarrow \text{f}$

sponge
on timpani
 \downarrow \uparrow \downarrow \uparrow
 $\text{mp} \longrightarrow$

tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings
III-IV

player 1-3

tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings
III-IV

player 4-6

tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings
III-IV

player 1-2

tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings
III-IV

player 3-4

tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings
III-IV

a3

tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings
III-IV

(tr)

NB note! This music is copyright protected

59 $\text{♩} = 78$

Fl. 1

Fl. 2

Fl. 3 jet whistle ff

Ob. 1 o - i p - mf o - i mp - f i - o f

Ob. 2 o - i p - mf o - i mp - f i - o f

Cl. 1 o - i p - mf o - i mp - f i - o f

Cl. 2 slap mp mf f

Bsn. 1 o - i p - mf o - i mp - f i - o f

Bsn. 2 o - i p - mf o - i mp - f i - o f

Vib. arco with motor let ring pp p

Perc. 2 flexatone with bow mp mf bend thunder sheet mf

Perc. 3 mp

player 1-3 senza sord. molto sul pont.

Vln. I pp p p mp

player 4-6 molto sul pont.

Vln. I pp p p mp

player 1-3 senza sord. molto sul pont.

Vln. II pp p p mp

player 4-6 molto sul pont.

Vln. II pp p p mp

arco, molto sul pont. tutti p $gliss.$ mp $gliss.$ mf pizz fast gliss.

Vla. player 1-2 molto sul pont. player 3 ord. arco p mp mf mf pizz fast gliss.

Vlc. tutti pizz mp mf f

Db. pizz mf

NB Notes! This music is copyright protected

66

Fl. 1 jet whistle ff

Fl. 2 jet whistle ff

Fl. 3 o - i p - f jet whistle fff

Ob. 1 o - i p - ff ff

Ob. 2 o - i p - ff ff

Cl. 1 o - i p - ff ff

Cl. 2 o - i p - f ff slap i - o

Bsn. 1 o - i p - ff ff

Bsn. 2 o - i p - ff ff

Vib. mp flexatone with bow gliss. motor off

Perc. 2 ff bend thunder sheet

Perc. 3 molto sul pont. gliss. mp

Vln. I molto sul pont. gliss. ff

Vln. 1 molto sul pont. gliss. ff

Vln. II molto sul pont. gliss. ff

Vln. II molto sul pont. gliss. ff

Vla. arco, molto sul pont. gliss. ff pizz fast gliss.

Vlc. player 1-2 molto sul pont. arco mf ff pizz fast gliss.

Db. pizz ff fff

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J

15

73

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

to Bb clarinet

Cl. 2

Bsn. 1

Bsn. 2

Vln. I

Vln. I

Vln. II

Vln. II

Vla.

Vla.

Vlc.

Db.

Db.

fast tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings

III-IV

p ————— f

fast tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings

III-IV

f ————— mp

fast tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings

III-IV

p ————— mf ————— p

fast tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings

III-IV

player 1-2

mp ————— f

fast tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings

III-IV

player 3-4

mp ————— f ————— mp

fast tremolo with pencil
between strings,
between fingerboard
and bridge,
damped strings

III-IV

molto sul pont, sul A, rich overtones,
approximate position of trill,
small variations of position of trill

trill

pp ————— mp

pp ————— p

NB
noter
This music is copyright protected

K

77 airy flutter w/hint of tone

Fl. 1 *mp*

Fl. 2 *mp*

Fl. 3 *mp*

Ob. 1 *o - i* *mp* *f*

Ob. 2 *o - i* *mp* *f*

Cl. 1 *M3* *mf* *p*

Cl. 2 *Bb clarinet* *M4* *mf* *p*

Bsn. 1 *1/51 M16* *mf* *mp*

Bsn. 2 *1/49 M15* *mf* *mp*

Perc. 1 *sponge on bass drum air sound* *mp* *f*

Perc. 2 *sponge on timpani air sound* *mp* *f*

Vln. I *mf*

Vln. I *mf*

Vln. II *mf*

Vln. II *mf* *pp*

Vla. (1) *<mf>*

Vla. (2) *<mf>*

Vlc. *<mf>* *mf* *mp*

Db. *(tr)* *mf* *f*

Db. *mf* *f*

NB *noter*
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L ♩ = 82

17

83

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Cl. 2 to bass clarinet

Bsn. 1

Bsn. 2

Perc. 1

Perc. 2

Perc. 3 sponge on timpani air sound

Vl. I

Vl. I vertical bowing, big movement with hair of the bow, damped strings, no bow pressure air sound

Vl. I sul A sul pont

Vl. I sul A colour rich in overtones molto pont.

Vl. I sul A gliss.

Vl. I arco on bridge (white noise)

Vl. I arco sul E

Vl. I "f"

Vl. I mp

Vl. I "f"

Vl. I tutti arco on bridge (white noise)

Vl. I arco on bridge (white noise)

Vl. II

Vl. II arco on bridge (white noise)

Vl. II "f"

Vla.

Vla. arco on bridge (white noise)

Vla. "f"

Vla. pizz fast gliss

Vla. sul D arco

Vla. sul D arco

Vlc.

Vlc. player 1 pizz fast gliss

Vlc. f

Vlc. player 2-3 pizz fast gliss

Vlc. f

Vlc. pizz sul E fast gliss

Vlc. arco on side of bridge (white noise)

Vlc. ricochet high as poss pitch st. - sp.

Vlc. pizz sul E fast gliss

Vlc. arco on side of bridge (white noise)

D. b.

D. b. pizz sul C fast gliss

D. b. arco on side of bridge (white noise)

D. b. ricochet high as poss pitch st. - sp.

D. b. pizz sul C fast gliss

D. b. arco on side of bridge (white noise)

88

cover the embouchure hole completely by the lips, aim for overtones when breathing out

Fl. 1

mf cover the embouchure hole completely by the lips, aim for overtones when breathing out

jet whistle

tongue ram

irregular whistle tone

airy flutter w/hint of tone

Fl. 2

mf cover the embouchure hole completely by the lips, aim for overtones when breathing out

piccolo

slap

airy flutter w/hint of tone

Ob. 1

mf o - i

slap

i - o - i

mf i - o

Ob. 2

mf o - i

slap

i - o - i

mf i - o

Cl. 1

o - i

i - o

mf i - o

Cl. 2

bass clarinet

mp o - i

inhal - exhal

mf i - o

mf p

f i - o

exhal - inhal

Bsn. 1

mf i - o

mf f

mf p

f i - o

mf f

Bsn. 2

mf i - o

mf f

mf p

f i - o

mf f

Hn.

wine glass

Trp.

wine glass

Trb.

wine glass

Tba.

wine glass

Perc. 1

↓ ↑ ↓ ↑

Perc. 2

↓ ↑ ↓ ↑

Perc. 3

↓ ↑ ↓ ↑

NB noter
This music is copyright protected

sul A sul pont

sul A colour rich in overtones molto pont.

sul A

arco on bridge (white noise)

sul E arco gliss.

sul A sul pont

VI. I

↑ ↓ ↑ ↓ ↑

VI. I

↑ ↓ ↑ ↓ ↑

Vln. II

↑ ↓ ↑ ↓ ↑

Vla.

↑ ↓ ↑ ↓ ↑

Vla.

↑ ↓ ↑ ↓ ↑

Vlc.

pizz fast gliss

arco on bridge (white noise)

pizz fast gliss

pizz fast gliss

battuto bounce damped strings st. - sp.

Vlc.

pizz fast gliss

arco on bridge (white noise)

pizz sul E fast gliss

pizz fast gliss

battuto bounce damped strings st. - sp.

Db.

pizz sul C fast gliss

arco on side of bridge (white noise)

pizz sul C fast gliss

Db.

M

93

Fl. 1 airy flutter w/hint of tone jet whistle jet whistle jet whistle

Fl. 2 cover the embouchure hole completely by the lips, aim for overtones when breathing out airy flutter w/hint of tone jet whistle airy flutter w/hint of tone jet whistle cover the embouchure hole completely by the lips, aim for overtones when breathing out

Fl. 3 cover the embouchure hole completely by the lips, aim for overtones when breathing out airy flutter w/hint of tone irregular whistle tone airy flutter w/hint of tone jet whistle cover the embouchure hole completely by the lips, aim for overtones when breathing out

Ob. 1 i - o f f f f f

Ob. 2 i - o f f f f f

Cl. 1 o inhale - exhale o - i i - o o o

Cl. 2 o inhale - exhale o - i i - o o o

Bsn. 1 f f f f f f

Bsn. 2 f f f f f f

Hn. f

Trp. f

Trb. f

Tba. f

Vib. bowed, let ring motor off mp

Perc. 2 "f" ↓↑↓↑ ↓↑ ↓↑ ↓ ↓

Perc. 3 "f" ↓↑↓↑ sul A sul pont arco on bridge (white noise) sul A sul pont sponge on timpani "f"

Vi. I "f" sul A colour rich in overtones molto pont. arco on bridge (white noise) sul A colour rich in overtones molto pont. ppp

Vi. I "f" arco on bridge (white noise) pizz fast gliss arco on bridge (white noise) arco on bridge (white noise) ppp

Vln. II "f" arco on bridge (white noise) pizz fast gliss pizz fast gliss arco on bridge (white noise) ppp

Vla. "f" arco on bridge (white noise) pizz fast gliss pizz fast gliss arco on bridge (white noise) ppp

Vla. "f" pizz fast gliss arco on bridge (white noise) pizz fast gliss battuto bounce damped strings st. - sp. ppp

Vlc. pizz fast gliss mf arco on bridge (white noise) pizz fast gliss pizz fast gliss battuto bounce damped strings st. - sp. pp

Vlc. pizz sul E fast gliss arco on side of bridge (white noise) ricochet high as poss pitch st. - sp. pizz sul E fast gliss pizz fast gliss ppp

Db. pizz sul C fast gliss arco on side of bridge (white noise) ricochet high as poss pitch st. - sp. pizz sul C fast gliss ppp

Db. mf

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20

99

Fl. 1 jet whistle *ff*

Fl. 2 jet whistle *ff* irregular whistle tone *mf*

Fl. 3 airy flutter w/hint of tone *mf*

Ob. 1 slap *mf* *i - o* *f* *i - o* *f* *mp* *f* *i - o* *mf*

Ob. 2 slap *mf* *i - o* *f* *i - o* *f* *mp* *f* *i - o* *mf*

Cl. 1 *o - i* *f* *i - o* *ff* *i - o* *ff* *o* *o - i* *ff* *mf*

Cl. 2 *o - i* *f* *i - o* *ff* *i - o* *ff* *o* *o - i* *ff* *mf*

Bsn. 1 *i - o* *f* *slap* *i - o* *ff* *inhaler - exhale - inhaler* *ff* *o - i* *mp* *f* *slap* *f*

Bsn. 2 *i - o* *f* *slap* *i - o* *ff* *inhaler - exhale - inhaler* *ff* *o - i* *mp* *f* *slap* *f*

Hn.

Trp.

Trb.

Tba.

Vib. l.r. *p*

Perc. 2 *p*

Perc. 3 *pp* *mf* *mp*

Vln. I

Vln. II

Vla. *pp* pizz *pp* *3*

Vla. *pp* pizz *pp* *3*

Vlc. pizz *pp* *3*

Db. pizz tutti *pp* *3* *3* *3*

N

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Fl. 1 jet whistle *f* cover the embouchure hole completely by the lips *mp pp*

Fl. 2 *f* cover the embouchure hole completely by the lips *mp pp*

Fl. 3 irregular whistle tone *mf* cover the embouchure hole completely by the lips *mp pp*

Ob. 1 exhalе - inhale - exhalе *mf f* slap *i o* put on reed *pp*

Ob. 2 exhalе - inhale - exhalе *mf f* slap *i o* put on reed *pp*

Cl. 1 *i o* *o* *mp p*

Cl. 2 *i o* *o* *mp p*

Bsn. 1 *i o* exhalе - inhale *mp mf*

Bsn. 2 *i o* exhalе - inhale *mp mf*

Hn. *p*

Trp. *p*

Trb. *p*

Tba. *p*

Vib.

Perc. 2

Perc. 3 *p*

Vln. I

Vln. II

Vla. tutti *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *mp*

Vlc. *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *mp*

Db. *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *3* *mp*

♩ = 86

cover the embouchure hole completely by the lips
jet whistle

cover the embouchure hole completely by the lips

jet whistl
≡

Fl. 1

109

jet whistle

ff

cover the embouchure hole completely by the lips

Fl. 2

no tone
rrr... (flz.)

f

cover the embouchure hole
completely by the lips

no tone
rrr... (flz.)

Ob. 2

p *mp*

Cl. 1

f

no tone
rrr... (flz.)

Cl. 2 rrr... (flz.)

f

Bsn. 1 no tone
rrr... (flz.)

Bsn. 1

f

no tone
rrr... (flz.)

Bsn. 2

Musical notation for flexatone with bow. It consists of a vertical line with a bracket above it, a treble clef, a 'G' sharp sign, a '3' over a '4' indicating a triple time signature, a note head with a bow, and a 'gliss.' instruction.

flexatone
with bow

Musical notation for a milk steamer roll on the timpani rim. It consists of a vertical staff line with a bracket underneath. The bracket starts at the top of the staff and extends downwards to a vertical line. From this vertical line, a horizontal line extends to the right. On the staff, there is a vertical bar with a '3' over it and a '4' under it, indicating a 3/4 time signature. A 'f' dynamic marking is placed below the staff line.

A musical score for Violin I. The staff begins with a clef, a key signature of one sharp, and a common time signature. The first measure contains the word "tutti" above the staff. The second measure starts with a dynamic marking "f" below the staff. Above the staff, the text "sul pont" is written, followed by two small circles connected by a diagonal line.

The image shows two staves of musical notation. The top staff is for 'player 1-3' and consists of a treble clef, a key signature of one sharp, and a common time signature. It features a single vertical bar line with a small vertical tick mark above it. The bottom staff is for 'player 4-6' and also has a treble clef, a key signature of one sharp, and a common time signature. It includes a dynamic marking 'mf' (mezzo-forte) and a note with a vertical stroke through its stem, indicating it is a damped string. Both staves have a vertical line on the far left labeled '/In. II'.

A musical score page showing a bassoon (Vcl.) part. The bassoon is playing a sustained note on the first ledger line below the staff. The key signature is B-flat major (two flats). The time signature is common time (indicated by 'C'). The dynamic is forte (f). The page number is 1.

A musical score for double bass. The key signature is one sharp (F#). The time signature is 2/2. The dynamic is forte (f). The first measure consists of two eighth-note chords: a G major chord followed by a C major chord. A fermata is placed over the second measure. The bass clef is present on the staff.

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Musical score for piano showing measures 3-5. The score consists of two staves. The top staff uses a common time signature (indicated by a 'C') and features a treble clef. It includes dynamic markings such as 'fff...', 'f', '3', 'p', 'mp', and 'ffff... 3'. The bottom staff uses a common time signature and features a bass clef. It includes dynamic markings such as 'gliss.' and '3'.

Fl. 1 rrr... f jet whistle no tone III... 3
 Fl. 2 rrr... f jet whistle III... 3
 Fl. 3 jet whistle rrr... 3 ff bisb. ff
 Ob. 1 (tr)~ p mp p mp p
 Ob. 2 (tr)~ p mp p mp p
 Cl. 1 rrr... 3 f p mp f f
 Cl. 2 rrr... 3 f p mp f f
 Bsn. 1 rrr... 3 f p mp f f
 Bsn. 2 rrr... 3 f p mp f f
 Hn. Wind Wand 5/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Trp. Wind Wand 5/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Trb. Wind Wand 5/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Tba. Wind Wand 5/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Perc. 1 gliss. gliss. gliss. gliss. gliss. gliss. gliss. gliss.
 Perc. 2 gliss. gliss. gliss. gliss. gliss. gliss. gliss. gliss.
 Perc. 3 gliss. gliss. gliss. gliss. gliss. gliss. gliss. gliss.
 Vln. I o o o o o o o o o o o o o o o o
 Vln. II - 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Vln. II 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Vla. 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Vlc. 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4
 Db. 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4

NB
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Q

 $\text{♩} = 64$

25

122

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2 reed off inhale exhale
f *mf* *f* *mf* *f* *mf* *f*

soli
M5
beautiful multiphonic

Cl. 1 *mf* *mf* *mf* *mp* *mf* *mf* *mp*

sol
i M6
beautiful multiphonic

Cl. 2 *mf* *mf* *mf* *mp* *mf* *mf* *mp*

Bsn. 1 1/59 (nrIII)
rolling note
p *ppp*

Bsn. 2 air
exhale *mf* *mf* *mf* *mf*

Hn

Trp

Trb

Tba

Vln. I

Vln. II

Vla

Vlc

Db

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129

Fl. 1 airy flutter w/hint of tone jet whistle airy flutter w/hint of tone jet whistle cover the embouchure plate with the lips jet whistle

Fl. 2 airy flutter w/hint of tone jet whistle jet whistle cover the embouchure plate with the lips

Fl. 3 airy flutter w/hint of tone jet whistle cover the embouchure plate with the lips jet whistle

Ob. 1 bisb. reed off

Ob. 2 inhale exhale

Cl. 1 mp

Cl. 2 mp

Bsn. 1 1/59 (nrIII) rolling note pp

Bsn. 2 mf < f mf < f mf f exhalation

Vln. I two players independently individual tempo
trem. high as possible, irregular, make breaks in between, sounding like insects

Vln. II two players independently individual tempo
small irregular gliss., as high as poss., sounding like insects.

Vla.

Vlc.

Db.

R

134

Fl. 1 jet whistle cover the embouchure plate with the lips irregular whistle tone

Fl. 2

Fl. 3 jet whistle

Ob. 1 inhale - exhale

Ob. 2 inhale - exhale

Cl. 1 inhale - exhale

Cl. 2 o - i

Bsn. 1 o - i

Bsn. 2 o - i

C Tpt. wine glass

Tba. wine glass

Vib. wooden end of the mallet l.r.

Perc. 2 toy/plastic ratchet (soft) slower rit. slower rit.

Perc. 3 guiro

Vln. I

Vln. II

Vla. two players independently individual tempo col legno tratto vertical/circular bow, damped strings st. - sp. sounding like insects.

Vlc. two players independently individual tempo fast ricochet as high as poss, damped strings, molto sul tasto, sounding like insects.

Db. arco p

jet whistle
cover the embouchure plate with the lips

140

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Cl. 2

Bsn. 1

Bsn. 2

C Tpt.

Tba.

Vib.

Perc. 2

Perc. 3

Vln. I

Vln. II

Vla.

Vlc.

Db.

Db.

jet whistle
cover the embouchure plate with the lips

irregular whistle tone

inhale - exhale

slower

rit.

l.r.

player 1 independently individual tempo

col. leg. bat.
damped strings,
irregular, st. - sp.
sounding like insects

arco player 2

p

S

146 ♩ = 58

Fl. 1 i - o i - o i - o
Fl. 2 i - o i - o i - o
Fl. 3 i - o i - o i - o
Ob. 1 i - o i - o i - o
Ob. 2 i - o i - o i - o
Cl. 1 M5 i - o i - o i - o
Cl. 2 M6 i - o i - o i - o
Bsn. 1 rolling note 1/59 (nrIII) p i - o i - o
Bsn. 2 i - o i - o i - o
Hn. wine glass i - o i - o
C Tpt. wine glass i - o i - o
Tbn. wine glass i - o i - o
Tba. wine glass i - o i - o
Vib. soft mallets l.r. i - o i - o i - o
Perc. 2 sponge on timpani l.r. i - o i - o
Perc. 3 32 inch rubberball bounce on timpani grab ball, pedal action only big glissandi with the pedal i - o i - o i - o
Vln. I player 1-3 p i - o mp i - o p i - o
Vln. I player 4-6 p i - o mp i - o p i - o
Vln. II player 1-3 p i - o mp i - o p i - o
Vln. II player 4-6 p i - o mp i - o p i - o
Vla. tutti p i - o mp i - o p i - o
Vlc. tutti arco (non div) p i - o mp i - o p i - o
Db. tutti arco p i - o mp i - o p i - o

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152

Fl. 1

Fl. 2

Fl. 3

Ob. 1

Ob. 2

Cl. 1

Cl. 2

Bsn. 1

Bsn. 2

Vib.

Perc. 3

Vln. I

Vln. I

Vln. II

Vln. II

Vla.

Vlc.

Db.

airy flutter w/hint of tone

airy flutter w/hint of tone

airy flutter w/hint of tone

o - i

mf == p

o - i

mf == p

mp

mp

1/59 (nrIII) rolling note

pp

mf == p

o - i

mf == p

l.r.

sol

rubato

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