

Translucency I

for

Bass clarinet and Live electronics

2013

Haruka Hirayama

Commissioned by bass clarinettist Marij van Gorkom for the SON1CSPAC3 project.

A Special thanks to Marij for all her greatest collaborative work.

First performance on the 14th June, 2013, Bass Clarinet and Live electronics—Marij van Gorkom,
SON1CSPAC3S, Den Haag, The Netherlands.

Programme note

In composing this piece, I wanted to explore subtle sound transitions within a limited range of performing techniques, rather than dramatic musical changes with a wide array of extended techniques. This was intended to contrast with my previous works, although this approach proved challenging.

Regarding the electronics, I think there were also some differences from my previous experiences: in addition to live electronics, which conventionally behave like a sound-transformer toward musical instruments in my works, I tried to add more pre-composed audio clips. Through these I explored another role for the computer/electronics such as a partner for a solo instrumentalist beyond just a transformer, and I created an environment where the instrument, live electronics and pre-composed materials can develop music equally.

Although the bass clarinet becomes more interesting the more you explore the instrument, my main focus was to colour the unique thick air-current noise together with a series of other delicate timbres, with electronics—as if fine particles interrupt the transmission of light and diffuse it, causing a translucent vision. I think that light in a translucent vision can also scatter very attractive colours, and I expect that the bass clarinet will scatter various attractive timbres in combination with electronics, too.

It has taken me a long time to complete this piece, since my first contact with Marij. Actually, if she had not asked me to write for her, it might have been a very long time before I wrote for the instrument. I am extremely grateful for this opportunity.

この曲を書くにあたって、過去の自身の作品のような、様々な演奏方法を駆使し、且つ、展開性のある曲、というよりはむしろ限られたテクニックの中で微妙な音の変化を楽しめるような静的な曲を書きたいと思って始めたのだが、なかなか容易にはいかなかった。エレクトロニクスに関しても、楽器奏者の奏でる音のTransformerという役割を超えて、あらかじめ作曲した音素材を増やすことで、曲の展開において、器楽奏者/楽器とコンピュータ/エレクトロニクスが対等に振舞うことを考慮し作曲された。その様な点でも今までのライブエレクトロニクスの曲を書く時とは違いがあった。

バスクラリネットという楽器は知れば知るほど奥が深い。しかし、この曲では特にこの楽器特有の太いエアカレントノイズの魅力や繊細な音の羅列に、エレクトロニクスによって色をつけたいと思った。それはまるで、細かな粒子が光の透過を遮り、また拡散する事で我々に半透明な視界を与えてくれるかのように。そしてそのような状態における光は様々な魅力的な色をも放つ。バスクラリネットもまたエレクトロニクスによって様々な音色を放つだろう。

Marijから初めてコンタクトをもらってから曲が完成するまでずいぶんと時間をかけてしまった。彼女からの依頼がなければ、バスクラリネットという楽器のために曲を書くのはずっと後になっていたのではないかと思う。この機会にはとても感謝している。

The instrument and required equipment

This work was originally composed for only solo bass clarinetist with performer's bass clarinet sound system including two applied microphones for the instrument: a bass clarinetist plays the instrument part while controlling the live-electronic part (A).

However, it is also possible to be performed with alternative equipment as follows (B).

It is also possible to provide another performer only for live electronics so that the instrumentalist can dedicate to oneself to playing the instrument. In both cases, providing the third person for a mixing console is recommended.

[Required equipment]

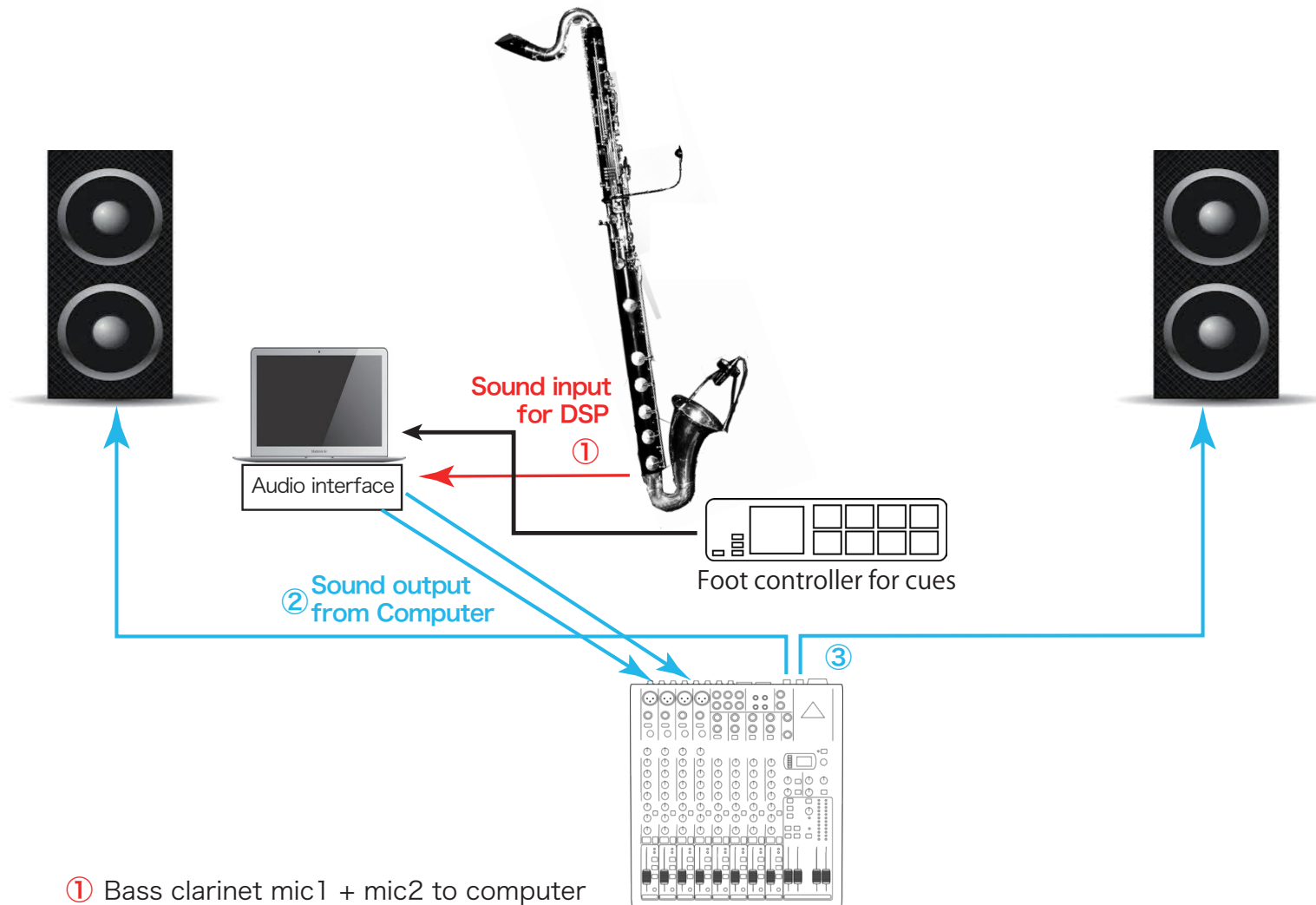
For one performer with bass clarinet sound system (A) (original)

- Bass clarinet
- Bass clarinet sound system such as SD Systems LCM82B
- MIDI controller (foot controller)
- Macintosh Computer
- Audio Interface/Sound card (44.1kHz/16bit)
- Max/MSP and the file for Translucency
- Mixer
- Speaker *2 (and above)
- Monitor speaker

Alternatives to the bass clarinet sound system (B)

- Bass Clarinet
- (Super/Hyper) Cardioid Microphone ×2
- MIDI controller (foot controller)
* not required when another performer for electronics is provided.
- Macintosh Computer
- Audio Interface/Sound card (44.1kHz/16bit)
- Max/MSP and the file for Translucency
- Mixer
- Speaker *2 (and above)
- Monitor speaker

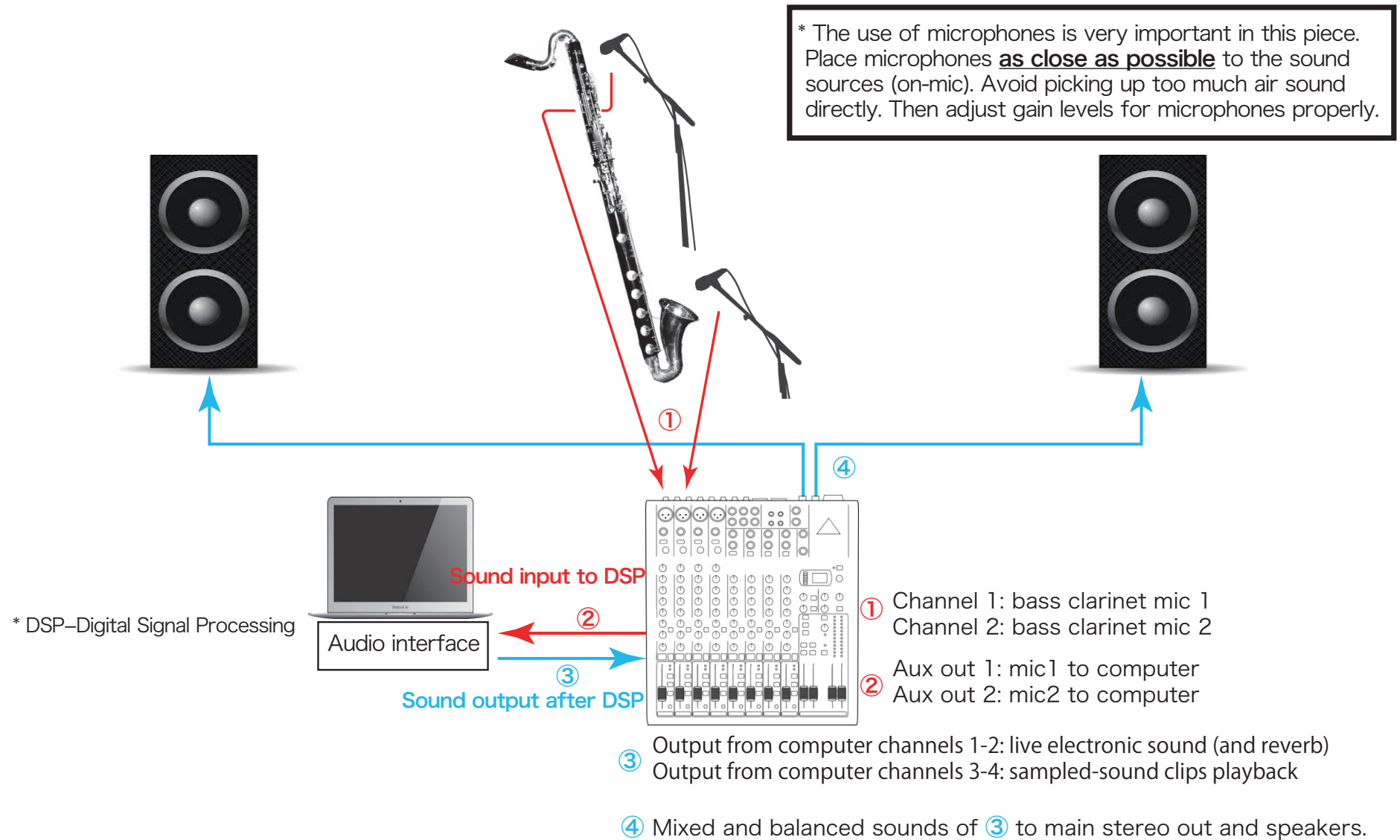
Stage layout for performance (An example for one performer with applied microphones)



- ① Bass clarinet mic1 + mic2 to computer
- ② Output from computer channels 1-2: live electronic sound (and reverb sound)
Output from computer channels 3-4: sampled-sound clips playback
- ③ Mixed, balanced sounds to main stereo out and speakers

* DSP–Digital Signal Processing

Stage layout for performance (An example for two performers)



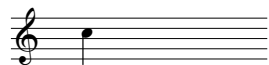


An example of stage setup Bass clarinet: Marij van Gorkom

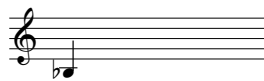
[Score instructions]

[Bass clarinet]

- This score is written in transposed form for the bass clarinet. The actual sound is an octave + major second lower than notated.

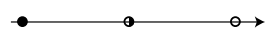


Notation in B flat



Sound as

- Accidentals are corresponded to individual notes only.



Change the amount of air.
(Normal/Airly/Air)



Colour trill (Bisbigliando)



Change the speed of tremolos.



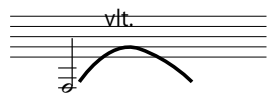
Glissandi/Pitch bend



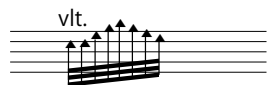
Bend down half tone.



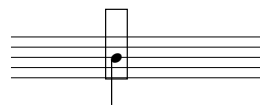
Bend down and return to the original pitch.



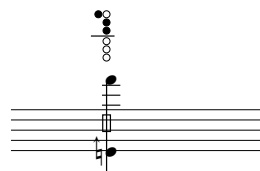
Velato



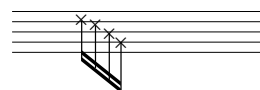
Velato with irregular/random key tapping.



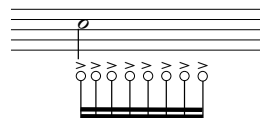
Find any multiphonic tones on the base note.



Multiphonics



Key tapping sounds.



Smorzato



Accelerando



Ritardando

Regarding tempo, this work relies heavily on the relation between electronic sound and the performer. Basically the electronic part is synchronized with the bass clarinet part by timings of cues. However, when time indications such as ca. 0:20 are written on score, the instrumentalist needs to play in (more or less) the timing. Max patch includes a timer so that the player can follow the time exactly from the beginning while he/she plays both the bass clarinet and electronic parts. If there is another person for the electronic part, one will need to be also a conductor to give cues for the instrumentalist.

[Electronics (Application: Translucency_MaxMSP_ver2.8)]

Score

Even numbers in squares (01) express cues to change live-electronic part. It starts at the cue number 2. Odd numbers in triangle (3) follow the bass clarinet part for a purpose of rehearsal/simulation. Also, they appear on the rehearsal version of Max patch only. At performance, odd numbers should be ignored.

Arrows (→) mean there are playbacked sounds.

Max/MSP patch

When you open the Max/MSP file, you can have the main window (main patch) (A).

The timer window (B) appears by double clicking 'p timer' object on the main patch.

Press 'DSP status' button to set up your audio input, output. Check the sample rate also. Then press 'DSP start' button to test the audio signal flow.

Input-level range should show between 50 and 70 in average.

Press the Space key to move cues forward. Return and Space keys are for reset. When the cue comes to the number 2, automatically the timer starts. When you reset the cue, the timer gets reset also.

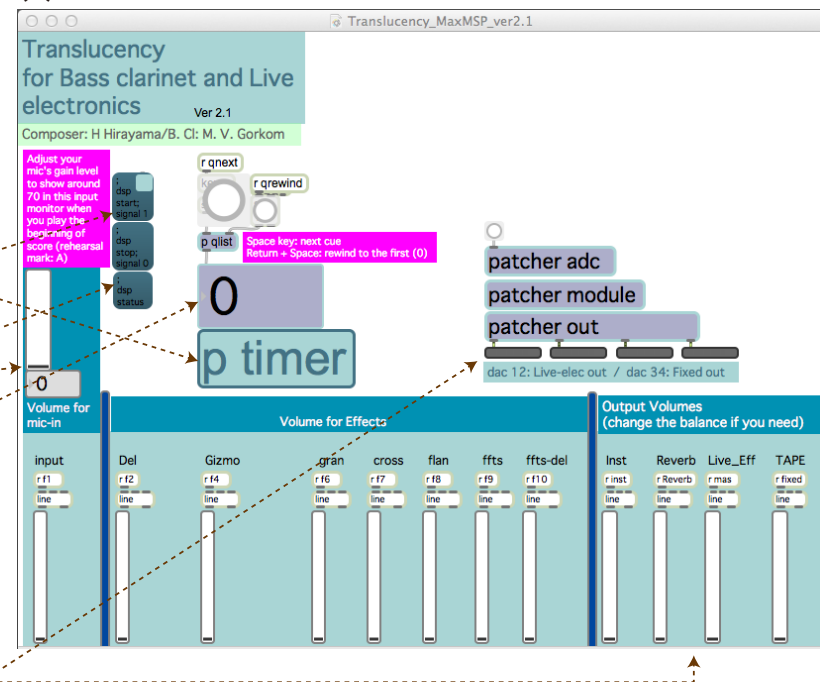
Although all changes regarding volume faders are scheduled with the 'qlist' object, you can change them manually.

Regarding the computer output, dac (output) 1/2 is for live electronics, 3/4 is for sound-clip playback. You should also see the balance among instruments/live electronics/sampled audio on the mixing console.

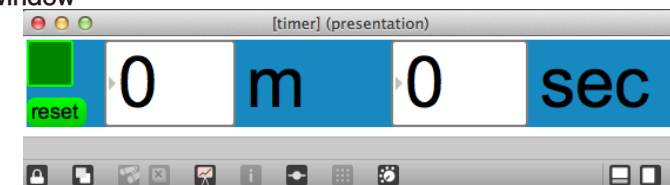
This piece is for 2ch out.

When a foot controller is used, you can send numbers to 'r qnext' 'r qrewind' objects on the main patch for respective purposes.

(A): Main window



(B): Timer window



A general flowchart for performance

- 1: Stand microphones near the instrument, connect cables and check microphones.
- 2: Turn DSP on and check if the audio signal flow is correct. Adjust gain levels of microphones properly and the input level for computer very carefully since they are significant to get a proper musical result. (If possible, the places of mics and all gain levels should be noted after a dressed rehearsal.)
- 3: Start to play by moving cues forward.

Duration: Ca. 8 minutes

Translucency I

for Bass clarinet and Live electronics

Haruka Hirayama (2013)

0:00

A

• = ca. 65

ca. 0:20

Bass clarinet in B \flat

Live electronics

Fixed sound

3

4

Cross Synthesis (Bcl. + Noise)

ppp *p* *ppp*

B. cl.

Live

Fixed

vlt.

c.t.

6

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

B

norm.

B. cl.

Live

Fixed

8

Granular Synthesis

ppp *p* *ppp* *ppp* *p* *ppp* *pp* *p* *ppp* *p*

C **RESET**

ca. 0:30

B. cl

Live

Fixed

p *pp* *mp* *pp*

Granular Synthesis

Change the tremolo speed at random.

D

norm.

p *rit.* *mp* *p* *mf* *p* *mf*

a tempo

c.t.

1/2

Play the next before amplified 'airy' sound disappears completely.

Delay, Granular Synthesis

15 16 18

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

B. cl

mf < f > mf < f > mf

f

mp < mf > mp < f > mf < f > mp < ff > mp < mf > mp < f > mf < ff > mf

c.t.

E norm.

19

20

Live

B. cl

p

f

rit.

p

a tempo

c.t.

mp

< f >

mp

< f >

mf

1/2

22

Flanger

Live

B. cl

F

a tempo

c.t.

p

rit.

23

mp

mf

f

f

24

Flanger

Live

B. cl

Live

Fixed

p *rit.* *f*

RESET

26 After Delay 28

B. cl

Live

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

ca. 1:13

30 Pitch shift, Roop sampling

B. cl

Live

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

Vlt.

6