

Flo Menezes

Quaderno

(May/June 2005)

for marimba and electronics

[version for acoustic guitar and electronics: 2007]

for Eduardo Leandro and Ricardo Bologna [marimba version]
for Daniel Murray [acoustic guitar version]

Flo Menezes – *Quaderno*

General introduction

Quaderno is a commission of the Brazilian percussion players Eduardo Leandro and Ricardo Bologna and was originally written for solo marimba (5 octaves) and live-electronics. In 2007 I prepared also a version for acoustic guitar and live-electronics for the Brazilian guitar player Daniel Murray.


The electronics is based on Max/MSP and is conceived in such a way that one deal with both live-transforming of the instrumental sound, synthesis in real time, re-synthesis by way of granular synthesis based both on a pre-recorded sound and a live-recorded sound, and finally also with the performance of a stereophonic, in studio pre-realized sound layer, which begin depends on how the instrumentalist plays his/her part in a given moment of the score.

In this sense, I pursued the research I began with *ATLAS FOLISIPELIS* (1996-97) for one oboist, two percussion players and electronics, *Pulsares* (1998-2000) for one pianist, chamber orchestra and electronics, and *Mahler in Transgress* (2002-03) for two pianos and electronics, a tribute to Mahler lasting about 1 hour, works in which I try to integrate the possibilities of the real time based composition with the elaborated sounds that are realized in advance in studio (thus in *differed time* instead of *real time*). I believe that in its actual stage of development, the program Max/MSP can allow us the conjunction of these two ways of composing in the field of electroacoustic music.


Electronics

In May/June 2005 I conceived a *patch* on Max/MSP for *Quaderno*, which can be eventually upgraded for furtherer performances in the coming years. In December 2008 I made substantial changes in the patch and all the functions are practically automatic according to the live performance. The performer must use a MIDI-device (such as a pedal or similar) in order to give program-change messages to Max/MSP and control in real time all procedures. For the performance it is necessary to contact the composer (or the Studio PANaroma) in order to receive all requested files (patch, soundfiles). The figure bellow illustrates the actual appearance of the main patch of *Quaderno*:

flo menezes "quaderno"
for marimba (2005) or acoustic guitar (2005; 2007) and electronics

ON / OFF 
Interface settings DSP settings
p initial_setup

Choice between both versions of "Quaderno"
Marimba version Quadro

Spatialization system choice
Quadro 

bangs for live-electronics

1	2	3	4	5	6	7	8
Spatiality and Reverb	Live resonances	Reverb off	Live resonances off	FM	FM off	Reverb	Live resonances with Ringmodulation

9	10	11	12	13	14	15	16
Filter and FM	FM off	Filter off	Live resonances off	Granular synthesis	Resonances stop <input type="checkbox"/>	Granular synthesis off	Time stretching

17	18	19	20	21	22	23	24
Time stretching	Time stretching	Time stretching	Granular synthesis	Granular synthesis off and Ringmodulation	Ringmod. off	Reverb	dac" off

reset lights reset bangs

Live instrument input

Mic 1 Mic 2

Effects level

all channels

Amplification

both channels Left Right

Left front Right front Left rear Right rear

Level of the electroacoustic audiofiles

1 2 3 4 5 6 7 8

p space_graphical_models

patch upgrade: December 2008

Main patch of *Quaderno*

The whole structure of this 2008-upgrade is based exclusively on Max 5 objects (compatible with old and new, Intel processors). The only object (external) that should be added to the original package of Max externals is the *fiddle~* external. Special thanks may be given to my assistant André Perrotta, who has been responsible for the mathematical calculations and implementation of the spatial trajectories of *Quaderno*.

How to use the patch

The instrument (either marimba or acoustic guitar) should be amplified by two microphones (both for low and high frequencies). Both mics arrive in the audio interface.

After opening the patch, choose which version of *Quaderno* will be played (which instrument will be processed, if the marimba or the acoustic guitar) and the spatialization system as well. *Quaderno* was conceived for four channels, but it can also be performed in an octophonic sound system. (The stereo version is conceived just for private rehearsals and **not** for the concert hall). For the spatial disposition of the loudspeakers in each concert setup, please see the graphics inside the subpatch “space_graphical_models”.

Through the subpatch “initial_setup” one can get all necessary instructions to initialize the patch as well as its levels (for amplification and input of the instrument, and output of the effects and of the electroacoustic sounds).

The performer must use his/her MIDI-device – preferably a MIDI-pedal, which should transmit **program change messages** to the patch – exactly in the right moments as pointed out in the score. If so, all the rest will be played automatically.

Simultaneous performance of both version of *Quaderno*

Both versions of *Quaderno* can be played **simultaneously** in the same concert hall. In this very radical, experimental way to perform the work, both instruments should involve the audience: the instrument that will be processed by the patch must be on stage (as if a normal performance would take place); the other one must be placed **behind** the audience and must be just amplified in the rear loudspeakers

(loudspeakers 3 and 4 in a quadraphonic sound system; loudspeakers 7 and 8 in an octophonic sound system), independently of the necessary connections as requested by the patch.

Even John Cage had never thought about such a possibility. With his *Atlas Eclipticalis* distinct pieces of him can be played simultaneously, but in the case of *Quaderno* one deals with **the same piece** being performed simultaneously in its both versions, thus by two distinct interpreters and with two distinct sound qualities. In this case both performers must begin their respective parts at the same time (although not necessarily in absolute synchronism) and go on totally independently one from the other. The “acoustic” version of *Quaderno*, which is performed behind the audience, sounds as a kind of “shadow” of the electroacoustic version (performed on stage), a shadow that can eventually produce an echo or even anticipate the “original” image of the piece on stage, since it is highly improbable that both performers will play with exactly the same timing during the whole performance.

Could you figure out going to a concert and listening to the same Beethoven-Sonata played simultaneously, on two pianos distributed in distinct spaces, by two performers? It should be a rather interesting experiment...

Flo Menezes – São Paulo, June 2005

(revision: December 2008)

Quaderno

for marimba and electronics

Flo Menezes

0" $\text{♩} = 84$

Marimba

p

p

p

from the bars before!

* ♦ = Try to play these notes with extra-hard sticks; the other notes may be played with other kind of sticks, according to their dynamics.

Real Time Electronics

Spatiality and Reverb

1

press MIDI-control to start the first program for live-electronics

Mar.

mf

con piccole variazioni dinamiche intorno al mf


poco rall. -----

Mar.

2 34" $\text{♩} = 72$
 (poco più lento)

Mar. 7 8 5 8 5 16

mf *f*

Live Resonances

 2
simile

Mar. 21 5 8 5 8 5 16

mf *f*

Mar. 27 5 4 5 4 16

p *mp* *f* *p*

* Take the necessary time for the bigger *appoggiature*, regardless of the general time development.

poco rall. -----

32

Mar.

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

5 8 5

6 = 3

♩ = 66
(sempre più lento)

1'13"

36

Mar.

mf

5 8 5 8 5

6 = 3

poco rall. -----

43

Mar.

5 4 7 4

6 = 3:2

4 1'31" $\text{♩} = 63$

Mar. 46

mf *f*

7 16 3:2 7

Mar. 49

7 16 3:2 6 3


1'50" $\text{♩} = 52$
(meno mosso)

Mar. 52

sempre f

3 4 6 16 5

Fadeout Reverb

 3

55 $\frac{5}{4}$ *poco* $\frac{10}{16}$ *f* $\frac{3}{4}$

Mar.

2'08" $\text{♩} = 88$
(ancora meno mosso)

57 $\frac{3}{4}$ $\frac{2}{4}$

Mar.

2'29" $\text{♩} = 80$
(più lento e regolare)

60 $\frac{2}{4}$ $\frac{6}{16}$ $\frac{10}{16}$ $\frac{4}{8}$ $\frac{5}{8}$ $\frac{4}{8}$

Mar.

p *f* *ff* *con variazioni*

* From here on: sticks *ad libitum*, mostly according to the dynamics.

Fadeout Live Resonances



4

66

Mar.

73

Mar.

attacca

FM-Synthesis

5

2'52"

13"

78

Mar.

ff

poco rallentando - - - - -

mf

attacca

* ! = Bars in proportional notation.

79 17"

change sticks:
 LH RH
 ↓ ↓ ↓ ↓

Mar. *tremolo rapidissimo* *molto rallentando* *poco accelerando*

fff *pp*

6 4

6 7

↓
 Fadeout FM-Synthesis
 6

3'22" ♩ = 72

80

Mar. *p* *simile*

Reverb

7

6 4 7 4

6:4 6:4

82

Mar. *mf*

6 4 6 4

6:4 6:4 6:4

8

84

5"

3'51"

♩ = 76

mf

pp

6


6:4

Mar.

repeat the same figure ad libitum

molto rallentando

Live Resonances with Ringmodulation



8

86

5"

6:4

6

6

molto rallentando

Mar.

mf

pp

simile

LH RH

4'08"

♩ = 72

88

6:4

6:4

6:4

Mar.

mf

90 **5"** **4'25"** $\text{♩} = 72$ 9

Mar. *f* *ff* *poco* *f*

6 *accelerando!*

5:4 6:4 7:4

93 **4'35"** **13"** **13"** **8"** **5"**

Mar. *ff* *senza rall.!* *mf* *f* *ogni volta più corto* *poco* *mf* *simile* *(14) all'inizio: più lento* *un poco più corto*

Filtering and FM-Synthesis 9

Fadeout FM-Synthesis 10

97 **5"** **6"** **7"**

Mar. *(16) sempre più corto* *(20) sempre più lento all'inizio* *(23)*

5'32" 8" 21"

10
Mar.

già rapidissimo all'inizio (senza accelerando!)
Fadeout Filtering

11

ff *rall.* *sempre più corto* *poco* *ff subito* *ff subito* *(poco) rall.* *molto rall.*

12
Fadeout Live Resonances

6'01" ca. 55" ca. 6'32"

102
Mar.

take claves as sticks in both hands, together with hard sticks

* Clusters with claves as sticks, sometimes very fast percussed with resonance, sometimes very dry, keeping the claves up the wooden pieces of the marimba immediately after the attack.

Granular Synthesis

13

make this unique figure after ca. 31" from the beginning of this moment

Resonances (Electroacoustic Sounds lasting 8' until the end of the piece)

14

React to the quadraphonic granular sounds in this way:

- * if the attacks of the sounds are hard = more clusters; and *ff*
- * if the attacks of the sounds are soft = less clusters; and *pp*
- * if the granular sounds are high = higher register
- * if the granular sounds are low = lower register
- * make always *ad libitum* some *appoggiature* to some clusters.

7
16

Fadeout Granular Synthesis

15

6'56"

103
Mar.

Tempoline *accel.* *rall.*

molto rubato

leave claves and keep hard sticks

sempre f
con piccole variazioni dinamiche intorno al f

7 5 7 6 7

16 16 16 16 16

8^{va} 8^{va}

108 *8^{va}* *p* *più lento* 11

Mar.

113 *8^{va}* *tempo primo*

Mar.

change quickly the sticks:
the higher the register, the harder the stick

LH RH

7'22" ♩ = 60 13"

118 *ff* *p* *f* *ff* *pp* *molto rallentando* *accelerando* *poco* *attacca*

Mar.

tremolo rapidissimo

7'39" 25"

12

120 *già un poco rapido all'inizio*

Mar. *p* *poco* *mp* *p* *subito più lento* *simile* *simile*

molto accelerando *attacca* *simile*

123

Mar. *p* *mf* *p* *mf* *mf* *f*

40"

127

Mar. *f* *ppp* *f* *ppp* *f* *pppp*

molto rall. *molto rall.* *molto rall.*

Time-Stretching (1) 16

Time-Stretching (2) 17

8'44"

40"

128

Mar.

molto rall.

ff

p

mf

f

22

etc.

pp

13

molto accelerando

play exactly 34 times the same chord

attacca

Time-Stretching (3)

18

30"

129

Mar.

senza rall.!

f

senza rall.!

simile, ma sempre un po' più lungo

simile, ma sempre un po' più lungo

senza decrescendo

3

Time-Stretching (4)

19

9'54"

130

Mar.

ff

in generale mf

con piccole variazioni dinamiche ad libitum

3

2

1

3

3

2

1

3

3

5:4

5:4

* 66 as a basic tempo, but with flexibility in order to play all the figures very clear!

Granular Synthesis (of the marimba sounds)

20

14

138

Mar.

* Take the necessary time for the *appoggiatura*, regardless of the general time development.

146

Mar.

152

Mar.

160

Mar.

15

166

Mar.

173

11'05,5"

Mar.

Fadeout Granular Synthesis;
Ringmodulation



21

16

178

Mar.

183

Mar.

190

Mar.

196

Mar.

205

Mar.

12'10,5"

214

Mar.

18

222

Mar.

230

Mar.

12'43"

*in generale p.
ma con molte variazioni dinamiche!*

Fadeout Ringmodulation

22

Reverb

23

237

Mar.

243

Mar.

19

249

Mar.

p

attaca

13'15,5"

21" *presto* ----- *molto rall.* -----

ca. 55"

ca. 14'32"

254 !

Mar.

morendo

molto lento, ma rallentare molto di più fino all'ultimo suono grave elettroacustico

ppp *pppp*

22 (sempre Do) etc.

al niente

Live Electronics off