

M a r c S a b a t

*Trio for piano violin cello*

PLAINSOUND MUSIC EDITION

**Marc Sabat**

*Trio for piano violin cello (1998)*

P L A I N S O U N D M U S I C E D I T I O N

*for Christina Sabat (1942-1998)*

## PROGRAM NOTE

This piece is part of a series of compositions that are based on a systematic documentation or cataloguing of a set of possible acoustic circumstances. The process used in this case is based on one possible realization of an instruction from Christian Wolff's "Burdocks", in which a performer is invited to make about 511 sounds, each different from the others.

This number happens to enumerate the set of all possible non-silent combinations of nine sounds:  $(29 - 1)$ . The idea of presenting all combinations from a fixed set of sounds has been translated into a list of chords tuned in Just Intonation. Each chord is made up of pitches from the first eight odd partials of the harmonic series over A (1-3-5-7-9-11-13-15).

These tones are transposed into various octaves within a fixed range of the piano, following a simple cyclic pattern. The 12 pitch-classes available on a piano are retuned in all octaves to a subset of the overtones of 13.78125 Hz (5 octaves below A-441 Hz and 1 octave below the lowest key of a standard modern piano), which produce sympathetic resonances depending on the type of pedalling used.

The violin and cello, muted with apartment mutes throughout, sustain various tones from the chords, producing melodic lines. At the same time, the pitches played in the music, the resonances controlled by the pianist, as well as the nonlinear distortion produced in the air and in our ears, are all tuned components of a sustained sub-audio tone which remains constant throughout the duration of the composition.

The music is dedicated to Christina Sabat (1942-1998).

## PERFORMING NOTES :

The piano is to be retuned in Just Intonation based on the harmonic series of a low A (13.78125 Hz). The deviation of each chromatic pitch-class (in cents from Equal Temperament is as follows:

low A to D#	=	A	(+ 0)	[2nd partial of 13.78125 Hz]
E to G#	=	E	(+2)	[3]
A, A#, B, C	=	A	(+ 0)	[4]
C#, D, D#	=	C#	(- 14)	[3]
E, F, F#	=	E	(+ 2)	[6]
G, G#	=	G	(- 31)	[7]
A, A#	=	A	(+ 0)	[8]
B, C	=	B	(+ 4)	[9]
C#, D	=	C#	(- 14)	[10]
D#	=	D#	(- 49)	[11]
E, F	=	E	(+ 2)	[12]
F#	=	F#	(- 59)	[13]
G	=	G	(- 31)	[14]
G#	=	G#	(- 12)	[15]

and subsequently all 12 pitch-classes are tuned similarly to:

A	(+ 0)	[16]
A#	(+ 5)	[17]
B	(+ 4)	[18]
C	(- 2)	[19]
C#	(- 14)	[20]
D	(- 29)	[21]
D#	(- 49)	[22]
E	(+ 2)	[24]
F	(- 27)	[25]
F#	(- 59)	[26]
G	(- 31)	[28]
G#	(- 12)	[30]

The pianist plays the written dynamics without compensating for the reduced volume of the strings (which play with metal apartment mutes and remain pp throughout). The indications "ped." and "1/2 ped." at the beginning of bars indicate that the pedal should be fully or 1/2-depressed slightly before playing the written chord (to produce sympathetic resonances), and kept at that position until a lift or pedal change is indicated. The bracketed indications "(ped.)" which occasionally occur are suggestions to aid in a legato change of hand position between chords, and have no specific timbral function. The rhythm should be played exactly, without rubato. For the string players, the sound of each tone is to be sustained very evenly throughout the indicated duration, without any tapering of volume or timbre at the end of the note.

The score is notated in Just Intonation based on the harmonic series of A. Deviations in cents are also notated in the string parts, to facilitate rehearsal with an electronic tuner calibrated to 441 Hz. Open strings are to be tuned in pure, rather than tempered fifths. The following accidentals are used:

A	B	C#	D#	E	F#	G	G#	[chromatic pitch-classes]
 A	 B	 C	 D	 E	 F	 G	 G	[Helmholtz-Ellis JI Pitch Notation]

# Trio for piano violin cello

Marc Sabat 1998

1  $\text{♩} = 56$

violin

cello

piano

*play with metal apartment mute throughout*

*pp* *sempre*

*mp*

*1/2 ped.*

-49

+4

+2

\*

6

11

-31

-14

-49

-14

*1/2 ped.*

*(ped.)* \*

*(ped.)* \*

16

- 59

(ped.) \* (ped.) ^

21

- 49

1/2 ped. ^ 1/2 ped. (ped.) 1/2 ped.

26

- 59

\*

31

- 31

+ 2

*f*

*mp*

*mf*

*p*

*mp*

1/2 ped.

(ped.) \*

36

- 12

+ 4

*mf*

*mp*

*pp*

(ped.) \*

(ped.) \*

(ped.)  $\wedge$  1/2 ped.

\*

41

(ped.)  $\wedge$  ped.

$\wedge$  ped.

$\wedge$



ped.       $\frown$  ped.      \*      *mp*      *mf*      1/2 ped.

*pp*       $\frown$  1/2 ped.

*f*      *mp*      \*

61 - 59

1/2 ped. \* *p* *f* *mf*

66 ♩ = 84  
- 14

1/2 ped. \* *pp* *mf* *mp*

71 - 12

(ped.)  $\wedge$  ped. \*



91

+4  
 +2  
*mf*  
*mp*  
*mp*  
*ppp*  
*p*  
*mp*  
*pp*  
 ped.

96

-59  
 -31  
*mf*  
*mp*  
 ped. ped. ped. ped. ped.

101

$\text{♩} = 126$

-14  
 -31  
 -49  
*pp*  
*mp*  
 ped. \* 1/2 ped. \*

106

- 59

- 12

- 59

+ 2

+ 4

(ped.) \*

111

- 49

+ 4

+ 2

*ff*

*mp*

(right hand)

*f*

*pp*

(left hand)

*ppp*

*pp*

*f*

116

- 49

- 59

- 49

- 59

- 31

+ 4

*mp*

*f*

(right hand)

*pp*

*pp*

*mp*

Musical score for measures 121-125. The score is written for voice and piano. The vocal line consists of a single melodic line. The piano accompaniment is divided into two systems. The first system includes a 'left hand' section with a dynamic marking of *pp*. The second system includes a *ped.* marking and a *pp* marking. The time signature changes from 2/4 to 5/4, 6/4, 4/4, and back to 5/4. There are also markings for -31 and +4.

Musical score for measures 126-130. The score is written for voice and piano. The vocal line consists of a single melodic line. The piano accompaniment is divided into two systems. The first system includes dynamic markings of *f* and *pp*. The second system includes dynamic markings of *mp* and *ppp*. The time signature changes from 5/4 to 6/4, 7/4, and back to 4/4. There are also markings for +4 and *ped.*.

Musical score for measures 131-135. The score is written for voice and piano. The vocal line consists of a single melodic line. The piano accompaniment is divided into two systems. The first system includes dynamic markings of *mf* and *ff*. The second system includes a *ff* marking. The time signature changes from 3/4 to 7/8 and back to 4/4. There is also a *poco* marking.

- 49  
 + 4  
 - 14  
 + 4  
*ppp*  
*f*  
*mp*

- 14  
*pizz.*  
 + 2  
*ped.* \*

*pizz.* - 14  
*arco* - 59  
 - 49  
 - 31  
 - 12  
*arco*  
*ped.* \*

151 -31  $\text{♩} = 84$  -14

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

*mf* (ped.) \*

156 -59

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

161

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



166

*mp*

*f*

*mf*

*ped.*

*ped.*

171

*ped.*

*ped.*

*1/2 ped.*

176

-59

+2

-12

*ped.*

\*



196 <sup>- 12</sup> <sup>- 31</sup>

196 <sup>- 12</sup> <sup>- 31</sup>

*mp*

(ped.) \*

(ped.) \*

201 <sup>- 59</sup> <sup>+ 2</sup>

201 <sup>- 59</sup> <sup>+ 2</sup>

*mf*

*f*

*mp*

*mp*

*pp*

206 <sup>+ 4</sup> <sup>+ 2</sup>

206 <sup>+ 4</sup> <sup>+ 2</sup>

*mp*

*f*

*p*

*ppp*

211

mp

pp

mp

ped.

\*

216

- 12

- 31

5/4

5/4

221

- 14

4/4

4/4

5/4

5/4

(ped.)

226

- 12

- 59

1/2 ped.

1/2 ped.

\*

231

- 31

- 59

*p*

*f*

236

- 12

- 49

+ 2

*mp*

*mf*

*mp*

ped.

\*

241

- 14                      + 4                      - 49

mp

mf

246

+ 2                      - 12

- 59

p

mp

f

(ped.)                      \*

251

- 59                      - 12

mf

p

f

p

pp

ped.

\*