

Music for Hi-Hat & Computer

by Cort Lippe

1998

for J. L. Cosgrove

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Program Notes

Music for Hi-hat and Computer (1998) was commissioned by the American percussionist J. Landy Cosgrove, and premiered in Denmark in March of 1998. The electronic part was created at the Hiller Computer Music Studios of the University at Buffalo, New York using the program *Max* which was developed by Miller Puckette and whose technical support helped make this piece possible.

Technically, the computer tracks parameters of the hi-hat, such as pitch, amplitude, spectrum, density, rests, articulation, tempi, etc., and uses this information to trigger specific electronic events, and to continuously control all the computer sound output by directly controlling the digital synthesis algorithms. Thus, the performer is expected to “interact” with the computer triggering and continuously shaping all of the computer output.

Some of the sounds in the electronic part come directly from the composed hi-hat part, so that certain aspects of the musical and sound material for the instrumental and electronic parts are one and the same. Sound material other than the hi-hat is also manipulated in the time domain via time-stretching and granular sampling. Frequency domain FFT-based cross-synthesis and analysis/resynthesis using an oscillator bank, as well as more standard signal processing such as harmonizing, frequency shifting, phasing, spatialization, etc. are all employed. The instrument/machine relationship moves constantly on a continuum between the poles of an “extended” solo and a duo. Musically, the computer part is, at times, not separate from the hi-hat part, but serves rather to “amplify” the hi-hat in many dimensions and directions; while at the other extreme of the continuum, the computer part has its own independent “voice”.

Music for Hi-hat and Computer is recorded on the ICMA/ICMC 2000 CD.

Duration: 14 minutes.

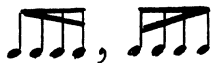
Performance Notes for *Music for Hi-Hat and Computer*

All timing markings are approximate.






Rhythm is notated in three ways:

- 1) proportionally (to be loosely interpreted in an improvisational fashion)
- 2) in quarter-note divisions (to be interpreted as written)
- 3) in quarter-note divisions with grace-note slashes across stems (to be loosely interpreted in an improvisational fashion, but not proportionally)

Some sections require playing the upper cymbal with one hand and the lower cymbal with the other hand. (This is referred to as "over and under" playing in some instances).



accelerando, ritardando within a single beat

C	Chains
W	Wooden drum stick(s) (or the wooden end of mallets where practical or notated)
M	Metal triangle beater(s)
B	Bow
F	Foot, used for hi-hat foot pedal. (Rapidly depress and release in almost all cases)
	Soft mallet(s)
	Hard mallet(s)
 ,  , 	Closed hat, half open, open (using foot pedal)

Section I

The notation for Section I is proportional. Each system in Section I should last between 25 and 30 seconds.

Section II

The notation for Section II is in quarter-note divisions with and without grace-note slashes.

Section II

The notation for Section III is in quarter-note divisions with and without grace-note slashes.

Section IV

The notation for the first half of Section IV is proportional with each system lasting between 25 and 30 seconds. The second half of the section is in quarter-note divisions with and without grace-note slashes.

Section V

The notation for Section V is predominantly in quarter-note divisions with and without grace-note slashes. The last part of the section is proportional.

SECTION I

very slowly, ritual-like

≈ 30" 45"

① (start playing after computer part starts)

♩ (closed hat)

poco a poco open hat →

∅ (completely open hat)

sprinkle chains lightly on top of hat

mp

② open hat

③

④

W simultaneously drop chains on floor

ffff

let vibrate until
Computer is silent

let vibrate
simile

ff

fff

ffff

⑤

⑥

⑦

wait for
Computer
to enter

ffff

L.v.

mf

L.v.

f

L.v.

ff

fff

L.v.

⑧

⑨

⑩

ffff

L.v.

mp

L.v.

mf

L.v.

f

2-

⑪

⑫

⑬

(start playing over & under)

f

ff

f

fff

mp

ff

fff

mf

⑭

poco ad lib. →

⑮

as loud &
active as possible

⑯

less & less active -

⑰

sempre poco ad lib.

fff

mf

ffff

ff

⑱

(step over & under)

⑲

poco a poco →

⑳

move to bell
of hat
non ad lib.

㉑

poco a poco to bell →

ff

f

mp

mf

L.v.

L.v.

mp

L.v.

L.v.

⑳

(to bell of hat)

㉒

on bell

㉓

wait for computer
silence before
starting Section II

p

L.v.

L.v.

≈ 320" to
4'00"

SECTION II

♩=60 evenly

W

(dampen)

1 2 3

mp mf

4 5 6

mf f ff

7 8 (simile open & close ad libitum)

ff fff ffff

(sempre open/close ad lib.)

9 (stop open & close ad lib.)

10 11

rall. molto →

wait for computer -

12 a tempo (vary timbre as much as possible ad lib.)

-silence to L.v.

wait for completion of computer response

13 sempre ad lib. → 14 15 16 17 poco rit...

fff simile... simile... simile... simile... simile... less and less active... f

18 non ad lib. molto rit...

19 towards bell of hat

20 21

f mf ffff f stop trem. L.v. mp

22 23 24

M fast circular scraping motions around hat... rit. poco a poco... W

ff mp Computer deprec. Computer attacca →

~2'20"

Section III →

SECTION III

♩ = 116-124 *crisply, evenly*

1 2 poco a poco open →

mf *f* *cresc. poco a poco →*

3

cresc. poco a poco →

4 *simile... ad lib. → more and more active/violent ad lib.*

fff *sempre cresc. →*

5 *sempre ad lib. → as violently as possible (keep even, regular)*

simile... *simile...* *simile...*

fff *as fast as possible*

6 *less and less active/violent → less and less tr → (stop ad lib.)*

simile... *simile...* *simile...* *stop tr*

(less & less tr →) *decresc. poco a poco fff* *less & less Foot → stop Foot*

sempre ad lib. → sempre less and less active/violent → simile...

ff *sempre decresc. →* *f* *sempre decresc. →*

sempre over/under → *start over/under* *L.v.* *+W*

molto lento

L.v. *mf* *L.v.* *sempre decresc. →*

7 *sempre over/under* *rit. molto →*

L.v. *L.v.* *L.v.* *L.v.* *B* *8*

mp *wait for Computer silence* *≈ 48"*

SECTION IV

very slowly, ritual-like (vary harmonics, which speak, as much as possible)

- ① single long bow stroke
- ② simile...
- ③

B

(mf-f) L.v. L.v. L.v. ≈25"-30"

(mf-f) L.v. L.v. L.v.

f L.v. L.v. L.v. L.v.

f L.v. L.v. L.v. L.v. L.v.

①⑥ (on bell) ≈ 100-108 ①⑧ (not on bell) (accel.) ①⑨ (a tempo) (on bell) (not on bell) (accel.)
 + Wait for computer silence W mf f mf f
 M upper cymbal lower cymbal

②① (a tempo) (on bell) ②② (bell) (edge) ②③ (on bell) (ad lib.)
 upper M mf mp (edge) mf fff
 W lower (wait for computer silence) mp

②④ (simile) ②⑤ sempre bell of cymbal edge of cymbal rit. molto ②⑥ (poco ad lib. →) attacca
 upper M mp mf (ad lib.) mf 5 3 f ff decus. poco a poco →
 W upper

②⑦ sempre poco ad lib. → rit. poco a poco. ②⑧ a tempo
 upper M mp f ff
 W lower

SECTION IV - continued

29 30 rit. poco a poco 31 32 a tempo 33 (hit & scrape)

upper M
lower W

fff ffff mp ff

34 35 simile... 36 37 simile... 38

upper M
lower W

mf ff f ff (ff)

39 poco ad Lib. → 40 41

upper M
lower W

ff fff ffff

Wait for Computer Silence

≈ 2'45" to 3'00"

SECTION V

♩ ≈ 55-65

1 (use wooden ends of soft mallets)
poco stacc.
(on bell of cymbal)

W

p mf

2 (on edge of cymbal)
legato (vary sound as much as possible)

W

mf p

3 poco stacc.
(bell)

W

p

4 legato (edge) (simile)

W

mf

5 poco stacc.
(bell)

W

mp

6 (edge) (simile)
legato

W

mp f

7 (bell) poco stacc.

W

mf

8 (edge)

upper M
lower W

mp f

Wait for silence

SECTION VI - continued

9 upper M lower mf L.v. L.v. L.v. L.v. L.v. L.v. 10 upper W lower f cresc. ff Lower

11 upper W lower ff trem... poco a poco accel./rit. simile... poco a poco cresc./deces. simile... attacca →

12 upper W lower fff trem, poco a poco rit. molto → fff (sempre fff) ffff

13 upper W lower ffff pp Lower ppp

14 upper W trem. poco a poco rit. molto → move to bell of cymbals poco a poco →

15 ritual-like continue trem. action (without making any sound...) ad lib playing actions until silence

16 17 ≈2'00" ≈2'30"

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 Archanes, Crete
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