

Dan VanHassel

Ghost in the Machine

for chamber ensemble and live electronics

Duration: 7 minutes

Composed: 2013

World Premiere: Now Hear Ensemble. October 12, 2013. CCRMA, Stanford University. Palo Alto, CA

Ghost in the Machine

by Dan VanHassel

Instrumentation:

Clarinet in B-flat

Alto Saxophone in E-flat

Viola

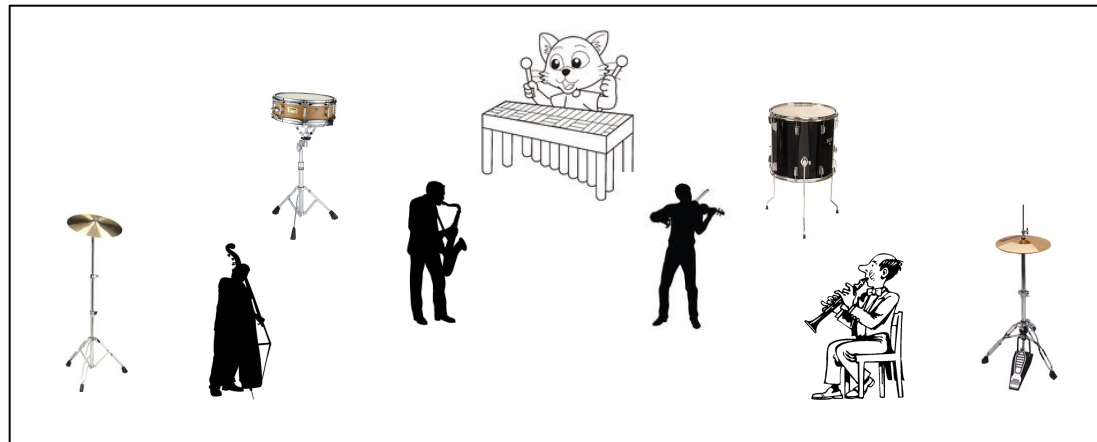
Double Bass

Percussion*

Percussion List: vibraphone, suspended cymbal, snare drum,
large tom-tom, hi-hat.

*The percussionist plays only the vibraphone. The other instruments are
used to resonate the electronics (see electronics note).

Stage Setup



Ghost in the Machine

Note on Electronics

-The electronics in *Ghost in the Machine* are created using Max/MSP. Instead of the typical PA speakers, four percussion instruments are activated using small transducers attached to the instruments.

-Each of the performers, with the exception of the percussionist, is to have a microphone positioned as close as possible to their instrument in order to control playback of the electronics. Clip-on microphones or pickups are ideal, but not necessary.

-One member of the group will need to step through a series of cues (indicated in the score) using a foot pedal, in order to coordinate with the electronics part. A separate electronics performer/sound engineer could also perform this role.

Equipment Required:

Computer with Max 6 or Max Runtime 6 (www.cycling74.com)

Audio interface with at least 4 inputs and outputs

4 transducers (i.e. Dayton Audio Sound Exciters)

Small amplifier(s) with at least 4 channels (i.e. Pyle 2x40W Mini Power Amplifiers)

4 microphones (pickups, clip-on mics, or small condensers)

MIDI Sustain Pedal

Electronics Key

The Electronics Key diagram consists of two horizontal musical staves. The top staff has four notes with stems pointing up, labeled from left to right: "suspended cymbal", "hi-hat", "snare drum", and "tom-tom". The bottom staff has eight notes with various stems and symbols, labeled from left to right: "normal" hit (stem up), "comb filter" (stem up with a wavy line above), "short delay" (stem up with a wavy line above), "click" (stem up), "noise" (stem down with a square above), "sample 1" (stem up with a triangle above), "sample 2" (stem down with a triangle above), and "swell" (stem up with a hand icon above). Both staves begin with a double bar line on the left.

Ghost in the Machine: Notation Key

Note on notation: *Ghost in the Machine* uses a small, fixed set of sounds for each instrument. Each of these sounds is represented by a particular symbol as indicated in the key below. The sounds often occur in quick succession, and as such, typical textual designations for playing techniques such as "pizz." or "col legno" are generally not used.

General

○————○ = crescendo from niente ————○ = diminuendo to niente c.l.b. = col legno battuto s.p. = sul ponticello

Clarinet

Breath only (indefinite pitch)

Slap tongue (finger pitch indicated)

Noisy, fast-speaking multiphonic. Fingering and pitches given are an example, feel free to use a different multiphonic that works well on your instrument.

Alto Saxophone

Breath only (indefinite pitch)

Slap tongue (finger pitch indicated)

Noisy, fast-speaking multiphonic. Fingering and pitches given are an example, feel free to use a different multiphonic that works well on your instrument.

Viola

Col legno ricolchet. Allow bow to bounce freely. Mute strings with left hand.

Knock on body of instrument with fist.

Snap pizzicato with left hand muting string.

Col legno battuto with string muted with left hand. Very short and percussive.

Play arco, sul ponticello, and tremolo, starting at some very high pitch and sliding down over the time indicated.

Slap strings against fingerboard with palm of hand.

Scratch tone played behind the bridge on the cloth binding of string.

Double Bass

Col legno battuto with string muted with left hand. Very short and percussive.

Slap strings against fingerboard with palm of hand.

Knock on body of instrument with fist.

Rub body of instrument with fingers.

Col legno ricolchet. Allow bow to bounce freely. Mute strings with left hand.

Tap body of instrument lightly with fingers.

Snap pizzicato with left hand muting string.

Scratch tone played behind the bridge on the cloth binding of string.

Ghost in the Machine

Funky, Mechanical ♩=84

Dan VanHassel

Electronics

Clarinet in B \flat

Alto Saxophone

Viola

Double Bass

Vibraphone

Electronics Cues: ① Clarinet triggers patterns

f

breath (attack triggers elec.)

slap tongue

breath

f

c.l.b.

f

c.l.b. pizz. simile knock

f

slap strings

8

Elec.

Cl.

A. Sax

Vla.

Db.

Vib.

② Change patterns

③

p < *f*

p < *f*

arco s.p.

p < *f*

repeat pattern out of tempo (do not sync with other parts)

keep pedal down, sempre l.v.!!

15

4

Elec.

Cl.

A. Sax

Vla.

Db.

Vib.

knock

p \leftarrow *f*

p \leftarrow *f*

slap strings

rub

pp

22

5

6 Patterns off

Elec.

Cl.

A. Sax

Vla.

Db.

Vib.

p \leftarrow *f*

p \leftarrow *f*

mf *f*

mf *f*

mf *f*

arco

mf

ricochet (c.l.b.)

behind bridge (scratch tone)

in tempo

p

28

7 Clarinet triggers patterns

8 Bass triggers patterns

Elec.

Cl.

A. Sax

Vla.

Db.

Vib.

mf f p f p f

mf f

(triggers elec.)

(going out of sync)

(snapping back in sync)

ord.

mp

34

9 Change patterns

10 Clarinet triggers patterns

11 Bass triggers patterns

Elec.

Cl.

A. Sax

Vla.

Db.

Vib.

mp f

(triggers elec.)

ord.

mf

(arco s.p.)

(triggers elec.)

40

12 Patterns off

Elec.

Cl.

A. Sax

Vla.

Db.

Vib.

mf

**or play any fast-speaking, noisy multiphonic*

(tap lightly)

45

13 Bass triggers cymbal hits

14 Viola triggers hi-hat hits

Elec.

Cl.

A. Sax

Vla.

Db.

Vib.

mf

p *f*

50 **15** Sax triggers tom hits

Elec. *p* ————— *f* *p* ————— *f*

Cl. *mf*

A. Sax *p* ————— *f* *p* ————— *f*

Vla. *p* ————— *f* *p* ————— *f*

Db. *p* ————— *f* *p* ————— *f*

Vib.



55 **16** Clarinet triggers patterns **17** Patterns off

Elec. *or play any fast-speaking, noisy multiphonic

Cl. (*triggers elec.*) *f* *p* ————— *f* *ord.*

A. Sax *3* *ord.*

Vla. *behind the bridge (scratch tone)*

Db. *3* *p* ————— *f*

Vib. *gradually cresc. to m. 70*

61

18 Bass triggers tom hits

19 Viola triggers snare hits

Elec. *p* *f*

Cl. *p* *f*

A. Sax *mf* *mf*

Vla. *p* *f*

Db. *p* *f*

Vib.

66

20 Clarinet triggers hi-hat hits

21 Sax triggers hi-hat hits

22 Bass triggers patterns

Elec. *p* *f*

Cl. *mf* *ord.* *mf*

A. Sax *mf* *p* *f*

Vla. *p* *f*

Db. *p* *f* (triggers elec.)

Vib. *f*

23 Cymbal noise swells follow clarinet

Musical score for measures 71-74. The score includes parts for Elec. (Electric Percussion), Cl. (Clarinet), A. Sax (Alto Saxophone), Vla. (Viola), Db. (Double Bass), and Vib. (Vibraphone). The Elec. part features a complex rhythmic pattern with accents and a *mf* dynamic marking. The Cl. part has a melodic line with a *mf* dynamic marking. The A. Sax part has a rhythmic pattern with accents. The Vla. part has a rhythmic pattern with accents. The Db. part has a rhythmic pattern with accents. The Vib. part has a rhythmic pattern with accents.



Musical score for measures 75-78. The score includes parts for Elec. (Electric Percussion), Cl. (Clarinet), A. Sax (Alto Saxophone), Vla. (Viola), Db. (Double Bass), and Vib. (Vibraphone). The Elec. part features a complex rhythmic pattern with accents and a *mf* dynamic marking. The Cl. part has a melodic line with a *mf* dynamic marking. The A. Sax part has a rhythmic pattern with accents. The Vla. part has a rhythmic pattern with accents. The Db. part has a rhythmic pattern with accents. The Vib. part has a rhythmic pattern with accents.

80 *mf* **24** Viola triggers snare hits **25** Clarinet triggers patterns
Elec. *mf*
Cl. *mf* (triggers elec.) *f*
A. Sax
Vla.
Db.
Vib.

26 Sax, vla, bass, trigger hits **27** Hi-hat noise swells follow sax
86 *p* *f* *mf*
Elec. *mf*
Cl. *mf*
A. Sax *p* *ff* ord. *mf*
Vla. *p* *ff* arco *mf*
Db. *p* *ff*
Vib. *begin gradual dim. to end*

28 Snare noise swells follow viola
Bass triggers pattern

29 Viola swells off

Elec. *mf*

Cl. *mf*

A. Sax *mf*

Vla. *mf* *pizz.*

Db. *f* (triggers elec.)

Vib. *f*

30 Tom noise swells follow bass
Clarinet triggers pattern

31 Snare noise swells follow viola

32 Hi-hat noise swells follow clarinet, bass
triggers pattern

Elec. *mf*

Cl. *f* (triggers elec.)

A. Sax *mf*

Vla. *mf* *arco*

Db. *arco* *mf*

Vib. *mf* (gradual dim.)

Musical score for measures 115-120. The score includes parts for Elec., Cl., A. Sax., Vla., Db., and Vib. The Vib. part features a continuous eighth-note pattern with a *(gradual dim.)* marking. The Db. part includes *(c.l.b.)* and *arco* markings. Dynamics include *mf*, *ff*, *pp*, and *mf*. The Elec. part has *mf* markings. The Cl. part has *ff*, *mf*, *pp*, and *ff* markings. The A. Sax. part has *mf* markings. The Vla. part has *mf* and *pp* markings. The Db. part has *pp* and *ff* markings. The Vib. part has *(gradual dim.)* marking.



Musical score for measures 121-126. The score includes parts for Elec., Cl., A. Sax., Vla., Db., and Vib. The Vib. part continues with a continuous eighth-note pattern and a *(gradual dim.)* marking. Dynamics include *p*, *pp*, *ff*, and *p*. The Elec. part has *p* markings. The Cl. part has *p* markings. The A. Sax. part has *pp*, *ff*, and *p* markings. The Vla. part has *ff* and *p* markings. The Db. part has *p* markings. The Vib. part has *(gradual dim.)* marking.

Musical score for measures 127-132. The score includes staves for ELEC., Cl., A. Sax, Vla., Db., and Vib. The Vib. part features a continuous eighth-note pattern. Dynamics include *p* and *pp*. A double bar line is present at the end of measure 132.

Musical score for measures 133-138. The score includes staves for ELEC., Cl., A. Sax, Vla., Db., and Vib. The Vib. part features a continuous eighth-note pattern with triplets. Dynamics include *p* and *pp*. A double bar line is present at the end of measure 138. A circled page number 35 is located at the top right, with the text "Fade-out" above it.