

Heuchera micrantha seedpods

Machines
for
Listening

Dan Trueman

Machines for Listening

for bitKlavier and active listener

Machine Listening is an important and complex field, focusing on teaching machines (or having them learn) to listen and parse sound. But what about machines *for* listening, things that invite *us* to listen, teach *us* to listen?

These nine sketches are intended as active listening guides for bitKlavier, a kind of digital musical machine configured in specific ways to process the operator's input and generate sound. Each "listening machine" has specific settings and interconnections that yield sometimes unexpected rhythms and textures, but are in fact completely deterministic — anything that seems like randomness is a product of the specific interactions between operator and machine.

These are "open form" sketches, providing seeds, specific materials, and intentions for the operator to work with, strictly or loosely. They can be open ended, used at home as listening meditations, or can be the starting points for collaborations with other listeners and instrumentalists, perhaps through collaborative recording, or even live performance. The "operator" may also choose to integrate other instruments or machines into the process, occasionally feeding the listening machines and then reaching out with these others to contribute and listen more deeply.

Machines for Listening were sketched during June of 2020, with the world in imperfect lockdown and raging against centuries of racial injustice: silence is not an option, but listening is required. I'm indebted of course to the legacy of Pauline Oliveros, whom I had the pleasure of playing with many times years ago, and whose "machines for listening" are monumental. The cover is from a piece by my mother, Judy Trueman, that she used for her holiday card in the year 2000, a month after my daughter was born in Kingston NJ; in it she wrote "Happy Holidays to you two, the Princess of Kingston, the World, and the Universe." We are in this together, after all.

Dan Trueman
June, 2020

Required:

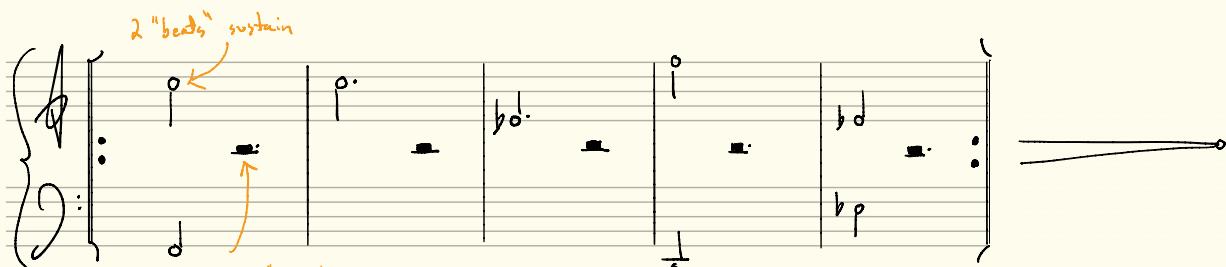
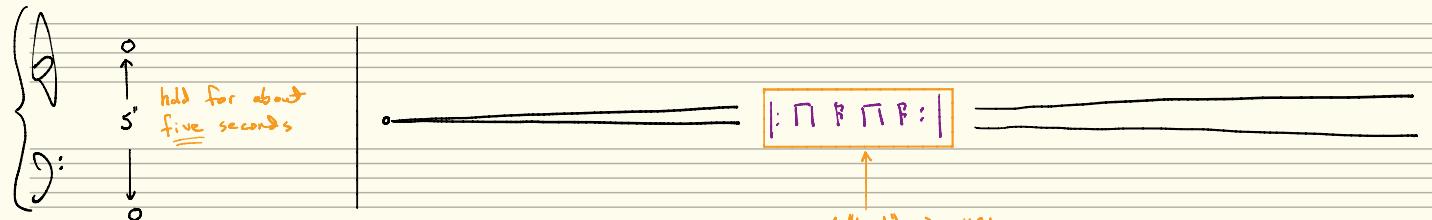
bitKlavier (bitKlavier.com) and an 88-key MIDI keyboard (smaller keyboards are also possible, with some adjusting).

Each "machine" has a single Piano in the Gallery; just select the appropriate Piano and interpret the sketch. The numbers correspond to the primary settings for the Blendrónico preparation, the heart of the machine for all of these.

Machine for listening #1

3.2

Truman



repeat, many times, listen, add other notes as you like

Machine for Listening #2

4.3.2.3

Truman

Machine for Listening #2

4.3.2.3

Truman

1 "measure"

2 "measures"

repeat many times, listen very, omit, embellish as you like

Machine for listening #3

5.3.2.3

True man

3 + 3 + 2 + 3 + 2
16

as many times as you like

1x

2x

3x

first time only

two measure duration

solo, sync

one measure duration

ba ba ba ba

ba ba ba

2x

2x

ba ba

2x

repeat, vary, omit, embellish, listen

Silences

6.4.20

Machine for listening #4

6.5

Truman

5+6
16

5x 6x (4) 3x 6x 3x 6x

(silent)

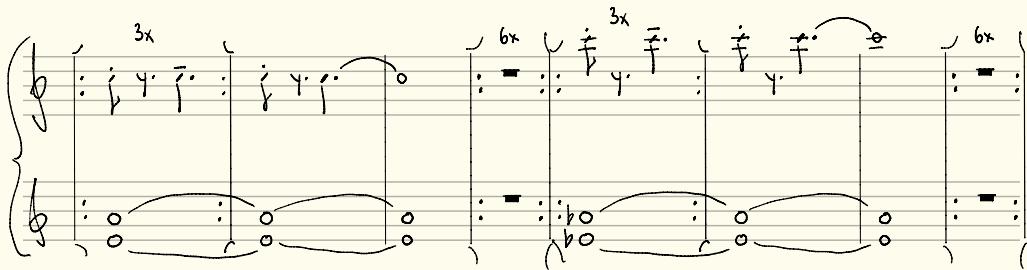
sustain through the repeat; no attack

A B

3x 6x 3x 6x

A B

CONTINUE



Handwritten musical notation on four-line staves. The first measure starts with a dynamic **f**. It contains a sustained note **o** followed by a sixteenth-note pattern: **3x**: $\text{F}\text{ A}\text{ C}\text{ D}$, $\text{F}\text{ A}\text{ C}\text{ D}$, $\text{F}\text{ A}\text{ C}\text{ D}$. The second measure starts with a dynamic **f**. It contains a sustained note **o** followed by a sixteenth-note pattern: **6x**: $\text{F}\text{ A}\text{ C}\text{ D}$, $\text{F}\text{ A}\text{ C}\text{ D}$. The third measure starts with a dynamic **f**. It contains a sustained note **o** followed by a sixteenth-note pattern: **6x**: $\text{F}\text{ A}\text{ C}\text{ D}$, $\text{F}\text{ A}\text{ C}\text{ D}$. The fourth measure starts with a dynamic **f**. It contains a sustained note **o** followed by a sixteenth-note pattern: **6x**: $\text{F}\text{ A}\text{ C}\text{ D}$, $\text{F}\text{ A}\text{ C}\text{ D}$.

repeat
on it embellish... listen

Back to **A**

Machine for listening #5

7.5, 4, 3, 4, 5

$$\begin{array}{ccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \boxed{1} & \boxed{4} & \boxed{1} & \boxed{1} & \boxed{1} & \boxed{4} & \boxed{1} \\ 4 + & 4 + & 4 + & 4 + & 4 + & 4 + & 4 + 4 \end{array}$$

→ even 7

Tuehan

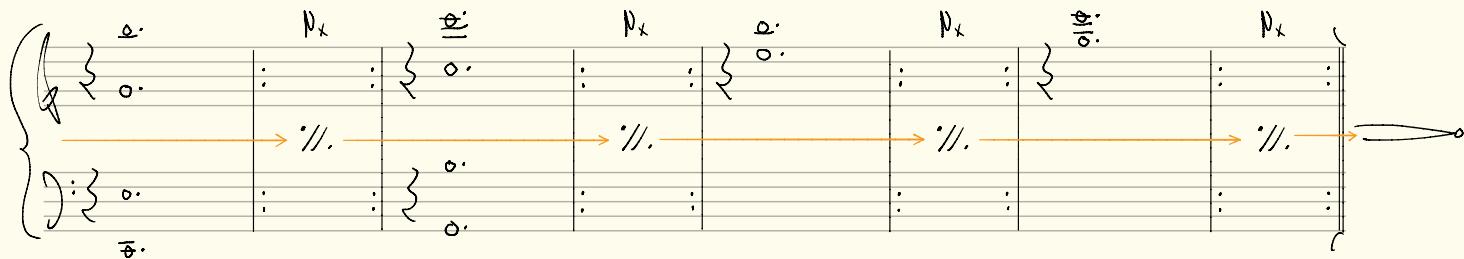
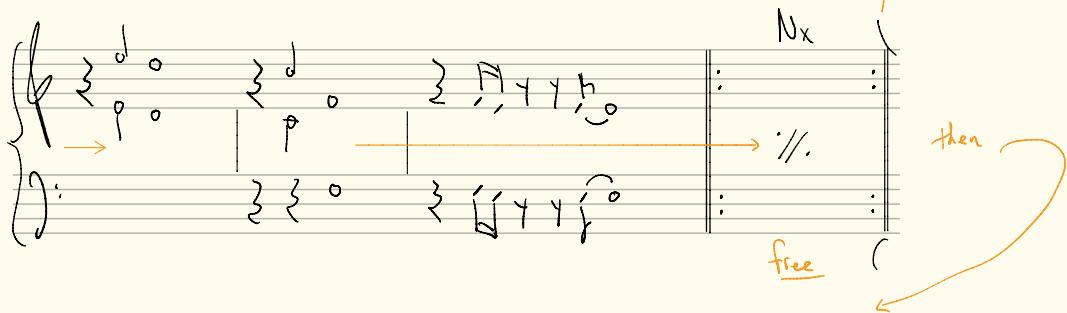
first time only
(silent)

merger pulse

→ or, lopsided ? (you choose)

$$\begin{array}{ccccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \overline{1} & \overline{1} & \overline{1} & \overline{1} & \overline{1} & \overline{1} & \overline{1} \\ 4 & + & 5 & + & 4 & + & 3 & + & 4 & + & 5 & + & 3 \end{array}$$

← repeat, omit, extend, change register... listen ← to beginning



Machine for listening #6

8.3

Turner

1. = 128

$3+3+3+2$

16

p. p. p. p.

first time only
(silent)

D/E sustained throughout,
except one time through => omit

Sustain, no re-attack through 8x

repeat, wait, listen

6.12.20

Machine for Listening #7

9.5.4.5

Trueman

Freely, Slowly

sustain notes through arrows

4+5+4+5+5

16

1 2 3 4 5

5 "beats"

pulse emerges, but don't sync with it.

with pulse

omit sometimes

(repeat)

of "beats" to sustain each chord

Handwritten guitar tablature showing two measures. The first measure starts with an open string (A) followed by a sequence of notes: 5, 5, 2, 3, 4, 6. Above these notes are arrows indicating the number of "beats" to sustain each chord: 5, 5, 2, 3, 4, 6. The second measure begins with a rest, followed by notes: 5, 5, 2, 3, 5. The tablature uses standard notation with six strings and fret markings.

Handwritten guitar tablature starting with a measure in A major. The first measure shows an open string (A), followed by a sequence of notes: 5, 5, 2, 3, 4, 6. Above these notes is the instruction "freely...". The second measure begins with a rest, followed by notes: 5, 5, 2, 3, 5. To the right of the tablature, there is a bracketed section labeled "or" with two options: "dub" and "slap (scrub)". Below the tablature, the text "repeat, extend, omit, explore, listen" is written in orange.

Machine for listening #8

10.7

Truman

Hand-drawn musical score for 'Machine for listening #8' by Truman. The score includes a tempo marking of $\text{♩} = 60$, a key signature of $\text{F} \# \text{C}$, and a time signature of 16 . The score consists of two staves. The first staff features a bass clef, a common time signature, and a 16th-note pattern. The second staff features a treble clef, a common time signature, and a 16th-note pattern. A bracket groups the first four measures of the second staff, with an orange arrow pointing to a rhythm box containing six vertical bars. The third bar from the box is highlighted with an orange border. An orange arrow points from the rhythm box to the corresponding measures in the score. Below the score, a horizontal line labeled 'Ped' spans both staves, with arrows indicating 'release pedal on the beat' at the start and end of the line. The score concludes with a bass clef and a colon.

continue same rhythm & pedaling
with these chords:

Hand-drawn musical score showing a continuation of chords. It includes a bass clef, a common time signature, and a 16th-note bass line. The bass line is labeled 'bass-line only'. The score consists of three measures of chords, followed by a measure of silence indicated by a single vertical bar with a dot above it. The score concludes with a bass clef and a colon.

(highest key will silence)

repeat, add, subtract, listen

Machine for listening #9

11.7.5.3.2.3.5.7

Truman

Diagram illustrating the musical score for Machine for listening #9:

- Top Left:** A 16th-note pattern on a staff. Annotations include: "C4 & C5 cause this" with arrows pointing to specific notes; "(highest C will silence)" with an arrow pointing to the highest note; "one 'beat'" with an arrow pointing to a bracketed section; "sustain to end of pattern (one 'bar')"; and "n/110 bpm".
- Bottom Left:** A 16th-note pattern on a staff. Annotations include: "This pattern emerges..." with an arrow pointing to the start of the pattern; "listen for this!" with an arrow pointing to a circled note; and "one 'bar'".
- Bottom Left Labels:** "clears & sets 'phase' of pattern" with an arrow pointing to the first measure.
- Bottom Right:** A box containing the text "listen, explore, change focus..".

The "beat" and the "pattern" have the same 16th-note subdivision, but will have changeable relationships, creating different series of pulse. The upper B in the "beat" will sometimes feel on the 2nd 16th, but not always!

restarts

Diagram illustrating the musical score for Machine for listening #9, showing various elements and restart points:

- Top:** A staff with a bracket labeled "6 'beats'".
- Middle:** Four measures on a staff. The first measure has a "0." above it. The second measure has a "#d p" above it. The third measure has a "#". The fourth measure has a "b" above it.
- Bottom:** Four measures on a staff, each with a double bar line and a "S.b" below it, indicating a section where the beat is subdivided into eighth notes.

use to clear & re-sync.
others are possible!

Unlike the others, this one consists of various elements that can be combined, varied, or ignored.
as usual, repeat, subtract, elaborate... listen

Syntax patterns

A musical staff with a treble clef, a key signature of one sharp, and a common time signature. The staff contains ten groups of eighth notes. The first group is a sixteenth-note cluster followed by a sixteenth note. Subsequent groups consist of a sixteenth note followed by a sixteenth-note cluster. The last group is a sixteenth-note cluster followed by a sixteenth note. Measures 1-4: (Sixteenth note) - (Sixteenth-note cluster) - (Sixteenth note). Measures 5-8: (Sixteenth note) - (Sixteenth-note cluster) - (Sixteenth note). Measure 9: (Sixteenth-note cluster) - (Sixteenth note).

Handwritten musical notation for a treble clef instrument. It consists of a series of eighth-note pairs (two vertical stems with a horizontal bar) on a single staff. The notes are grouped by vertical bar lines. After the eighth note pair, there is a vertical brace, a double bar line, and repeat dots at the top right.

played in sync with the "bar" pattern
different registers, inversions, notes, etc.. possible!

Drum Patterns

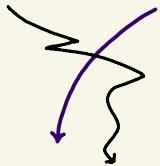
for example ...

etc... in sync with "beat"

Charles

Handwritten musical notation for a guitar part, likely in standard notation. The notation includes a circled '2' at the beginning, a staff with a bass clef, and a series of notes and rests. An orange bracket labeled 'repeat' spans the first two measures. Another orange bracket labeled 'repeat' spans the last two measures of the shown section.

Variable durations, registers, voicings, subsets



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