

stream:streams

for cello and electronics (pedal, computer, four+ speakers)

any duration (at least ten minutes)

-John Eagle, 2021 (john.p.eagle@gmail.com)

A cellist listening to two simultaneous field recordings (and various processed/reduced versions of them) and tuning to them, cycling through different combinations looking for the best match.

Score (to guide the electronic part):

Listening,

Listening and playing—notes in isolation and in combination,

Trying different sources in speakers (cycling),

Trying different intonations (bending notes up, bending notes down),

Searching for harmonic cohesion between speakers,

Starting again with new sources.

Technical setup:

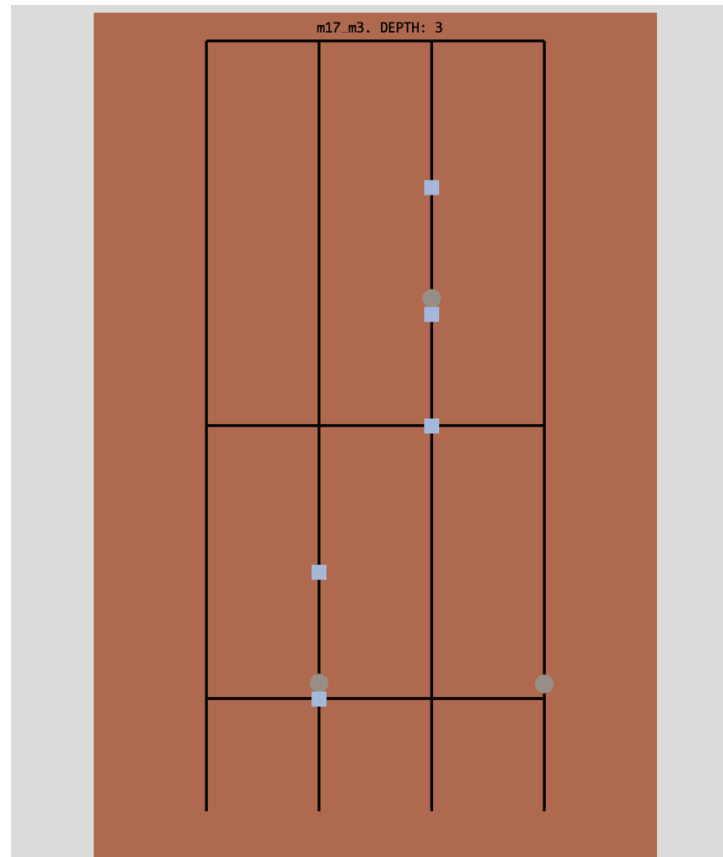
A computer is used both to control the electronic sound as well as providing the performer's notation. A minimum of four speakers are necessary. More speakers are welcome (in pairs—up to eight). The first two speakers should be behind the cellist (left and right) and the rest should be spread evenly behind or amidst the audience, facing the cellist. A page turn pedal or comparable controller (must have two buttons) is used by the cellist to control the software. The cello may be amplified (with a devoted speaker(s)—in addition to the speakers for the electronics and not mixed with them in the same speakers).

The performance software is attainable from the composer or may be downloaded here:

<https://github.com/john422e/streamstreams>. It runs in SuperCollider (3.12.1 at the time of composition): <https://supercollider.github.io/downloads>. Open the files contained in "sc_files" and follow the comments in each script for the proper execution.

Notation:

When running, the software displays a window with an image, a "notation slide", like this:



The notation slide represents the cello's fingerboard: the four vertical lines, left to right, are strings IV-I (C, G, D, A), and the horizontal lines, top to bottom, are the nut, the fifth, and the octave (stopped finger locations).

Circles and/or squares are displayed at different points on the strings. A circle represents a stopped pitch at that location. A square represents a "touch 4" artificial harmonic (sounding two octaves higher)—the square is the stopped point on the string and the fingered harmonic is a fourth above that. A circle on the nut is an open string. These circles and squares represent available pitches to be played. If nothing is displayed on a string, it has no available pitches (even the open string). Notes are duplicated on multiple strings where possible (within the first octave on each string) to allow different fingerings.

Electronics and Pedal Use:

Every electronic sound source is a field recording and set of sine tones paired (sounding from two speakers). The number of sine tones in each set varies between three possible depths: 8, 64, and 512. In every cycle (more on form below), one source remains constant (the primary source). In the other speakers, one of three other sources will be sounding (secondary sources). **The left button on the page turn pedal cycles through these three sources.** The secondary sources will pulse on and off at different speeds for easier comparison. With more than four speakers, the programming may be set to allow each of these cycling sources to sound from their own speaker pairs (please consult with me about this). **The right button on the pedal begins a new cycle with a new primary source and bank of secondary sources. It also generates a new notation slide.** A video demonstrating this electronic sound and notation can be viewed here: <https://www.youtube.com/watch?v=KN4lDtY4F8Y> (the comparisons move quickly here for the sake of demonstration only).

Performance Notes:

The primary act is listening. The secondary act is tuning. No other gestures or performativity need to be present. The notes presented on each notation slide are the available pitches for that cycle. One need not play all of them or even most of them. When playing, each note should be sustained with a pure tone. The duration and volume should be a factor of the tuning/listening, as the performer compares the cello sound with the electronics. Double stops are welcome where possible. The performer should move through the available notes ad libitum, playing enough to have an idea of the harmonic content in each notation slide to compare with the electronics. This should feel like a testing/guessing exploration, adjusting the intonation as desired to blend with the electronics. One of the secondary sources should match the cello harmonies better than others, but some may be very similar. The performer cycles through the secondary electronic sources ad libitum until satisfied with the strongest match. This is one complete cycle. At this point, the performer may either end the piece (if the durational requirement has been satisfied—see below) or begin a new cycle.

Form/duration:

The piece unfolds in the cycles described above. The performer may decide on a certain number of cycles or on a rough duration (at least ten minutes), ending on a complete cycle after passing a certain time, or may play freely and until satisfied and end on a complete cycle.