a state of mutual tension

for alto flute, bass clarinet, alto saxophone, bassoon, percussion
with 3D printed acoustic modification and live electronics

commissioned by Nokia Bell Labs
for International Contemporary Ensemble
A State of Mutual Tension

The idea behind this work began with my fascination with George Sperling’s research at Bell Labs in the 1960s. Sperling studied the function of memory for visual images, haptic experiences, and sonic events positing that repeat exposure, as well as time of exposure, led to heightened short-term memory of events. I was reminded of a text by Henri Bergson that made similar philosophical observations but in more humanistic terms:

From the Bergson Text:

Attentive perception is often represented as a series of processes which make their way in single file; the object exciting sensations, the sensations causing ideas to start up before them, each idea setting in motion, one in front of the other, points more and more remote of the intellectual mass. Thus, there is supposed to be a rectilinear progress, by which the mind goes further and further from the object, never to return to it. We maintain, on the contrary, that reflective perception is a circuit, in which all the elements, including the perceived object itself, hold each other in a state of mutual tension as in an electric circuit, so that no disturbance starting from the object can stop on its way and remain in the depths of the mind: it must always find its way back to the object whence it proceeds. (Bergson, Matter and Memory)

In this work, I am interested in Bergson’s suggestion that the memory of a sensory event changes as the mind shifts between attention and reflection while perceiving. Score elements and technological interventions draw on this shifting perception to create the sound world: what kinds of form, energy, and engagement are possible when the fixity of elements begins to dissolve in memory?

Electronics/3D Prints/Percussion:

Each instrument in the ensemble is outfitted with a custom-designed 3D-print containing a loudspeaker. The output of the loudspeakers is fed by a software program that irregularly delays the sound of each instrument, allowing the percussionist to route the sound to one or more of the other players. Sometimes, delays are long enough that the performers engage with a version of themselves from minutes previous.
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like a taut wire, waiting to sound, factual actions

\( \frac{d}{t} = 54 \)

in time, choose note each repeat
choose held rest each repeat

\[ (7-11) \]

\[ (5-9) \]

\[ (2-4) \]

in time, at tempo, like waves

\[ \text{B. Cl.} \]

\[ (5-9) \]

\[ p \]

\[ pp \]

\[ (3-7) \]

\[ \text{Bsn} \]

\[ (2-4) \]

\[ p \]

\[ (3-7) \]

\[ \text{Fl.} \]

\[ (2-4) \]

\[ (5-9) \]

\[ 4X \]

\[ (5-9) \]

\[ \text{A. Sax.} \]

3rd time through, sparsely
Flute to Bassoon
B. Cl. to A. Sax

less sparse, illusionary
Add Bassoon to Flute
A. Sax to B. Cl

shape phrases with ensemble
Prepare walking sounds while blending echos

Blend and set instrument levels, bring walking sounds in slowly

CUE: 1 2 3
pitch duration is relative
freely repeat, free choice of octave, free line choice (treble clef)
short rests
climbing in tension

repeat in tempo, play precisely, become more expressive with each repeat

CUE: 4 5 6
in tempo, at octave, freely and aggressively expressive, oversharing

first line twice, then never again, play top to bottom end w/ long quiet breaths as rest

with each repeat, bend sustained pitches more

long quiet breath

5-9X

CUE: 7

Duo, Sax into sax. Balance, play.

Subtle mixing of A. Sax with others. Leaves and branch recordings blend with ensemble, cues end.

duced by breath sounds, finish with recordings in instruments filtered by key-presses