Dynamic cross-domain expression:
notation, interpretation, technology and performance

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This presentation is available here: **http://rhoadley.net/presentations/dcde-s.pdf**

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v0.01

Interdisciplinarity

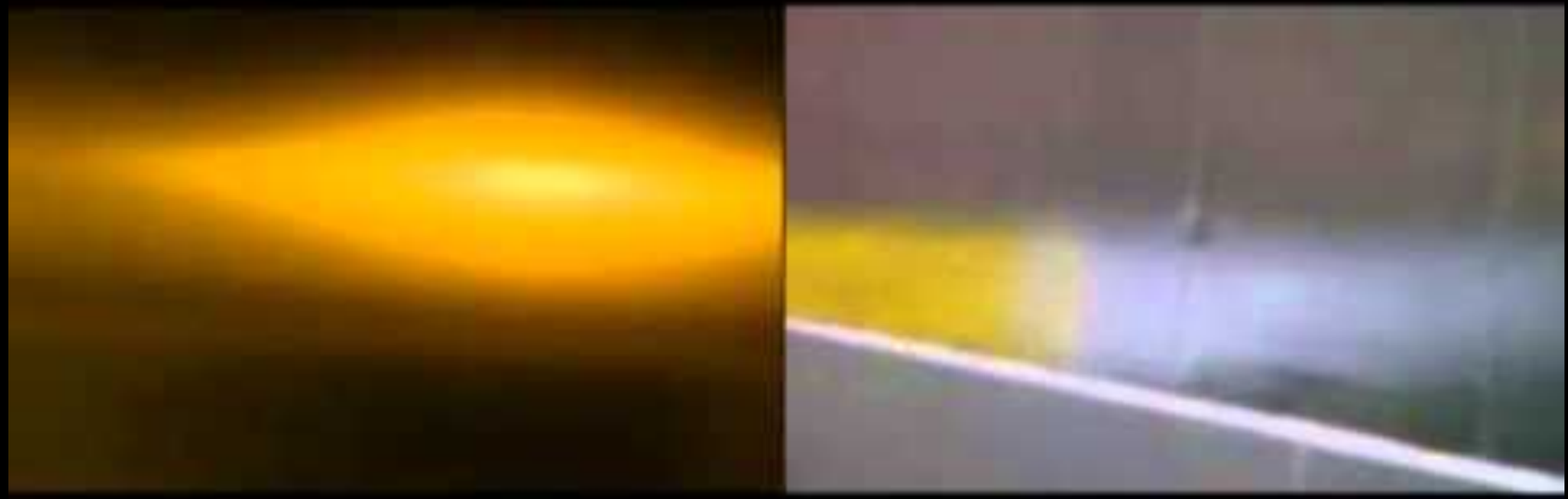
Both of us have an interest in **interdisciplinarity**, **collaboration** and **cross-domain expression**.

I'm particularly interested in **live notation** which has a unique effect on musical composition - joining **dots** with **signals** and **fixed, written performance** in the classical western tradition with **improvisation**.

Wright & Van 't Hoog Video 'Orpheus Trio' Philip Mead Piano Improvisation Six Iterations

Artists **Michael Wright** & **Henriëtte Van 't Hoog** Video *Orpheus Trio* with **Philip Mead** *piano improvisation*.
Orpheus trio was created from short video clips of every day phenomena orchestrated to create a concrete art animation (of seven minutes duration). Philip Mead generated six improvised iterations responding to the artwork, each one exploiting a different potential of the piano.

online



local

What are expressive domains?

This presentation demonstrates one aspect of **practice-led** research which seeks to **translate** between **expressive domains** using **technology**. An expressive domain is a form of artistic expression such as **music**, **dance**, **text**, or **images and patterns**. Information is taken from one domain and translated into another in **real-time** allowing **synchronous** performance. Music is **already cross-domain**: it is formed of **physical action** to create **patterns**.

“ I haven't practiced dancing, I just copy the music”

Three research streams

1. algorithms (patterning)
2. physical computing (real world interaction)
3. notation/representation (and therefore performance and interpretation)

Live Notation

This presentation focuses on **live notation**, its **possibilities** and **difficulties**.

Live notation's development has gained in momentum over the last few years as associated technologies have improved.

MaxScore (Didkovsky), **Bach Project** (Aghostini and Ghisi) (both **MaxMSP** based and in part CAC systems), **Lilypond** and other more bespoke systems. I use **SuperCollider** and **INScore** (Fober).

There is currently **no** widely accepted solution.

Features of Live Notation

- importance of exploitation of performers instrumental **virtuosity** and learned response
- balance between fixed notated performance and **improvisation**
- **synchronisation** with multi-domain live performance

Features of Live Notation

- **novel** forms of notation, no longer **fixed** on the page, (although this has its own issues).
- the results don't have to be **all one way** or another, you can mix precise, pre-composed music with **graphics** and **text**.
- it is straightforward to add or remove elements - the 'live' score can itself be **finalised** or **fluid**.

The tools

• provide a structure for the **generation** of music and/or common practice **notation** as well as **graphical** elements

• facilitate communication between **SuperCollider** and **INScore**

• offer the beginnings of a more standard interface for **physical mapping** and **live notation**

which are located...

- https://github.com/supercollider/supercollider
- http://inscore.sourceforge.net/
- http://rhoadley.net/inscore (eventually)

Performances

System Demonstration, Natural History Museum, London, June 2014 (local)

Performances

System Demonstration, Natural History Museum, London, June 2014 (online)

Performances

Semaphore, Cambridge, October 2014

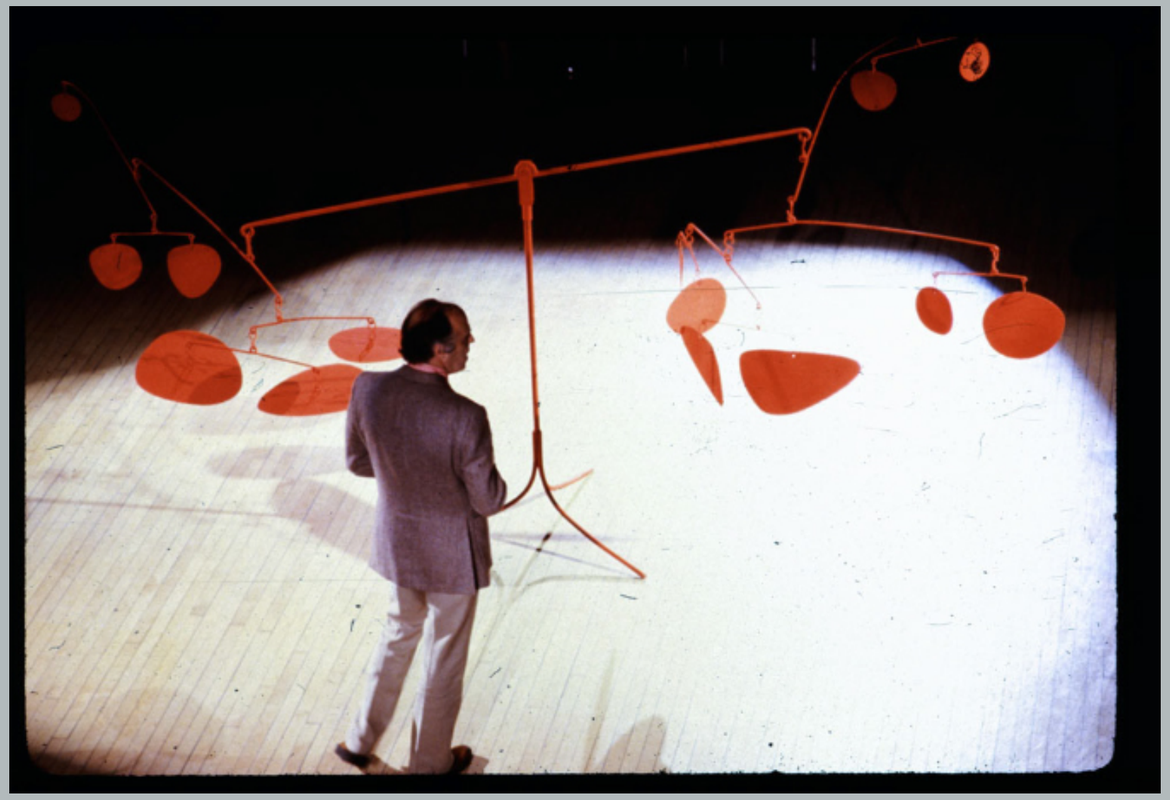
Performances

Semaphore, Cambridge, October 2014 (local video)

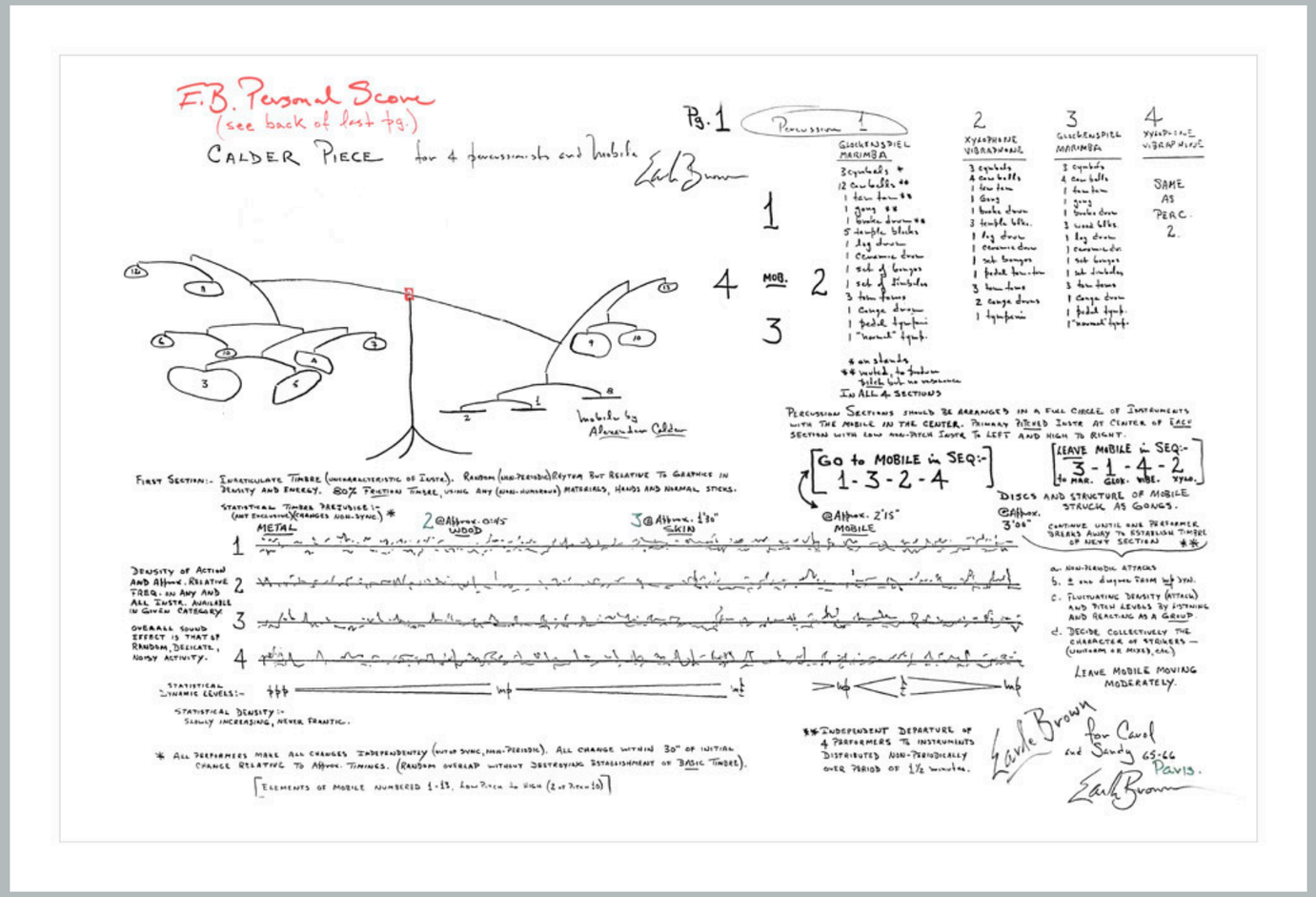
Forthcoming

- **Semaphore @ Drawing Towards Sound** curated by David Ryan, Stephen Lawrence Gallery, Greenwich University, March 20th 2015
- **Semaphore** Mumford Theatre, Cambridge, Friday April 17th, 1pm
- **TENOR** (Technologies for Music Notation and Representation), June 2015, Paris

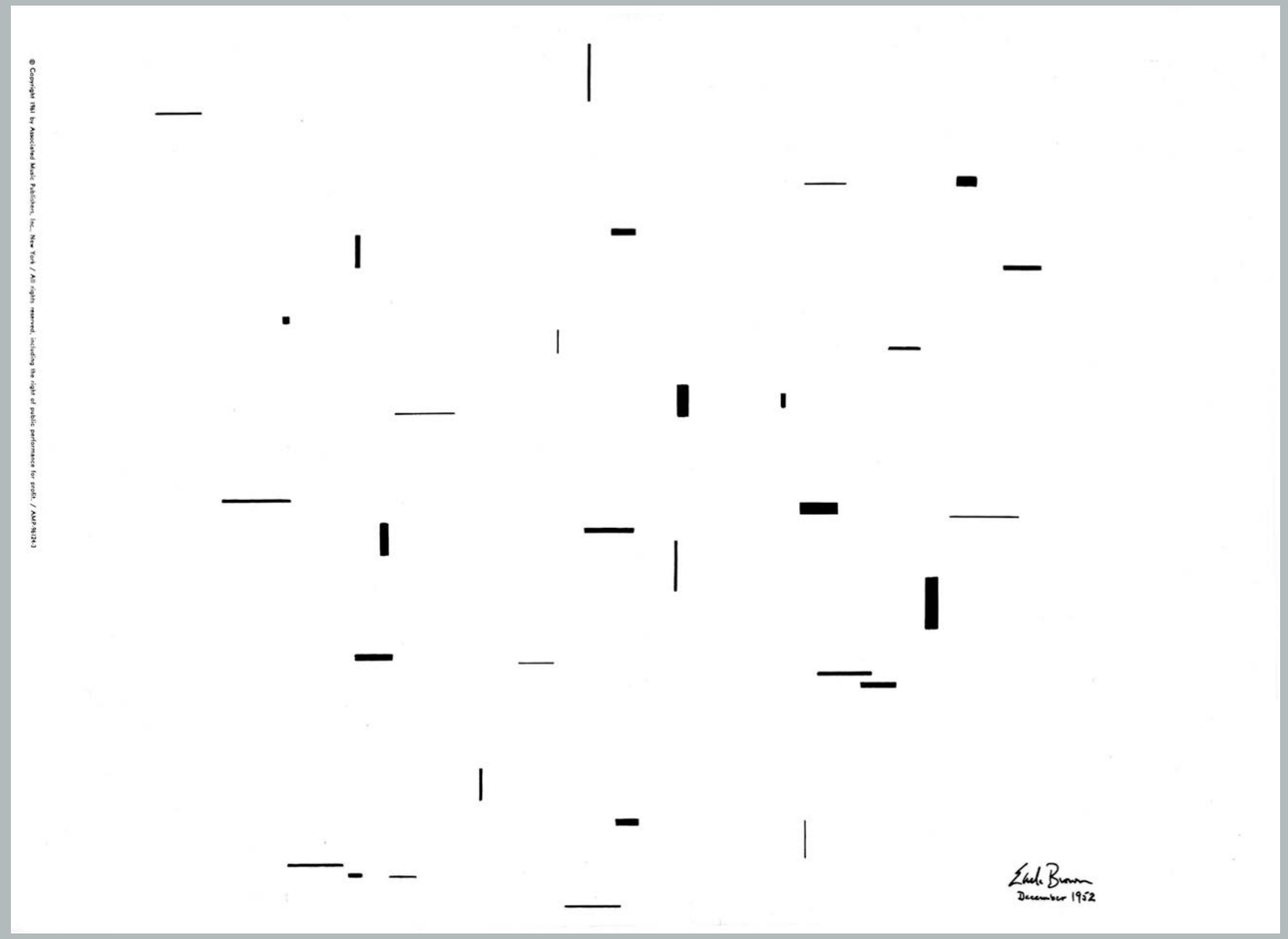
Earle Brown and Alexander Calder



Calder Piece



December 1952

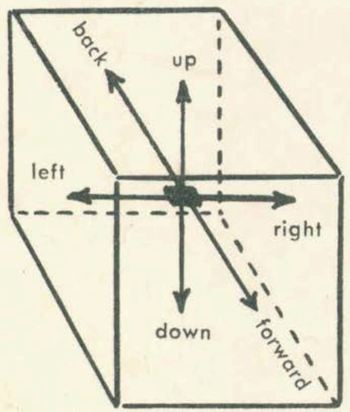


Prefatory notes

DECEMBER 1952

for one or more instruments and/or sound-producing media

The following note and sketch appear on a notebook page dated Oct. & Nov. '52, but they are the basis of the composition "December 1952" as well as being particularly relevant to "Four Systems".



space relative to conceptual mobility and transformation of events in arbitrary, unstable time

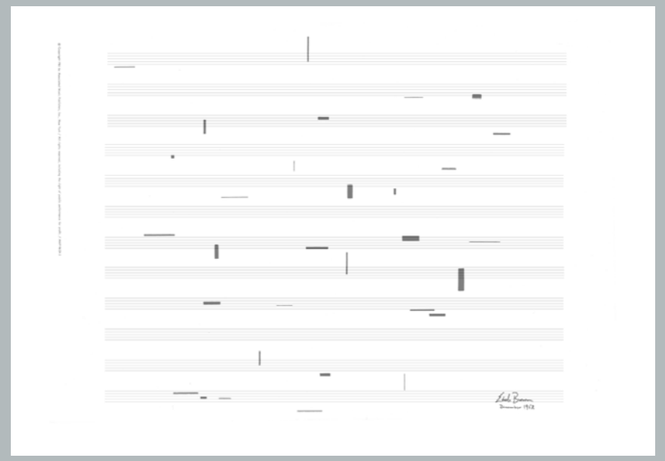
". . . to have elements exist in space . . . space as an infinitude of directions from an infinitude of points in space . . . to work (compositionally and in performance) to right, left, back, forward, up, down, and all points between . . . the score [being] a picture of this space at one instant, which must always be considered as unreal and/or transitory . . . a performer must set this all in motion (time), which is to say, realize that it is in motion and step into it . . . either sit and let it move or move through it at all speeds."

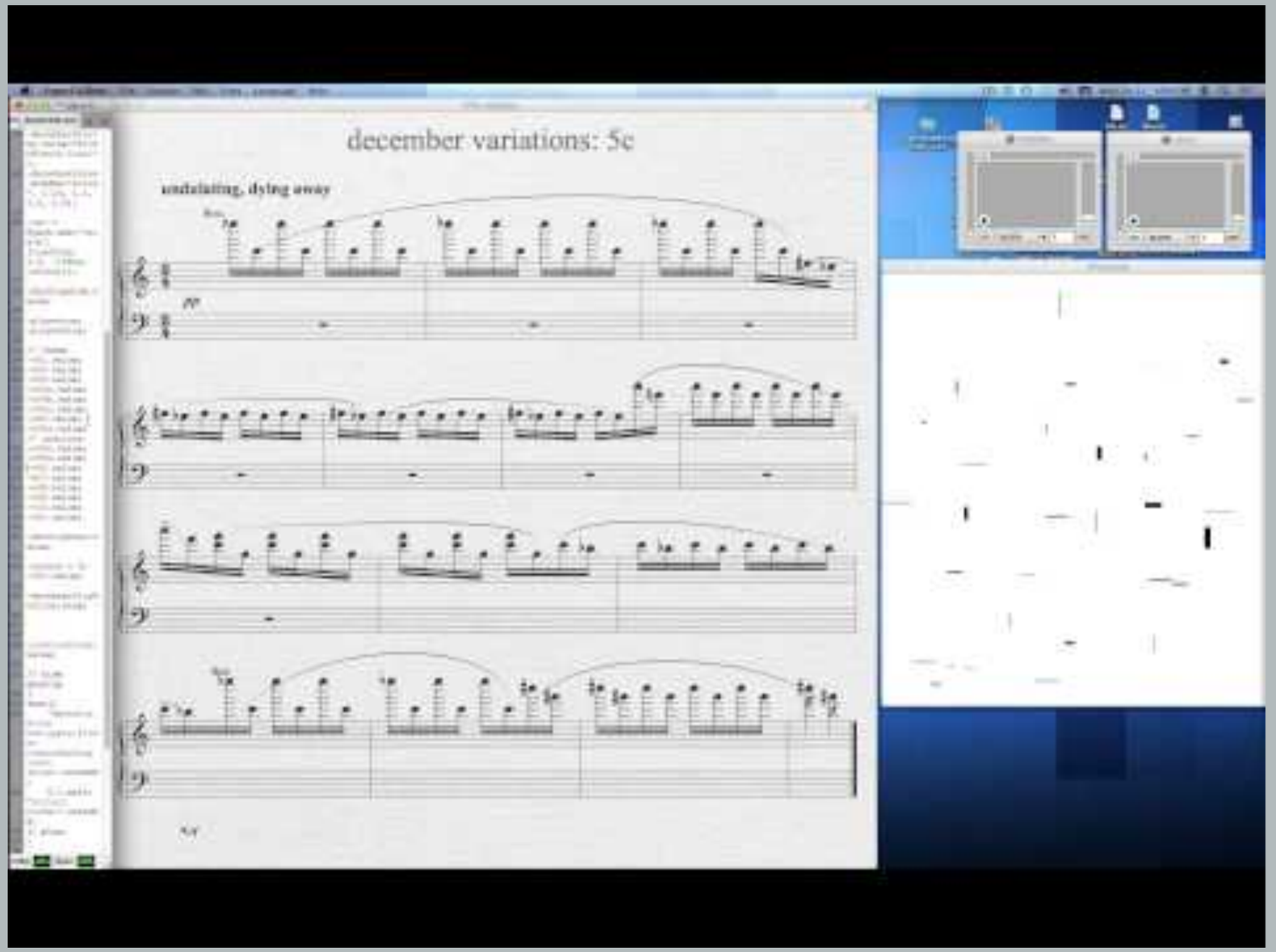
"[coefficient of] intensity and duration [is] space forward and back."

The composition may be performed in any direction from any point in the defined space for any length of time and may be performed from any of the four rotational positions in any sequence. In a performance utilizing only three dimensions as active (vertical, horizontal, and time), the thickness of the event indicates the relative intensity and/or (where applicable instrumentally) clusters. Where all four dimensions are active, the relative thickness and length of events are functions of their conceptual position on a plane perpendicular to the vertical and horizontal plane of the score. In the latter case all of the characteristics of sound and their relationships to each other are subject to continual transformation and modification. It is primarily intended that performances be made directly from this graphic "implication" (one for each performer) and that no further preliminary defining of the events, other than an agreement as to total performance time, take place. Further defining of the events is not prohibited however, provided that the imposed determinate-system is implicit in the score and in these notes.

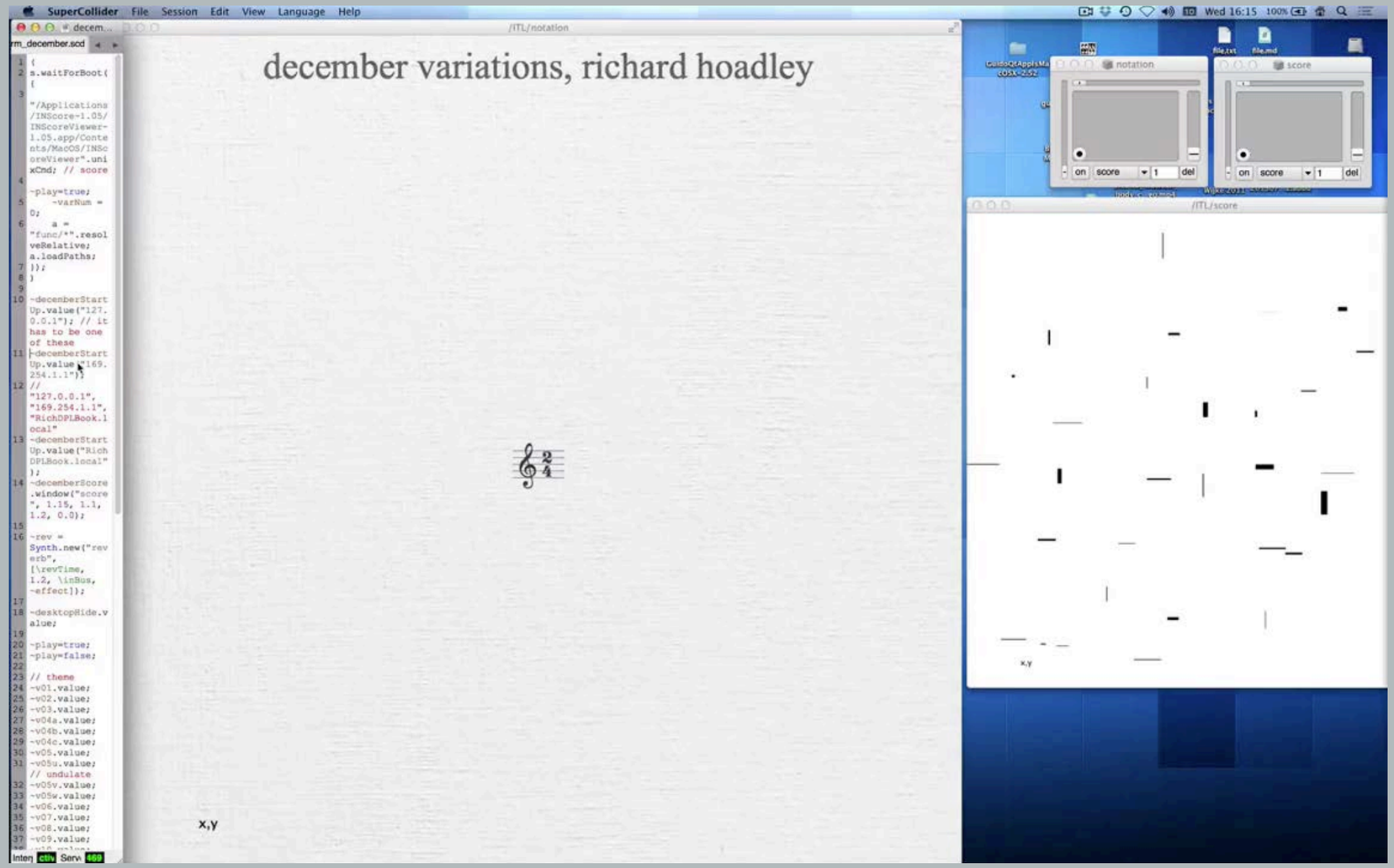
Cross domain

Example version of **December 1952** in which the notation was created by superimposing the objects onto staves. The new system does the same (sort of), but without so much effort each time...




december variations: 5c
undulating, dying away

local


SuperCollider File Session Edit View Language Help
Wed 16:15 100%
/ITL/notation
december variations, richard hoadley
x,y
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on score 1 del
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x,y

Earle Brown

• work evokes **contradictory** opinions on cross-domain links, the **nature of the score** and its **relationship to performance**

• it provides insights into **notation**: how does **detailed** notation effect the performance? How is it different from **improvised** performances? How might it aid **coordination** of many musicians?

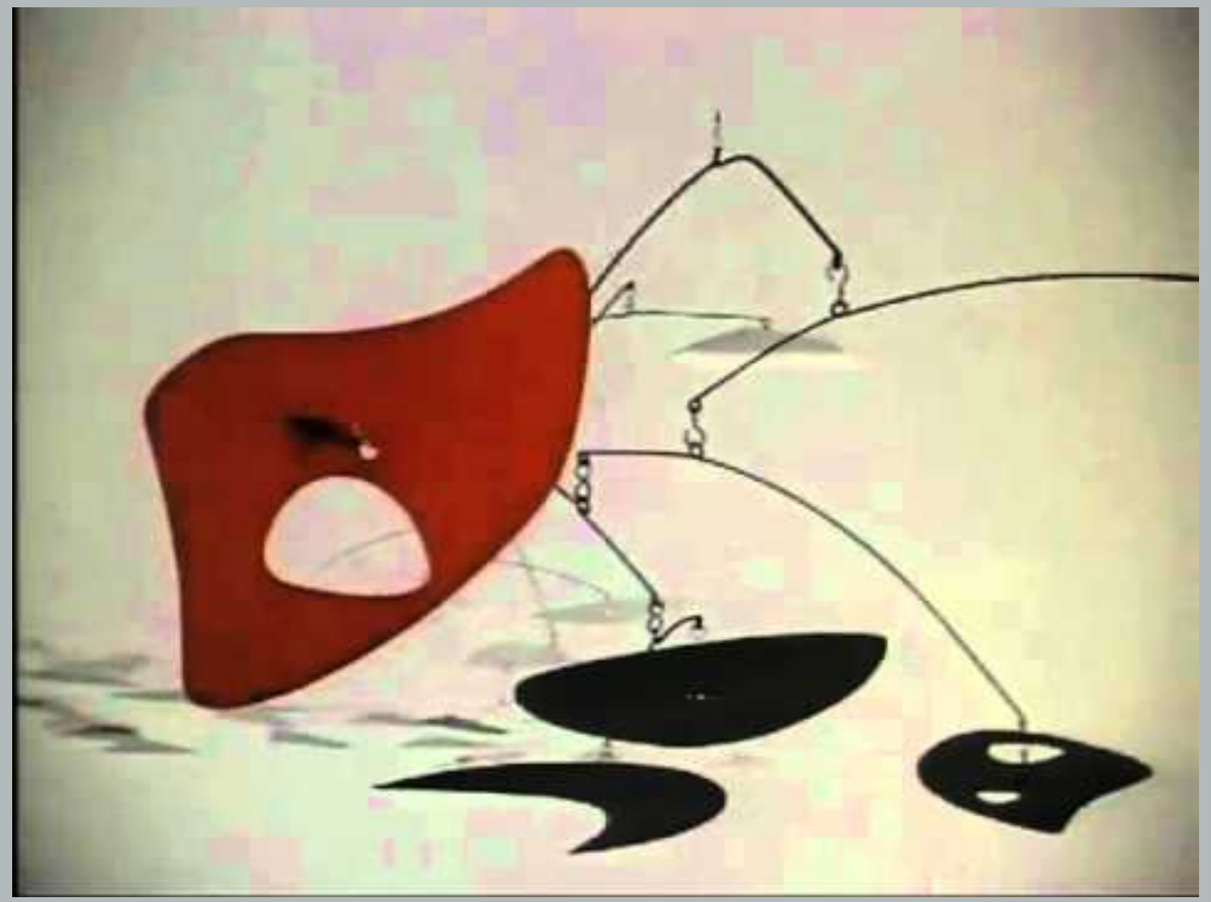
Earle Brown sometimes presents rather **ambivalent** opinions

Earle Brown 'On December 1952'

Brown, E., On December 1952, American Music Vol 26 No 1, Spring 2008

“ Under the influence of Calder, I considered this ... a score that was mobile ... that had more than one potential of form and performance realization
(page 1) ”

“ ...I have a sketch for a physical object, a three-dimensional box in which there would be motorized elements - horizontal and vertical, as the elements in December are on the paper... It would be a box which would sit on top of the piano ... so that the vertical and horizontal elements would ... [cross] in front of and behind each other, and [obscure] each other... The performer [would play] **very spontaneously, but still very closely connected to the physical movement of these objects**.... [I] hoped that I could construct a motorized box of elements that also would continually change their relationships... I never did realize this idea ... [not being that interested in constructing it]. ”



From "An American Masters Special" (Sherman, June 1998)
Full video https://vimeo.com/97275016

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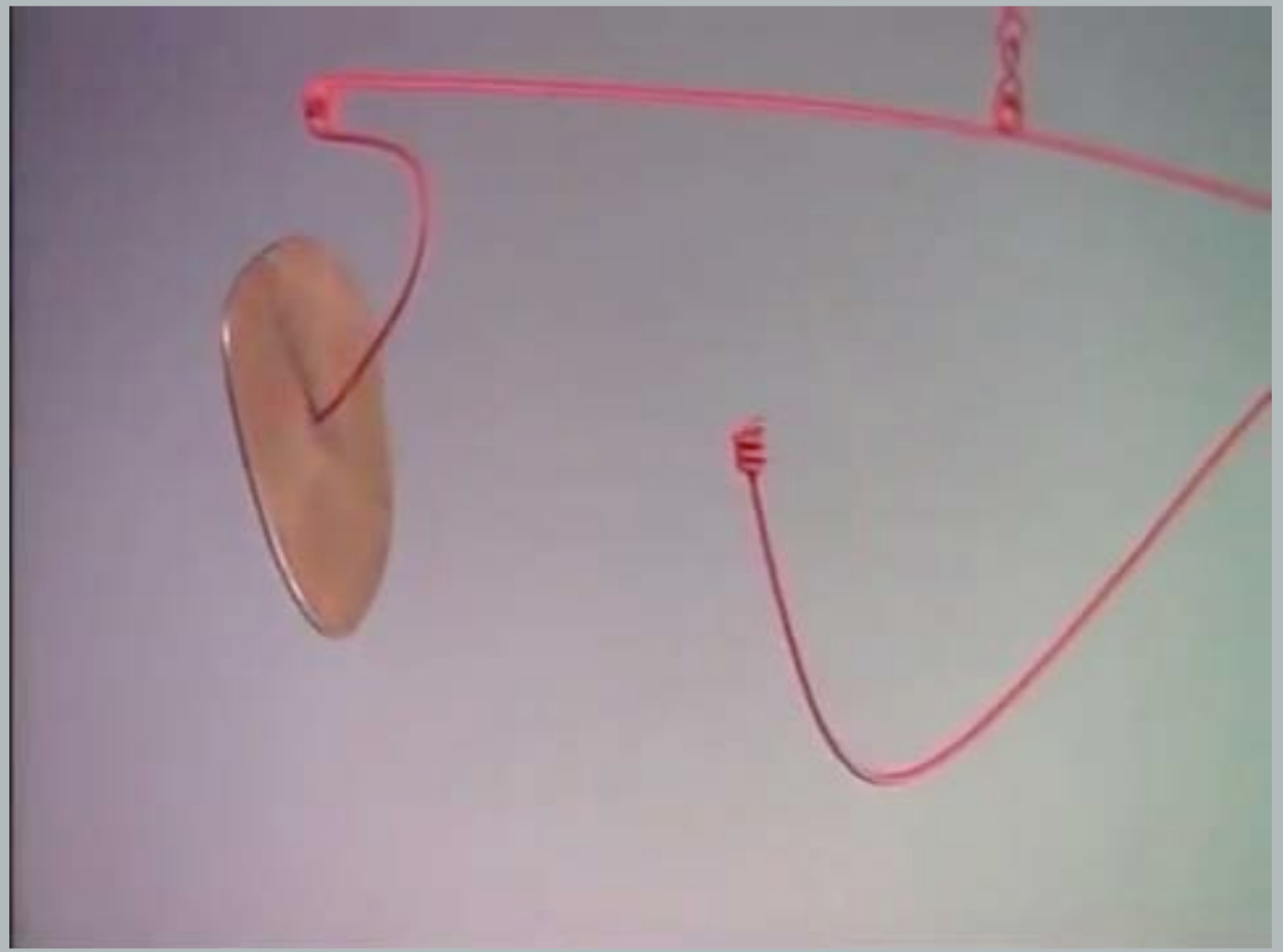

Lost in translation - problems and questions?

- The score is designed to be what it is: **leave it alone!**
- The importance of **automation** in enabling more complex behaviour at higher levels, as in performance.
- Is this a **tool** - or a **composition**?
- What about **interpretation**?
- Live notation: is it too **difficult** to play?

- x, y and z maps to pitch, duration, amplitude, chordal complexity, timbre? Is this all too **simplistic**? (Yes)
- technicalities: how best to implement **rotation** and display the resulting 'live' notation.
- How do I feel about **losing control**: what about if I 'come across' a particularly **beautiful version**. Can I save it? (Currently no, except for taking a screen shot). Should I be able to?

Thank you and demonstration

any questions?

contact:
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this presentation is available at
http://rhoadley.net/presentations
as **lips.pdf**

video recordings of past performances are at **rhoadley.net/youtube** and **rhoadley.net/vimeo**