Semaphore

Cross-domain expressive mapping with live notation

Conference on Technlogies for Notation and Representation

Paris-Sorbonne/IRCAM, May 2015

Richard Hoadley
Digital Performance Laboratory, Anglia Ruskin University, Cambridge UK

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

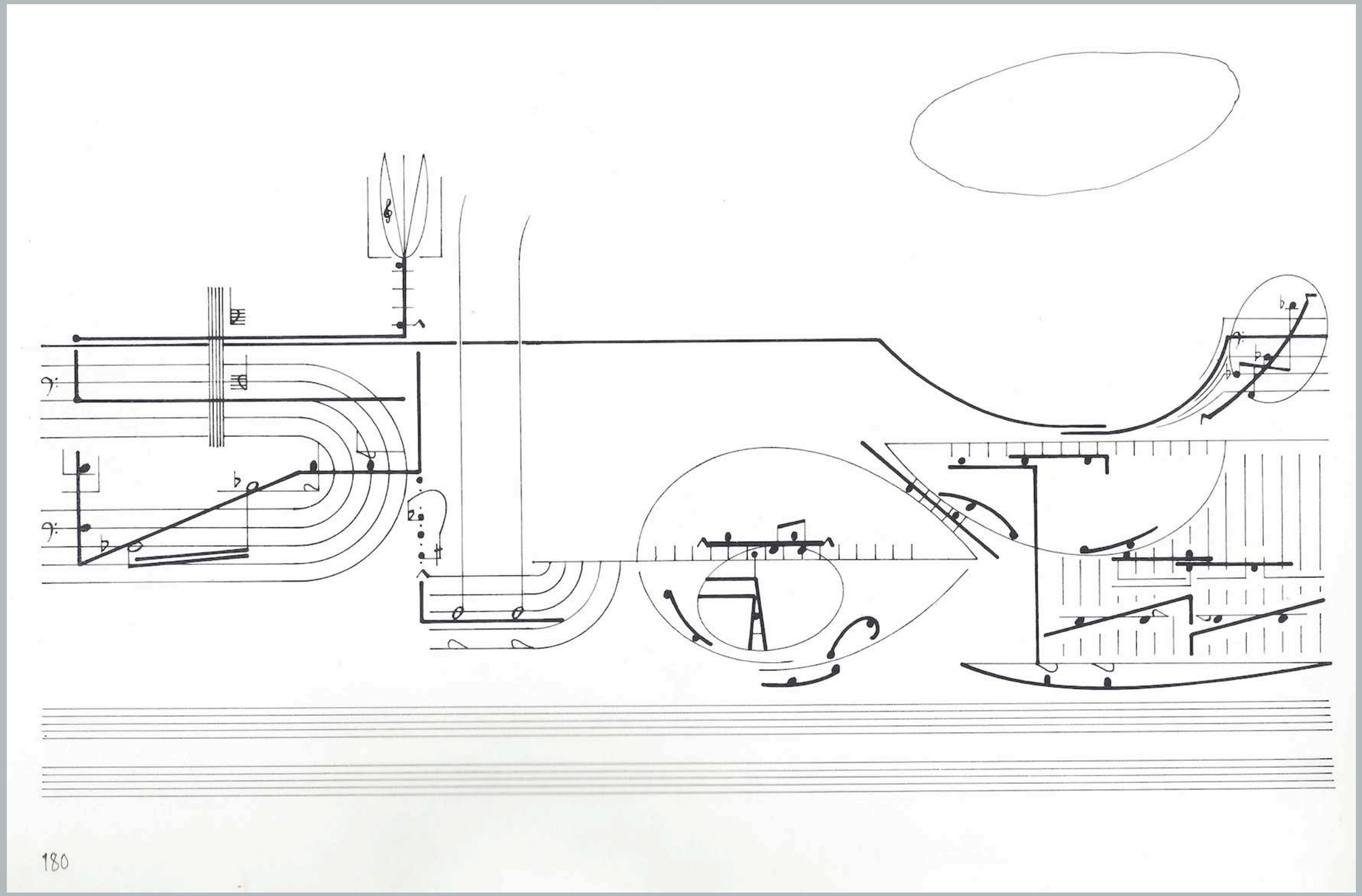
This research has been subsidised by Anglia Ruskin University and Arts Council England

v0.02

8th Feb 1963

Notation is a way of making people move. If you lack others, like aggression or persuasion. The notation should do it. This is the most rewarding aspect of work on a notation. Trouble is: Just as you find your sounds are too alien, intended 'for a different culture', you make the same discovery about your beautiful notation: no-one is willing to understand it. No-one moves.

Cornelius Cardew, from **Treatise Handbook**, 1971


180

Three research streams

1. algorithms (patterning)
2. physical computing
3. notation/representation

...linked by cross-domain expression and interpretation

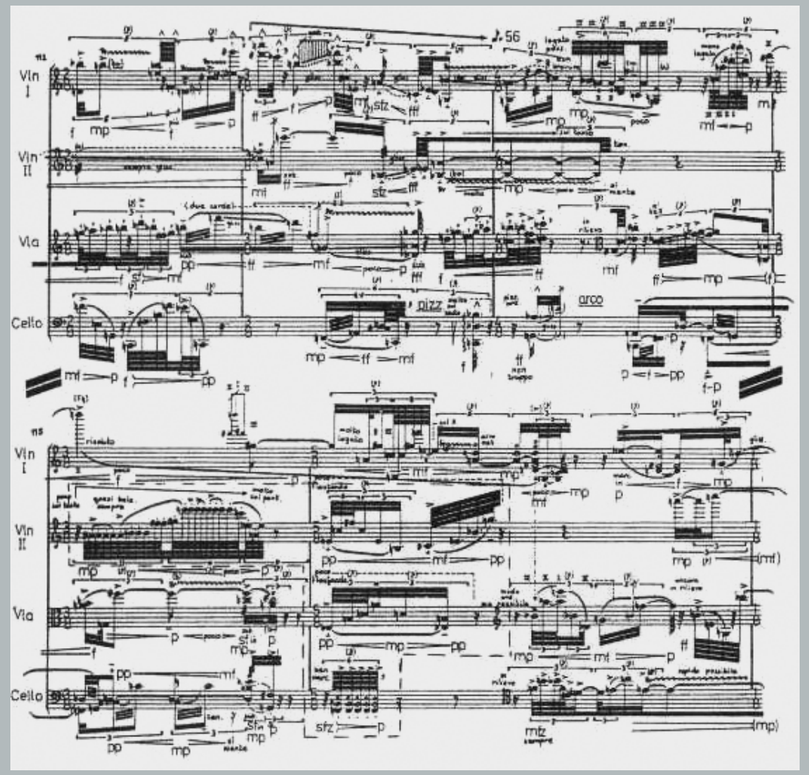
Cross-domain expression?

- Music is already cross-domain (as are all arts)
- It is formed of physical action to create patterns
- I'm not worried about what happens when those patterns are recreated fresh today. As a composer, I suppose I rely on my judgement to help me decide whether I like the *form* of a pattern or not.

Notation/representation

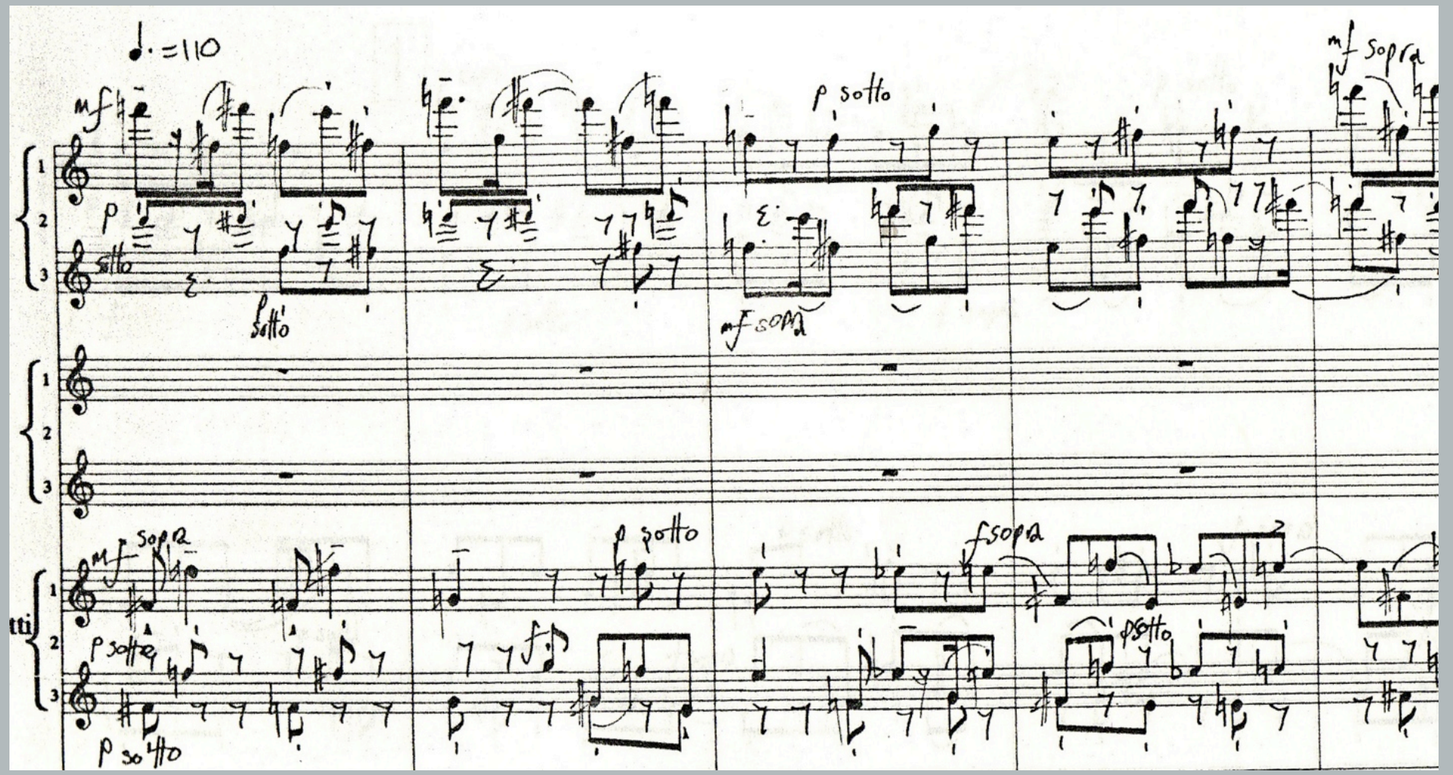
- is a complex semantic and graphic form of 'language'
- is not really suited to non-specialised environments
- presents many challenges concerning electronic implementation and display

Notation: complexity



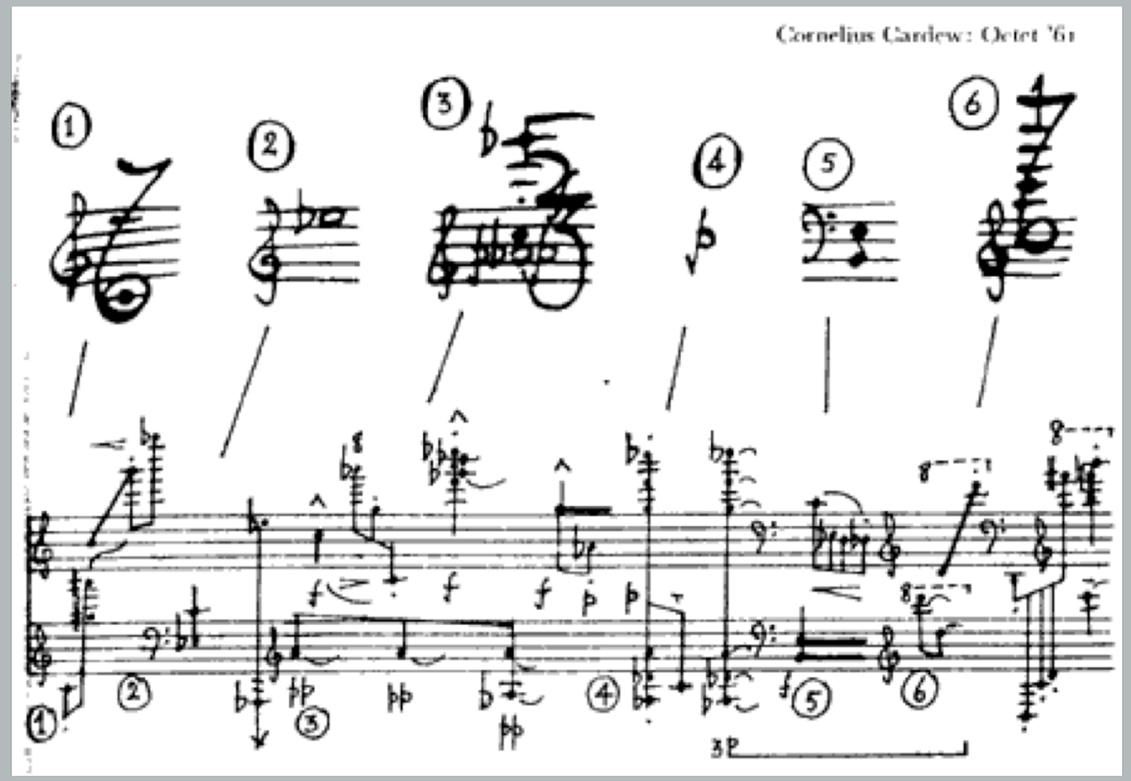
Ferneyhough **Second String Quartet** (1980)

Notation: Mea culpa



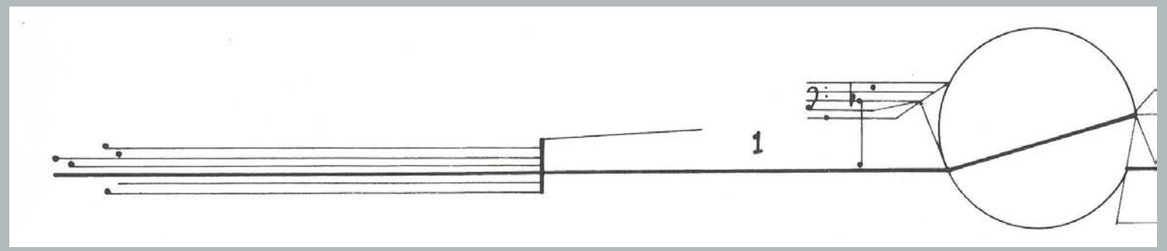
Richard Hoadley **Four Archetypes** (1995)

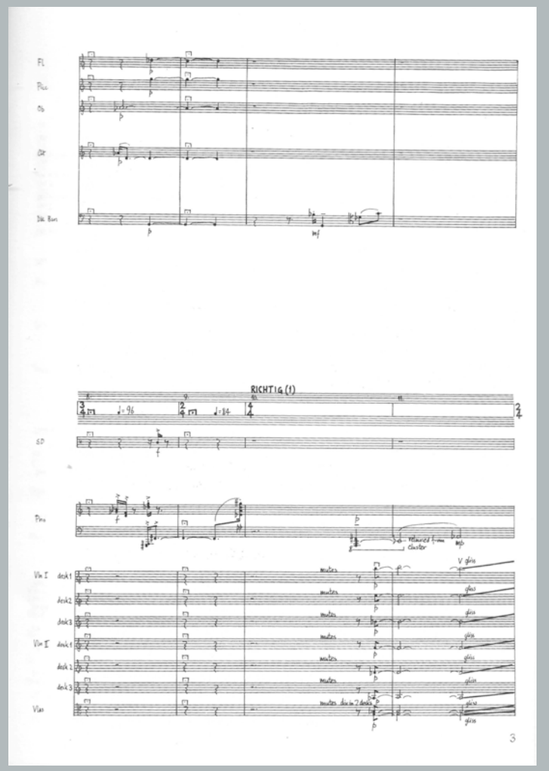
Graphic notations: Cardew



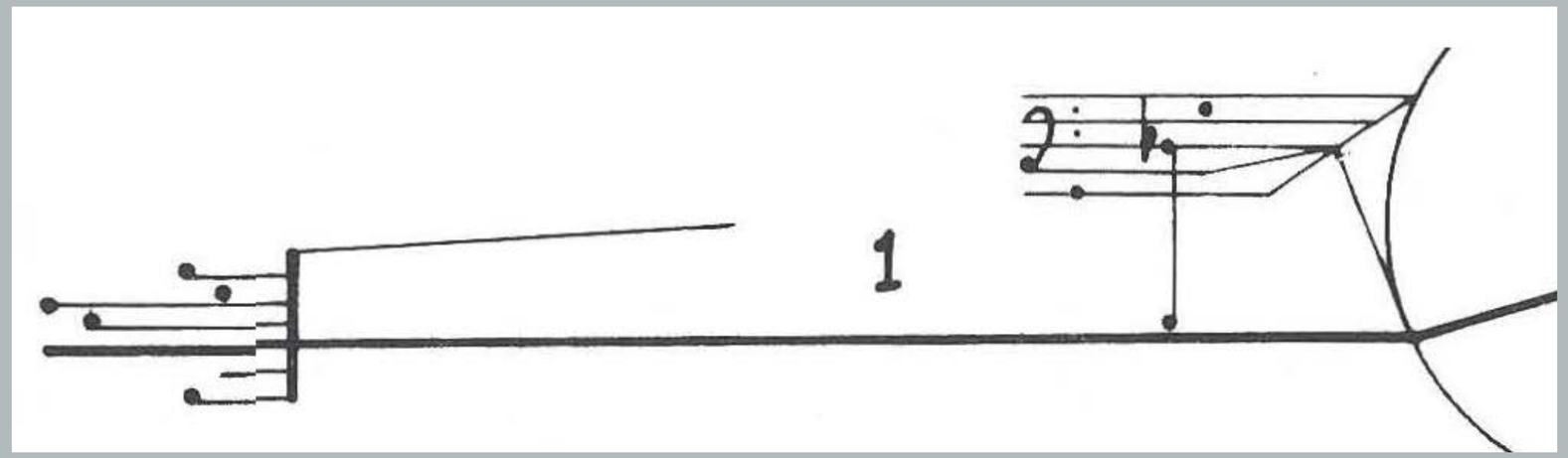
From Cardew **Octet 61** (1961)

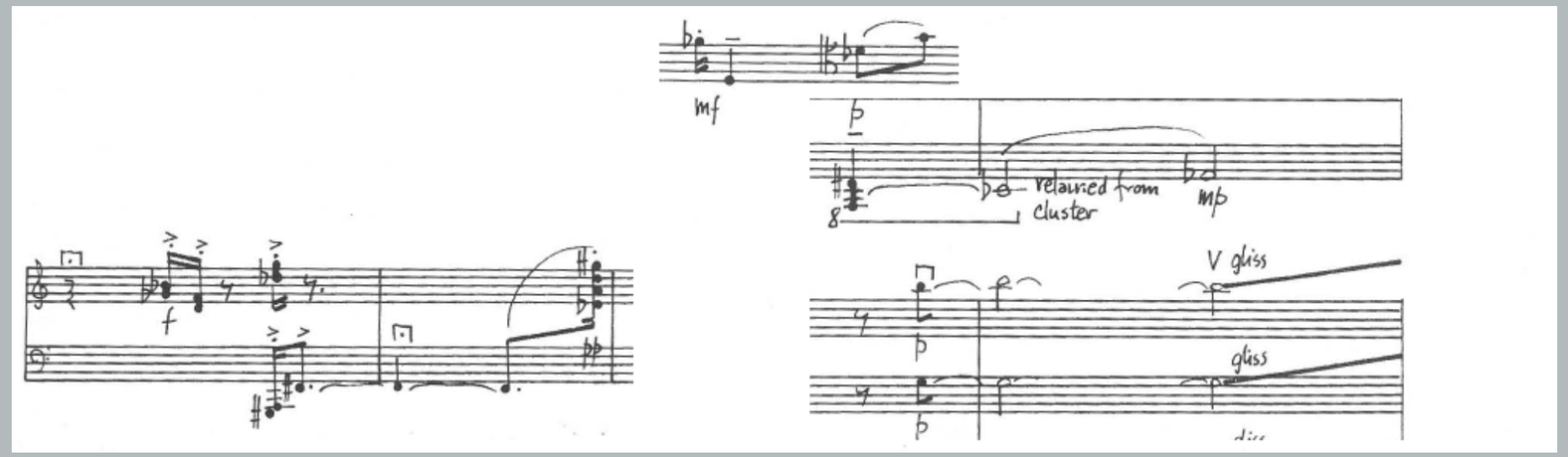
Graphic notations: Cardew Treatise **(1963) and** Bun No. 2 **(1964)**





Detail from Treatise and Bun 2...





Why pursue these lines of research?

- it offers me a chance of understanding the act of composition more
- it unifies dots and signals: enriching electronic music with live performance and algorithmic patterning
- it enables the live synchronisation of algorithmic generation of both electronic and electroacoustic material and notation

- it allows the exploration of links between expressive domains: algorithm and physical gesture into live notation: which gestures have ‘meaning’ and which don’t
- it encourages virtuosic performance and investigates liveness in music performance and improvisation
- it allows analysis of compositional processes through automation
- ...as a consequence and to clarify, it's a technique *and* a tool, just as these compositions are both pieces and experiments

dots vs signals

'Music processing'...denotes the processing of music information, which is stored in its structured symbolic musical 'Gestalt'. The term 'music processing' implies a difference from the signal processing community, in that it does not deal with sound as the source material for investigation, but deals with music as score or music as timebased structure stored in a symbolic form.

Carola Boehm, Book Review, Organised Sound 7(1): 79–82, 2002

The tools

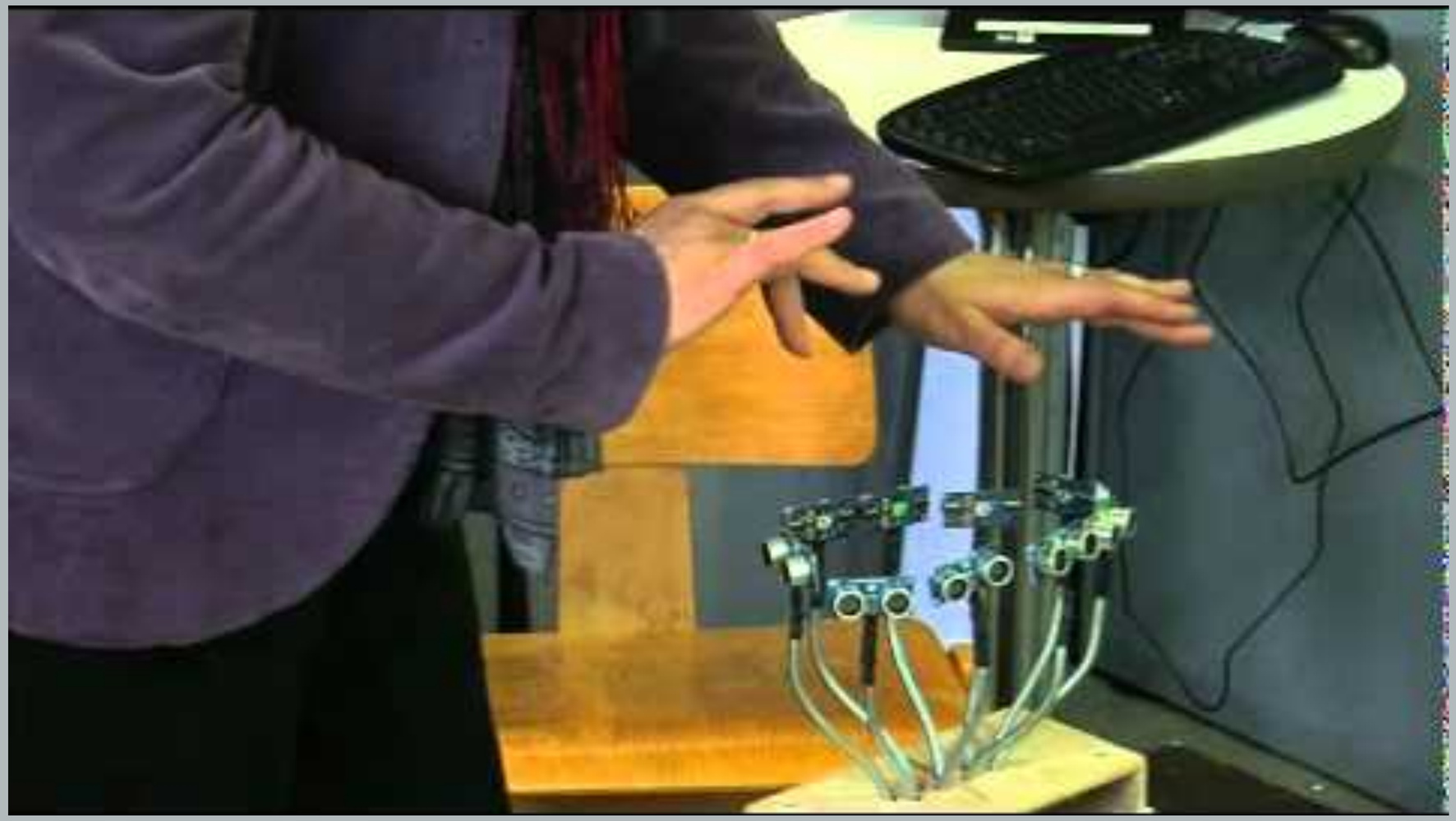
- provide a structure for the generation of music and/or common practice notation as well as many arbitrary graphical elements
- facilitate communication between SuperCollider and INScore
- offer the beginnings of a more standard interface for physical mapping

and are located...

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

Performances: **Gaggle**, HCI conference, Cambridge, UK, 2009

Gaggle, Museums, interfaces, spaces, technologies, 2010



Calder's Violin, SuperCollider Symposium, London 2012

The Fluxus Tree, LIPAM, Leeds UK, September 2012

Quantum Canticorum, Museum of Modern Art, Barcelona, June 2014

To display, or not to display, the notation?

Quantum Canticorum Demonstration, Natural History Museum, London, June 2014

Semaphore, Covent Garden, Cambridge, October 2014

Peer comment and criticism

1. many comments asking about the possibilities of machine musicianship as a compelling reason for using real-time notation (imagination over reality)
2. possible difficulties in keeping track of one's place in the score
3. the feasibility of obtaining an 'accurate' and structured rendition due to lack of rehearsal

1. the 'fetishisation' of the notation (when displayed)
2. the dancer being 'caged' by the 'cone of the Kinect' (MSphobia?)
3. the 'conservative' nature of the music (old fashioned modernism? a reasonable point, maybe, and there are no stylistic predicates with the technology)

Forthcoming events

- *Performance of 'How To Play the Piano in 88 Notes'* by Philip Mead, Music as Process Conference, Goldsmiths, London, 6th June 2015
- *Performance of 'Semaphore'* for dancers and musicians, 9th July, M.A.D.E., Cardiff
- **Semaphore** plus **new piece**, workshop and demo at Festival of Ideas, October 2015, then at the following venues:
- Cardiff Contemporary Festival
- New Cut Arts, Halesworth, Suffolk
- Colchester Arts Centre
- WestAcre Theatre, Norfolk
- Conway Hall, Holborn

Demonstration

Just in case:

Thank you

any questions?

contact:
research@rhoadley.net

this presentation is available at
http://rhoadley.net/presentations
as **tenor-semaphore-s.pdf**