

(Pre)compositional strategies and
computer-generated notation in
surface/tension (2012) for oboe and
piano or ensemble

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Cycle of pieces using computer-assisted composition (OM)

- *String Quartet (2013-2014)*
 - Première: December 2014. Spitalfields Winter Festival, Quatuor Diotima.
- *surface / tension (2012)* version for solo oboe and ensemble
 - Première: 18 November 2012, Christopher Redgate and Cikada Ensemble (Christian Eggen, cond.), Bates Mill, Huddersfield (HCMF).
- *surface / tension (2012)* duo version for oboe and piano
 - Première: 27 July 2012, Christopher Redgate and Stephen Robbings, Schott's Performance Space, London.
- *Adaptations (2011-12)* for electric violin and computer
 - Première: 6 January 2012, Mieko Kanno and Sam Hayden, Jacqueline du Pre Music Building, University of Oxford, Symposium for Performance of Electronic and Experimental Composition (SPEEC): "Building an Instrument", Faculty of Music, Oxford University.
- *misguided (2011)*, for clarinets, saxophones, trumpet and trombone
 - Première: 26 March 2011, ELISION Ensemble (Eugene Ughetti, cond.), Iwaki Auditorium, ABC Southbank, Melbourne, Australia.

1, 2, 3, 5, 7, 11, 13



2, 7, 1, 11, 3, 13, 5

2



subdivision series

3, 13, 5, 7, 2, 1, 11



subdivide if duration < 5 secs.

2, 7, 1, 11, 3, 13, 5

1.5, 5.25, 0.75, 8.25, 2.25, 9.25, 3.75 secs.



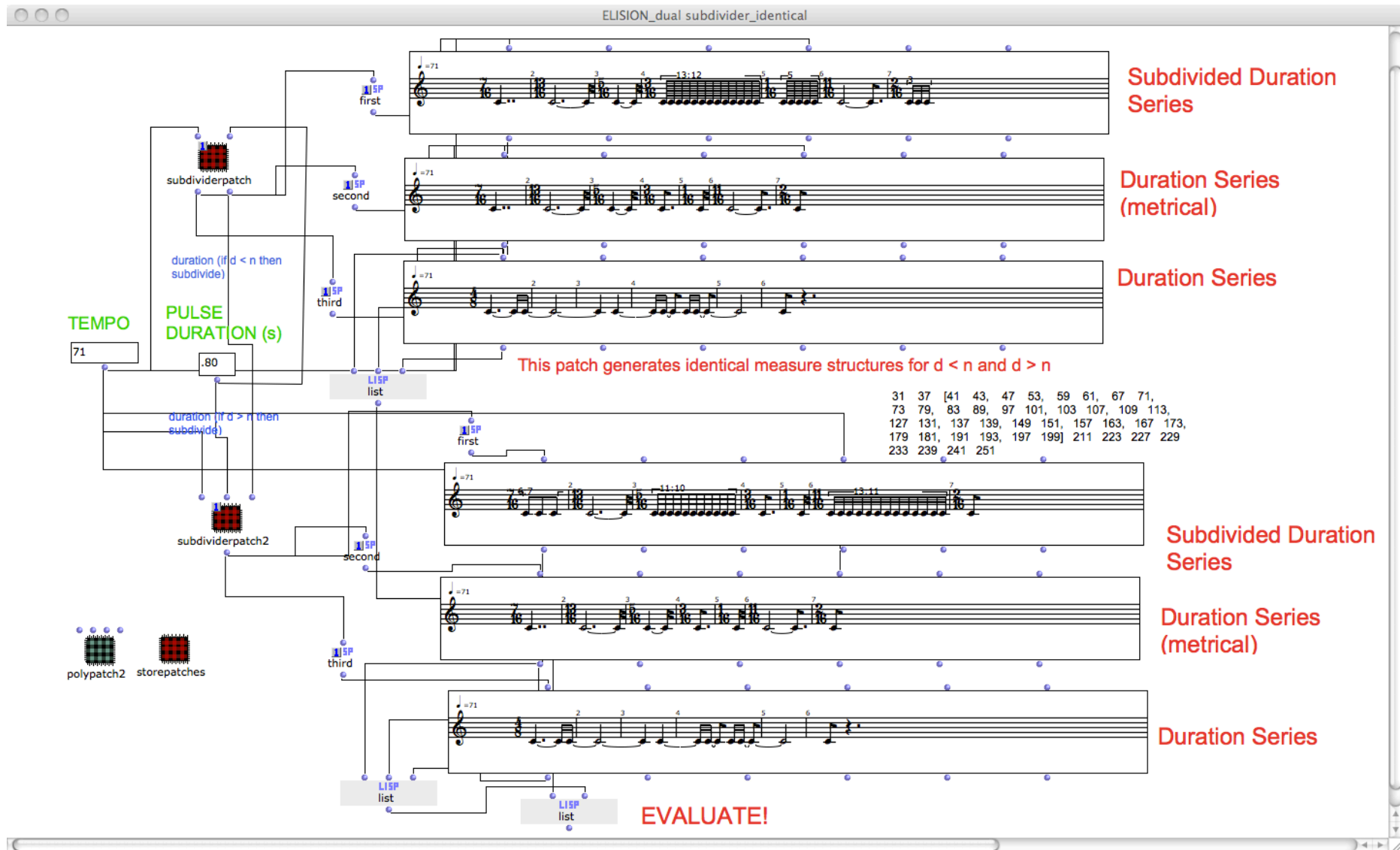
permutational
rhythmical
structures and
subdivisions
Sunk Losses
(2002) for large
orchestra

subdivide if duration < 5 secs.

2, 7, 1, 11, 3, 13, 5

1, 3.5, 0.5, 5.5, 1.5, 6.5, 2.5 secs.





misguided (2011)

for clarinet(s), saxophone(s), trumpet and trombone:
OM generated permutational metrical structures and
rhythmical subdivisions

misguided (2011)
for clarinet(s), saxophone(s), trumpet and
trombone
opening of score – early sketch (trio)

untitled

BASS CLARINET SOLO

poco rit. A Tempo

Sam Hayden (2008)

misguided (2011) opening of score – early sketch (trio)

Bass Clarinet in Bb

Trumpet in C

Trombone

B. Cl.

C Tpt.

Tbn.

8 9 10 11 12 13 14

misguided
for EUSION

Sam Hayden (2006-11)

Energetic

$\text{♩} = 165$
 $\text{♩} = 82.5$

peca rit.

Bass Clarinet in B \flat

Baritone Saxophone

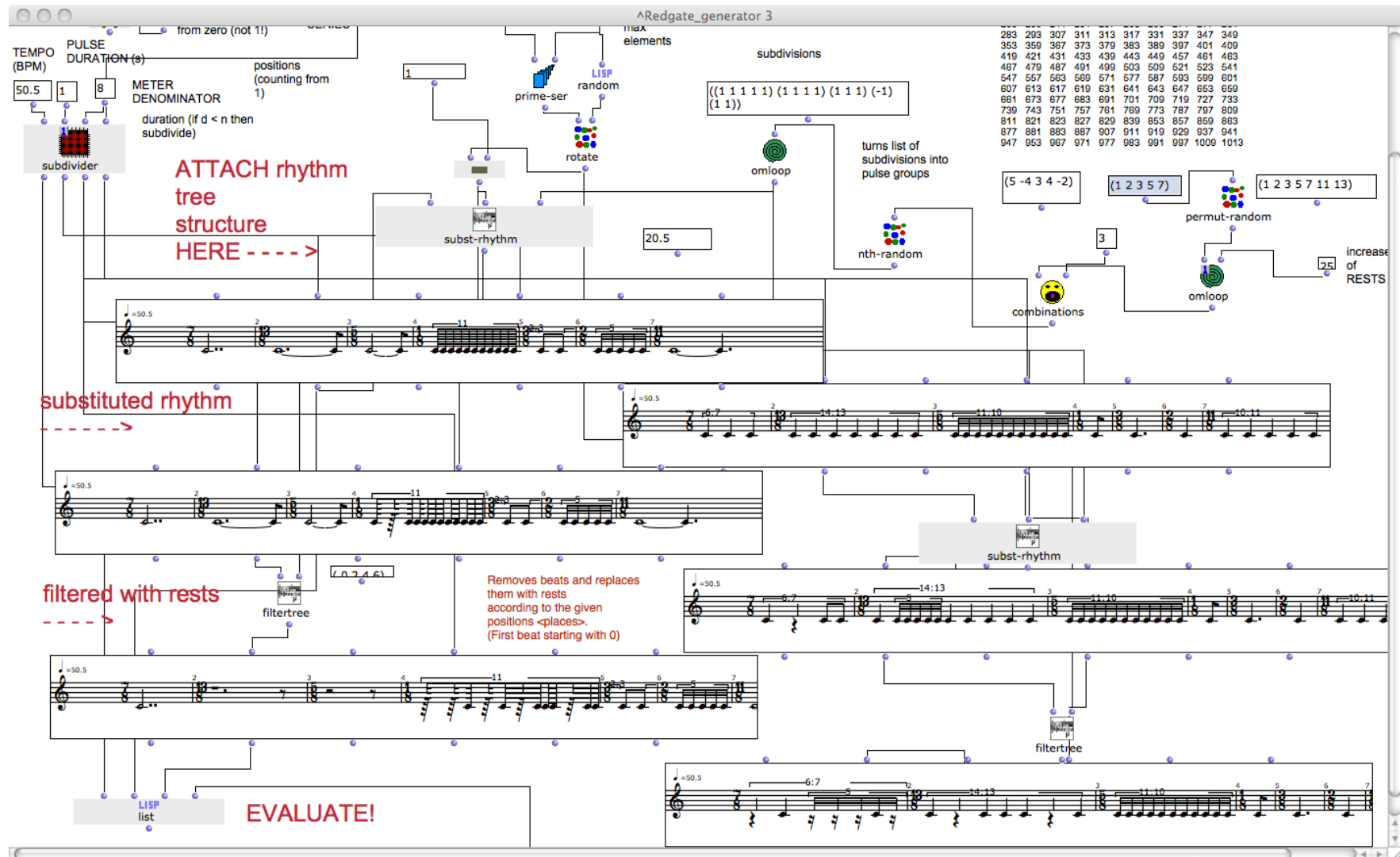
Trumpet in C

Trombone

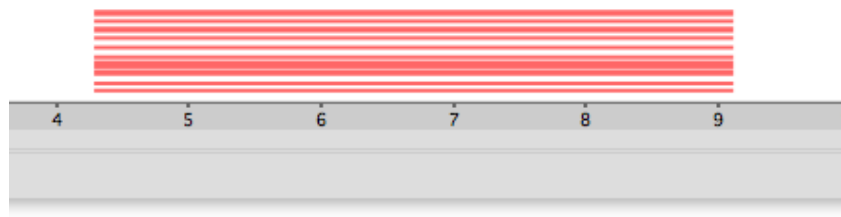
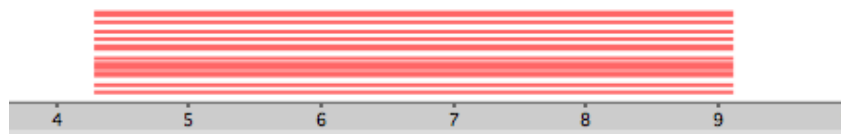
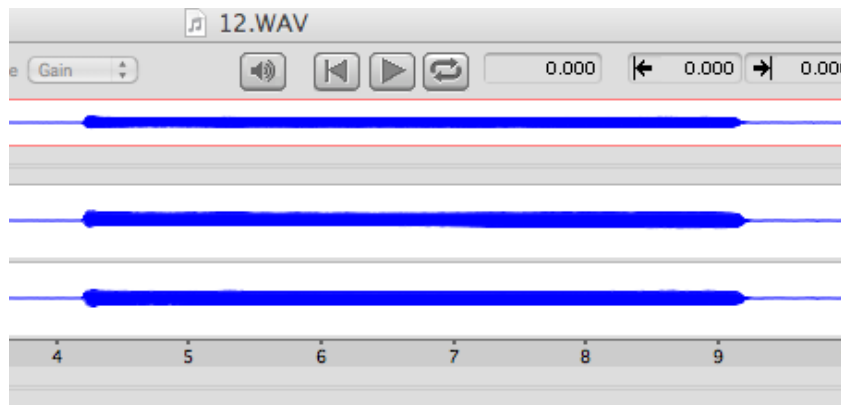
The score is divided into four staves, each representing a different instrument. The Bass Clarinet in B \flat staff starts with a staccato marking and a tempo of 165. The Baritone Saxophone staff has a staccato marking and a tempo of 82.5. The Trumpet in C staff has a staccato marking and a tempo of 165. The Trombone staff has a staccato marking and a tempo of 82.5. The score includes various musical notations such as staccato, slurs, and dynamic markings (ff, f, mf, pp, pppp). The score is marked 'Energetic' and includes tempo markings of 165 and 82.5. It features various musical notations such as staccato, slurs, and dynamic markings (ff, f, mf, pp, pppp). The score is marked 'peca rit.' and includes various musical notations such as staccato, slurs, and dynamic markings (ff, f, mf, pp, pppp).

misguided (2011)
for clarinet(s), saxophone(s), trumpet and trombone
opening of score





surface/tension (2012) complete rhythmic generator:
 combines metrical generator, rhythmical subdivider and substitute
 rhythm / filter rhythm processes in single OM patch.

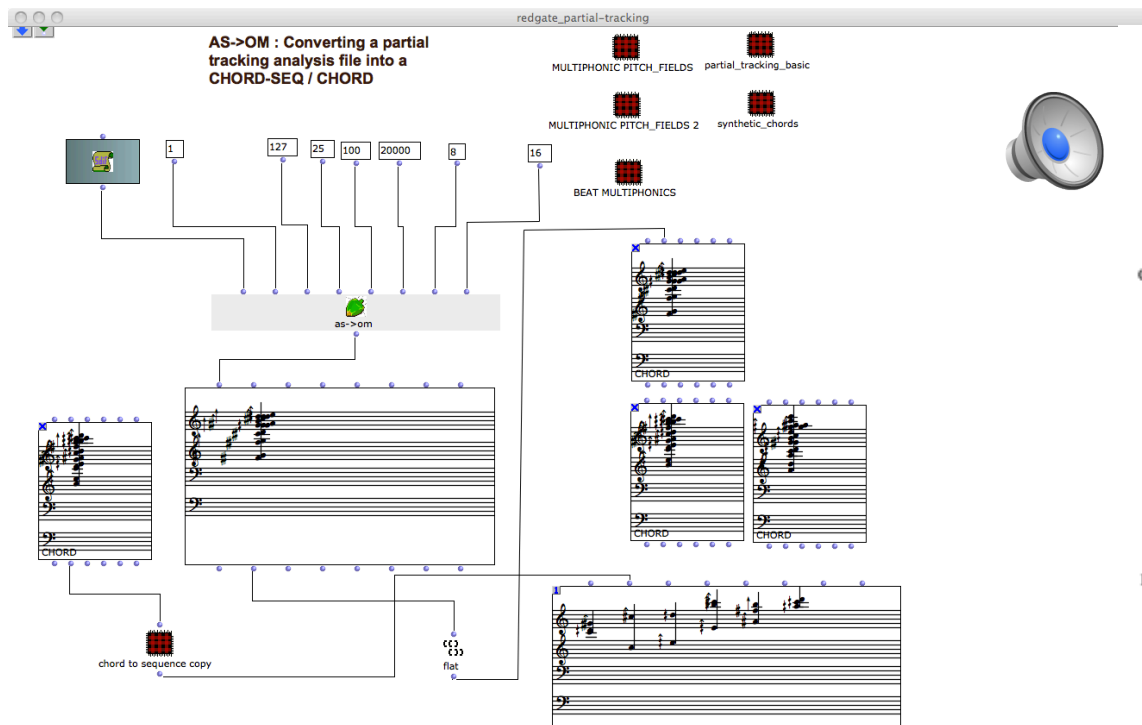


surface/tension (2012)
spectral analysis (AS):
multiphonic no.12

New oboe multiphonic fingerings.

NOTES

1/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	2/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	3/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	4/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	5/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$
6/ $\begin{array}{c} \text{2} \\ \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	7/ $\begin{array}{c} \text{2} \\ \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	8/ $\begin{array}{c} \text{2} \\ \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	9/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	10/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$
11/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{Bb} \\ \vdots \\ \text{C} \end{array}$	12/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$	13/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$	14/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$	15/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$
16/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$	17/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$	18/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$	19/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$	20/ $\begin{array}{c} \text{O} \\ \vdots \\ \text{B} \\ \vdots \\ \text{C} \end{array}$



Senza Misura

Energetic

♩ = 68.5

♩ = 137

5:6, 3:2

gliss

A

Oboe

PPP

sub *fff* *fff* *fff* *ppp*

A

Piano

harmonic (touch string) [11th partial]

fff *fff*

ff

CHORD

Selection: NOTE

midic 6952 Zoom 90 Staff GGFF

chord Font size 60 Approx 1/8

CHORD

Selection: NOTE

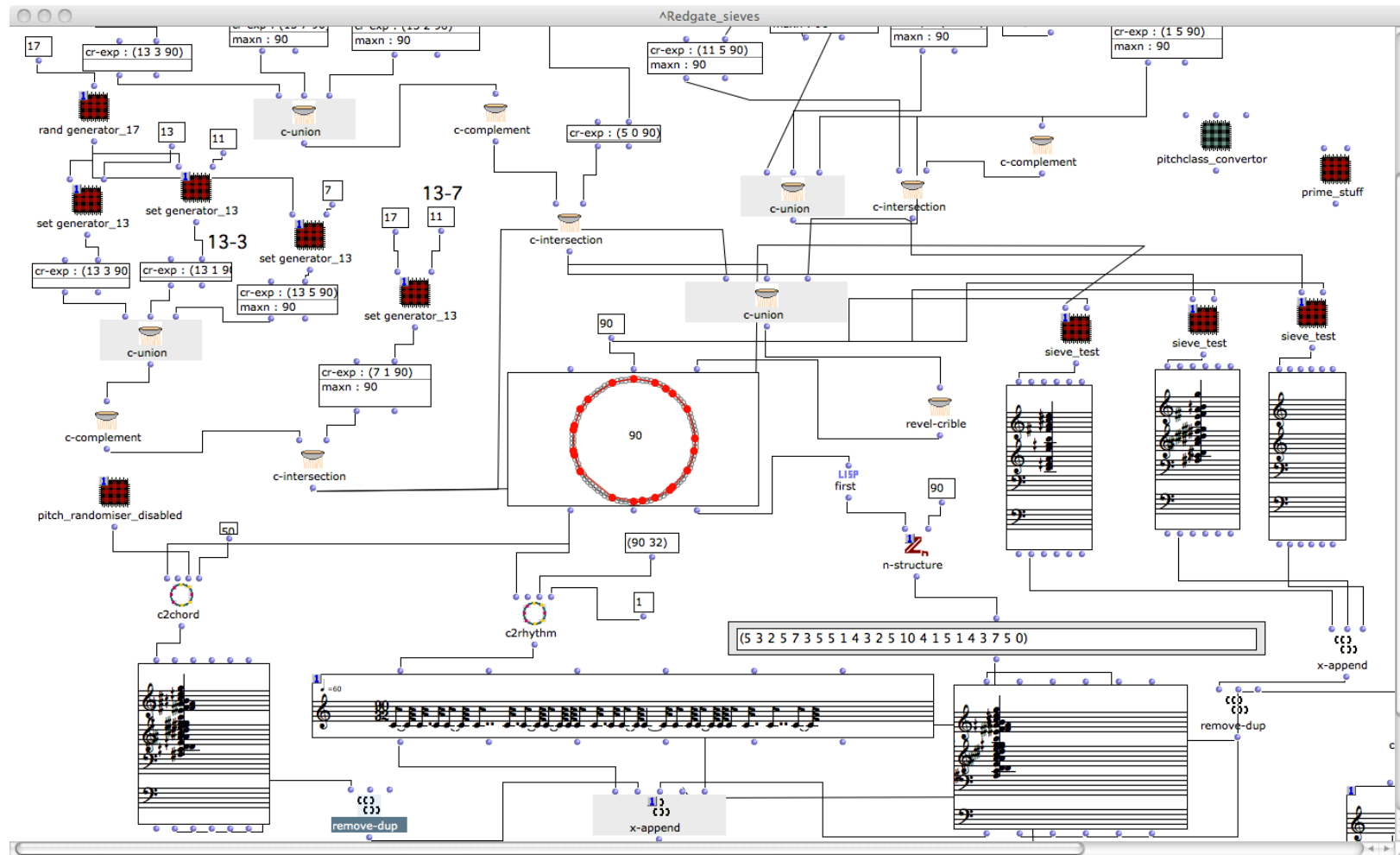
midic 6952 Zoom 90 Staff GGFF

arpUp Font size 24 Approx 1/8 Player Midishare

surface/tension (2012)

spectral analysis of

multiphonic no.12 (AS->OM)



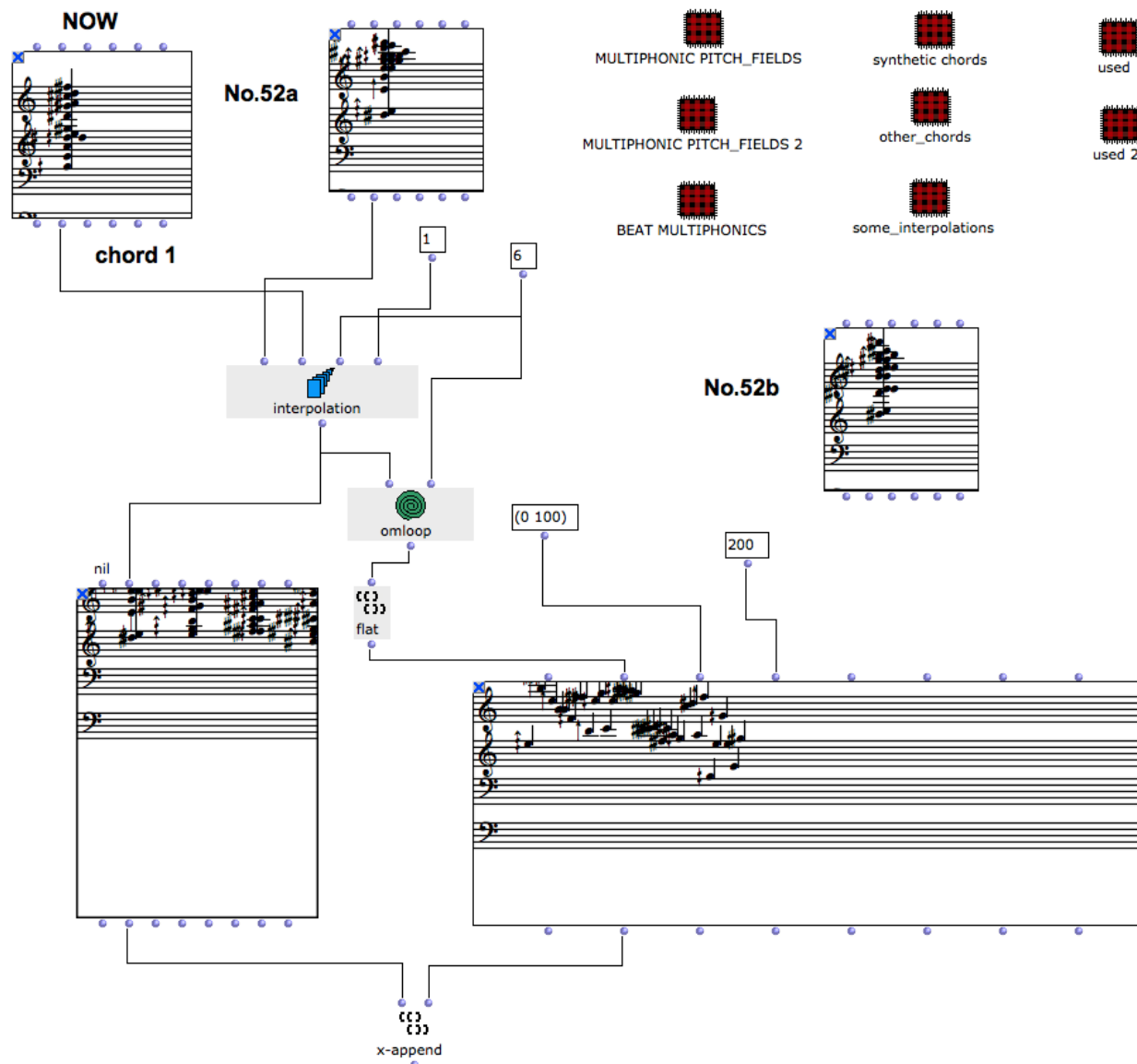
surface/tension (2012):
 Algorithmic generation of non-octavating scales
 (artificial spectra)

surface / tension (2012):

opening of duo version: OM-generated inharmonic spectra

The screenshot shows the CHORD1 software interface. At the top, the title bar reads "CHORD1". Below it, a header bar contains the word "CHORD" on the left and "Selection: NOTE" on the right. The main area features a musical staff with a treble clef and a bass clef. A sequence of notes is displayed on the staff, starting from a low note on the left and moving upwards to a higher note on the right. The notes are represented by black dots with stems. Below the staff, there is a control panel with several settings: "midic" and "arpUp" buttons, a "Zoom" slider set to 100, a "Font size" slider set to 24, "Staff" and "Approx" dropdown menus set to "GGFF" and "1/8" respectively, a "Player" dropdown menu set to "Micropla...", and a small circular button with three dots. The interface is designed for creating and editing musical chords and sequences.





surface/tension (2012):
 OM interpolation of multiphonics to artificial spectra

CHORD-SEQ 2

Selection: CHORD

Duration: 6000 ms

midic: [] Zoom: 155 Staff: GGF Player: Midishare ...
chord: [] Font size: 48 Approx: 1/8

Detailed description: This screenshot shows a software window titled 'CHORD-SEQ 2'. The main area displays a musical score on a grand staff (treble and bass clefs). The score consists of several measures, each containing dense, complex chordal structures with many notes and accidentals. Some notes have upward-pointing arrows above them. The interface includes a top bar with window controls and the title 'CHORD-SEQ 2', and a bottom control bar with various settings like 'midic', 'chord', 'Zoom' (155), 'Staff' (GGF), 'Approx' (1/8), and 'Player' (Midishare). A 'Selection: CHORD' indicator is on the right. A vertical scrollbar is on the right edge. The duration '6000 ms' is shown at the bottom right.

CHORD-SEQ1

Selection: CHORD

t: 218 ms

Duration: 3600 ms

midic: [] Zoom: 522 Staff: GGF Player: Midishare ...
chord: [] Font size: 24 Approx: 1/8

Detailed description: This screenshot shows a software window titled 'CHORD-SEQ1'. The main area displays a musical score on a grand staff. The score shows a more melodic line with fewer notes per measure compared to the first image. The interface is similar to the first image, with a top bar, a bottom control bar with settings like 'midic', 'chord', 'Zoom' (522), 'Staff' (GGF), 'Approx' (1/8), and 'Player' (Midishare), and a 'Selection: CHORD' indicator. A vertical scrollbar is on the right. The duration '3600 ms' is shown at the bottom right. A time indicator 't: 218 ms' is visible on the left side of the score area.

surface/tension (2012):
interpolation of multiphonics to artificial spectra

The image displays a musical score for the final section of the piece "surface/tension" (2012). The score is written for Oboe (Ob.) and Piano (Pno.).

Ob. Staff:

- Measures 139-140: Marked *ff* and *mf*. Includes a *bona* marking.
- Measures 141-142: Marked *mp* and *mf*. Includes a *wide vib.* marking.
- Measures 143-144: Marked *f* and *ff*. Includes a *(multiphonic trills ad lib.)* marking.

Pno. Staff:

- Measures 139-140: Marked *ff* and *f*. Includes a *cresc. poco a poco* marking.
- Measures 141-142: Marked *mp* and *mf*. Includes a *p* marking.
- Measures 143-144: Marked *f* and *mf*. Includes a *sec.* marking.

Tempo and Rhythm:

- The tempo is marked *Slower Tempo* and *poco rit.*.
- The rhythm is marked *(4+4+3)*.
- There are markings for *beat multiphonic* and *beat multiphonic*.
- There are markings for *14.11.1* and *14.11.2*.
- There are markings for *sec.* (second).

Dynamic Markings:

- ff* (fortissimo)
- f* (forte)
- mp* (mezzo-piano)
- mf* (mezzo-forte)
- p* (piano)
- molto dim.* (molto diminuendo)
- ppp* (pianissimo)

Other Markings:

- senza vib.* (senza vibrato)
- l.v.* (lento vivace)

surface/tension (2012): final section used interpolation of multiphonics to artificial spectra

surface / tension (2012): opening of ensemble version

Full Score

SCORE IS IN C

Senza
Misura

♩ = 137
♩ = 68.5

Energetic

(6+4+3)

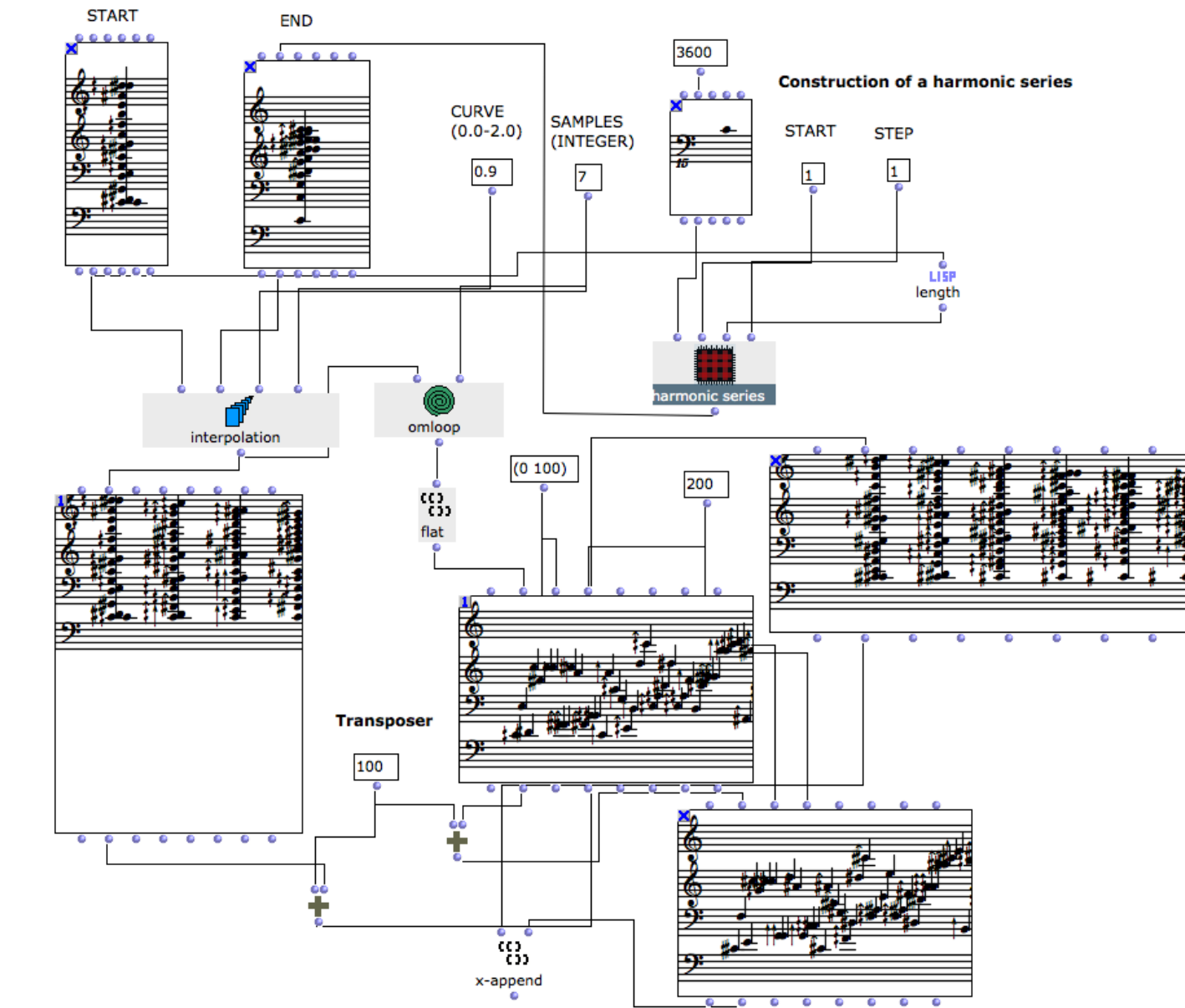
surface / tension

for solo oboe and ensemble

Sam Hayden (2012)

Full score for "surface / tension" by Sam Hayden (2012). The score is for an ensemble version and is in C major. It features a 6+4+3 time signature and a tempo of 137 bpm. The score is divided into two systems, each with a rehearsal mark A. The instruments include Solo Oboe, Piccolo, Bass Clarinet in Bb, Crotale, Bongos x2, Congas x2, Percussion, Piano, Violin, Violin 2, Viola, Violoncello, and Contrabass. The score includes various musical notations such as dynamics (ppp, ff, f, mf, mp, pp), articulation (stacc, marc, sub), and performance instructions (senza cresc, cresc. poco a poco, molto rit., etc.). The score is marked "Senza Misura" and "Energetic". The first system includes a rehearsal mark A and a tempo change to 68.5 bpm. The second system includes a rehearsal mark A and a tempo change to 137 bpm.

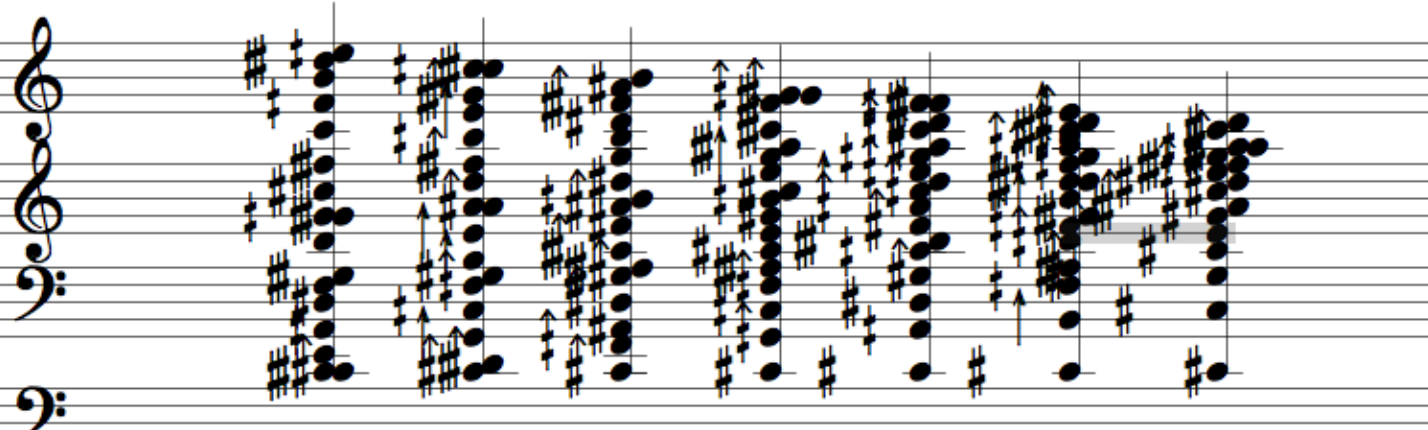




String Quartet (2013-14):
OM interpolation of inharmonic to harmonic spectra

CHORD-SEQ 2

Selection: NOTE




t: 7677 ms Selection: 6800 - 7800 ms

midic 6486 Zoom 72 Staff GGFF Player Midishare ...

chord Font size 36 Approx 1/8

CHORD-SEQ1

Selection: CHORD



Duration: 4900 ms

midic Zoom 340 Staff GGFF Player Midishare ...

chord Font size 24 Approx 1/8

String Quartet (2013-):
 OM interpolation of inharmonic to harmonic spectra

www.samhaydencomposer.com/

www.composersedition.com/

www.nmcrec.co.uk/debut-discs/sam-hayden

www.trinitylaban.ac.uk/students-staff/staff-biographies/sam-hayden