

**Dr Sam Hayden (Reader in Composition) Trinity Laban Conservatoire of Music and Dance**

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**Abstract:**

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

### **1. Introduction**

My recent cycle of acoustic works have all involved different solutions to the same broad initial context, using computer-assisted compositional techniques (CAC) via OpenMusic to help solve the problem of how to enable the proliferation of diverse surface materials, whilst maintaining an underlying formal coherence. In this case, the composition and notation of entirely acoustic music is inseparable from CAC tools and purpose-built acoustic instruments. This paper will discuss the CAC techniques inherent in my pre-compositional strategies, focussing on *surface/tension* (2012) for oboe and piano/ensemble, composed in collaboration with Christopher Redgate, as part of his AHRC research project 'New Music for a New Oboe', as well as mentioning *misguided* (2011) for ELISION Ensemble, and a new String Quartet (2013-14) for Quatuor Diotima.

### **2. Proposal**

#### **2.1 Description**

This paper will discuss how the piece evolved from a dialectical relationship between the unique sonic possibilities inherent in the new Redgate-Howarth oboe and OM-generated notational structures. The underlying material for *surface/tension* was the product of two distinct (pre)compositional strategies, each yielding a different kind of 'found object' which became the starting points for the piece: (a) the spectral analyses of multiphonics were used to generate microtonal pitch fields using Audiosculpt and OM; and (b) the algorithmic generation of artificial spectra, non-octavating scales and complex rhythmical structures using OM. The collaborative process *and* the formalized (pre)compositional strategies, shaped directly both the notation of hyper-virtuosic material and the approach to form, taking the piece in unanticipated directions. I will argue that the use of such digital tools aids the creation of new musical ideas, sounds and modes of expression, beyond existing paradigms of musical culture.

#### **2.2. Requirements**

Overhead projection from my own MacBook Pro and basic audio playback (via mini stereo jack).

#### **2.3 Links**

Personal website: <http://samhaydencomposer.com/>

Trinity Laban profile: <http://www.trinitylaban.ac.uk/students-staff/staff-biographies/sam-hayden>

Hayden portrait CD (NMC Debut Discs): <http://www.nmcrec.co.uk/recording/presenceabsence>

Christopher Redgate (21<sup>st</sup> Century Oboe Project): <http://21stcenturyoboe.com/Sam-Hayden.php>

HCMF performance: <http://www.hcmf.co.uk/event/show/285>

Some example slides to be used in the presentation:

**algorithmic  
generation of rhythmic structures (OM)**

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

*surface/tension* (2012): Algorithmic generation of pitch fields (artificial spectra) and non-octaving scales

**Spectral analysis of multiphonics (AS)**

*surface/tension* (2012):  
Multiphonic No.12

**Spectral analysis of multiphonics  
AS->OM**

*surface/tension* (2012)