Institution: Liverpool Hope University

Unit of Assessment: 35a Music

Title of case study: Visual Sound-Shapes – a new compositional methodology for creating and understanding electroacoustic music

1. Summary of the impact (indicative maximum 100 words)

The development of a new compositional tool for electroacoustic music (using technology to explore, create and perform sounds not limited to traditional instrumental sources) based on visual shapes has generated new ways of thinking that influence creative practice, and has inspired and supported new forms of artistic expression. New musical outputs composed by Dr Manuella Blackburn, generated from using the tool, have enriched the lives, imaginations and sensibilities of individuals and groups, locally and internationally. Parallel to this, the tool has been implemented in a number of educational situations (including workshops and textbooks) ranging from school-aged learners (11-18) to university undergraduate students, beyond Liverpool Hope University as the submitting HEI.

2. Underpinning research (indicative maximum 500 words)

2006 – 2009: (Manuella Blackburn's PhD in Electroacoustic Music Composition, University of Manchester)

2010 – Present: (Dr Manuella Blackburn, Lecturer, Liverpool Hope University) research trials, school workshops, image development and further compositions.

Nature of the research insights or findings, which relate to the impact claimed in the case study: In 2006 the key researcher, Blackburn (a then PhD student at the University of Manchester) initiated research into using Denis Smalley's aural perception tool of Spectromorphology as a compositional method. Blackburn's new approach reversed Smalley's descriptive language, used for discussing electroacoustic music, so that the vocabulary preceded the composition, directing the path the composer takes within a piece. After her appointment at Liverpool Hope University (2010), Blackburn went onto develop the methodology more formally into a set of visual compositional tools (outlined in an *Organised Sound* journal article). Visualisations were used to illustrate the techniques of sound creation and assemblage, and the documentation stated that visual sound-shapes "have the most influential power upon compositional activity." A key component of the research was the proposal of 'sound unit' construction, viewed as the primary building block of acousmatic music and founded on the premise that every sound/event has a 'start, middle and end.' Video demonstrations of sound unit assemblage (eg. images of emergence, transition and release) were developed as miniature compositional templates and starting points for composers. Sound and shape pairing worksheets based on the new methodology were development and piloted with school children as a means of introducing electroacoustic music at an early stage (ages 11-17) in 2012. This pilot study suggested that when presented with sounds of an abstract nature, children (secondary and sixth-form level) preferred to give visual (drawn) shapes rather than textual descriptions when asked to react to what they heard, suggesting the immediacy of visual shape formation over textual descriptors in the mind of the listener. Blackburn's PhD portfolio of electroacoustic music compositions (University of Manchester) consisting of seven original acousmatic works (between 2006-2009) was instrumental in testing and refining the methodology leading to the conclusions made in the *Organised Sound* article. A CD publication of this portfolio was released in June 2012 on the empreintes DIGITAL label, which also included more recent compositional work from 2011 (Liverpool Hope University) utilizing the

compositional tool.

An outline of the underpinning research produced: The initial concept was proposed in theory in Buenos Aires at the Electronic Music Studies Network International conference in 2008 (in Blackburn, 'Composing from Spectromorphological Vocabulary, Proposed Application, Pedagogy and Metadata,' (conference paper) and later documented more formally in a journal article within *Organised Sound*, 2011 [1]. A conference paper [2] outlining how the workshops for children/young learners can be delivered based on sound and image pairings was given at the Tape to Typedef conference in Sheffield, January 2013. A description of the compositional methodology along with the visual representations of the tool in action now appear within the educational textbook for 11-14 years, *Composing Music with Sounds* [3]. This publication is accompanied by a website: The EARS II Project (eLearning site including social networking elements) and Composing with Sounds software [4] which also integrates animated versions of Dr Blackburn's illustrations to aid the understanding of sound-based music (scheduled for dissemination in 2013-14) as a means of sustaining the development of the tool. A download site for all the new sound shape resources is hosted by Liverpool Hope University [5]. Music compositions created by Dr Blackburn, which trialled and implemented new sound-shape tool are now published on Manuella Blackburn *Formes Audibles,* Single-composer CD-audio disc, Empreintes DIGITALes (Montreal, Canada) [6].

3. References to the research (indicative maximum of six references)

[1] Manuella Blackburn, 'The Visual Sound-Shapes of Spectromorphology', *Organised Sound*, Cambridge University Press, Vol. 16 (1), p5-13, 2011. Statistics (as of September 2012): 1242 full-text views/downloads since 2011, 4th highest downloaded article on *Organised Sound*, Most downloaded article since 2011.
[2] Manuella Blackburn, 'Illustration and the compositional process: An update on creative and pedagogical uses,' conference paper, Tape to Typedef, The University of Sheffield, January 2013.
[3] Leigh Landy, *Making Music with Sound,* Routledge NY, 2012. Commentary on how to use the compositional tool in Chapter 4, plus 60 Illustrations/visualisation of sound by Manuella Blackburn.
[4] EARS II (eLearning site) integrating Dr Blackburn's animated illustrations. http://ears2test.dmu.ac.uk/.
[5] Interacting with sound shapes website, hosted by Liverpool Hope University webpages (2013) http://www.hope.ac.uk/music/interactingwithsoundshapes/
[6] Manuella Blackburn, *Formes audibles* released 2012, (Audio CD including works *Switched on* (2011), *Karita oto* (2009), *Vista points* (2009), *Spectral spaces* (2008), *Cajón!* (2008) and *Kitchen Alchemy* (2007) published June 2012, by Empreintes DIGITALes (Montreal, Canada). Since release, pieces from this CD have received 21 international radio broadcasts and 21 performances worldwide. As an example, *Switched on* was broadcast on 8th November 2012 on BBC Radio Three Late Junction, which receives average audience of 120,000 UK listeners.

Prizes won by these published pieces:
Switched on: 1st prize, 7th Métamorphoses composition competition, Brussels, 2012
Switched on: Finalist, Gaudeamus Prize, Utrecht, 2012
Vista Points: 1st prize, Musica Viva Electroacoustic Music competition, Lisbon, 2009
Karita oto: Selection Destellos Electroacoustic Music Competition, 2010
Cajón!: Honorary Mention, Visiones Sonoras, CMMAS, Morelia, Mexico, 2008.
Cajón!: 3rd prize, Diffusion Prize, Centre for Computational Musicology and Computer Music), University of Limerick, Ireland, 2008

Kitchen Alchemy: Grand Prize, Digital Arts Award, Tokyo, Japan, 2008.
Kitchen Alchemy: Finalist, Kraft Media Award, Washington Project for the Arts, 2011.
Honorary Mention and Finalist, Concurso Internacional de Música Eletroacústica de São Paulo (CIMESP), São Paolo, Brazil, 2007.

4. Details of the impact (indicative maximum 750 words)

The creation of a new compositional method has made a distinct contribution to two separate users and beneficiaries: (a) cultural enrichment through concert performances and CD sales and (b) pedagogy/education.

(a) Cultural enrichment - impact and reach: Beneficiaries include concertgoers, music-listening public and public buying discs. Evidence for this impact is reflected in the number of performances, CD sales and reviews surrounding the output. Performances of the compositions derived from the tool total approximately 100 since 2010, and sales of the CD further indicate the cultural enrichment, impact and reach of the research. CD reviews of *Formes Audibles* include: *The Wire* issue #344 (UK), October 1, 2012, *Rif Raf Magazine*, issue #187 (Belgium), February 1, 2013**,** *Blow up* #180 (Italy), May 1, 2013, *Revue & Corrigee* #95 (France), March 1, 2013 and *Nonpop* (Germany), January 22, 2013. In a Chain DLK (USA) online review, (March 12, 2013) - "A breath of fresh air over electroacoustic and acousmatic scene wafts from the very first album by young English sound-artist Manuella Blackburn, whose remarkable curriculum isn't frankly the one you could expect from a newcomer." Direct impact upon listening audiences has been gauged through emails and letters of support from concertgoers and CD listeners, for example– "I was just listening to the Wire sampler, including your "*Switched on*" piece. It is wonderful! Congratulations" (Wire Tapper CD listener), "I just wanted to tell you that yesterday night an important Italian radio Radio Rai 3 transmitted one of your composition..."*Kitchen Alchemy*" I thought it was brilliant!! Very good acousmatic piece..." Radio Rai 3 Italy listener.

(b) Pedagogy and education - impact and reach: Beneficiaries found within the education sector include students from primary and secondary schools, colleges and universities. The research yielded a viable and flexible tool for teaching electroacoustic music composition to those new and uninitiated with this genre. The research provided three methods of engaging with the tool: [i] pairing visual shapes with sounds worksheet, [ii] building structures based on starts, middles and ends in text and video format and [iii] a Pro Tools (a industry standard digital audio sequencer) template designed to initiate compositional activity with starts, middles and ends, all freely available from http://www.hope.ac.uk/music/interactingwithsoundshapes/ website, designed to widen access and engagement. The available methods (i, ii and iii) were publicised on the CEC (Canadian Electroacoustic Music Community) forum and Electroacoustic music composers Facebook group, which both reach international audiences, educators and practitioners.

The compositional tool was delivered initially as a workshop as proof of concept, involving all three aspects described above given by Dr Blackburn and Dr Carman (post-doctoral teaching fellow) in 2012. These schools include Sir John Deans Sixth Form College, Northwich and Hartford High School, Cheshire. A post-workshop survey indicated the benefit of accessible visual tools for composition in the classroom. A statement from the Head of performance at Sir John Deanes Sixth Form College outlined that "within the sessions, students studied sound recording and manipulation, and also how sounds can be represented visually in graphic score."

Further educators within schools, colleges and HEIs have integrated this tool into their teaching of

electroacoustic music and music technology autonomously. The pairing exercise [i] has been integrated into the EARS II project as a listening task, which will be launched in 2014. The starts, middles and ends construction method [ii] was taken up by Professor Leigh Landy in his textbook for children aged 11-14, *Making Music With Sounds*, (Routledge, 2012), where Chapter 4 is devoted to outlining the tool in a visual format, and the tool and visual shapes appears in a university e-textbook (awaiting publication by Routledge) *Sonic Recipes and Reasonings* (given to all first year students on the BMus degree in The University of Sheffield). Other institutions including Edge Hill University, Manchester Metropolitan University, University of Manchester, Coventry University and McGill University (Montreal) have all implemented the tool (in formats i, ii, and iii) as resources for teaching electroacoustic music for first year students and have provided positive feedback for the use and success of the methodology within the classroom. For example, Edge Hill University stated that the tool is "a fantastic exercise that is not age bound and provides focussed learning, developing skills in aural training and improving the ways in which individuals might conceive of gesture as compositional tool". A composition course lecturer at McGill University, Montreal stated that the "prescriptive compositional aid has enriched students' understanding of these concepts, and benefitted them in the compositional thinking. I believe they may also have broader applications for experienced composers in linking their compositional processes to these ideas." These statements were collected via feedback forms after the compositional resources had been utilized in teaching.

5. Sources to corroborate the impact (indicative maximum of 10 references)

(1) Author of *Making Music with Sound* (Routledge, 2012) and the EARS II project http://ears2test.dmu.ac.uk/ compositional tool integrated into chapter 4 of book and online task pairing sounds within the website. (Letter provided)

(2) A-Level Music teacher, Sir John Deanes Sixth Form College. School workshops: Sound shape workshop for Music composition for students aged 16-17. (Letter provided)

(3) School teacher, Hartford Church of England High School, Cheshire. (Letter provided)

(4) University Lecturer (Music), McGill University, Montreal, (Letter provided)

(5) Author of UG textbook - *Sonic Art: Recipes and Reasonings*. (Letter provided)

(6) Publisher, Emprientes Digitales. CD sales, broadcasts and reviews (Letter provided)

(7) CD review author, *Rif Raf* Magazine Belgium, *Formes Audibles* CD review 2013.

(8) CD review author, *The Wire*, October 2012.