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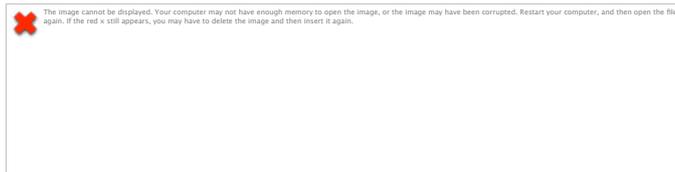
Notation in Contemporary Music: Composition, Performance, Improvisation

18th - 20th October 2013

Keynote Speakers:
Richard Barrett, Sam Hayden
and James Saunders

Convenors:
Professor Roger Redgate, Dr Dimitris Exarchos
and Alistair Zaldua

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Abstracts

Contemporary Music Research Unit - Welcome

On behalf of the Goldsmiths Centre for Contemporary Music Research Unit I would like to welcome you to the symposium *Notation in Contemporary Music: Composition, Performance, Improvisation*.

The Contemporary Music Research Unit fosters a wide range of research into composition, performance, aesthetics and theoretical approaches to new music, bringing together composers, performers, theorists and also artists/practitioners from other disciplines. This is the CMRU's third symposium; the previous two focused on the music of Brian Ferneyhough, in association with the IMR, and a three-day international symposium on Xenakis, in collaboration with the South Bank Centre. Further plans include symposia on Music and Politics/Philosohpy and Music and Acculturation.

Notation has often been sidelined as part of a transcriptive process, an inherited set of signs to be translated into sound. An approach which denies its true functionality as an integral component of the expressive discourse, and its potential as material. New instrumental techniques, developments in technology, more recent philosophical approaches to writing and interpretation, have all had a significant impact on the challenges of notation, leading to many new solutions ranging from complexity to new tablatures, descriptive, graphic, virtual and even animated notations.

The aim of this conference is to explore such potentialities, which might affect not only the material, but the entire concept of a work, and it brings together composers, researchers and practitioners working in contemporary music, in an interactive environment. We had a very impressive response to our call for papers and I would like to thank all the participants for being involved and submitting such fascinating papers/performances, which promise to make a very interesting next few days. I look forward to meeting you all and sharing ideas.

Special thanks go to our keynote speakers Richard Barrett, Sam Hayden and James Saunders for taking time out of their busy schedules.

I would also particularly like to thank my co-conveners Dr Dimitris Exarchos and Alistair Zaldua, without whose time, commitment and total enthusiasm, this event certainly would not have taken place. I would further like to thank Tom Mudd for his technical expertise and advice, and Imogen Burman and Amie Ouzman from the Music Office for their help and support.

Professor Roger Redgate

Director

Contemporary Music Research Unit

Composer/Conductor/Performer - realtime manipulation of through-composed musical notation

Michael Alcorn, Miguel Ortiz-Perez, Justin Yang

SARC, Queen's University, Belfast

Within the ever-evolving field of music notation, there have been a wide range of experiments in the field of real-time notation as an aid to the performance of controlled improvisation. Within this field, the use of abstract shapes and moving graphics has gained great momentum. However, thoroughly composed works where there are variables that can change on each performance have not benefited from such a level of interest.

A new system being developed at SARC aims to address the issues that arise when composed works need to have some flexibility in real time. The generation of standard music notation in real time has the benefit of taking advantage of the existing expertise of classically trained musicians and allows the composer to explore an untapped area between composition and conducting. This allows the composer to make significant musical decisions at performance time that go beyond what a conductor is able to do within a predetermined framework for each piece.

The system explores this issues in the context of a new work for string quartet. The current implementation is tailored for the specific needs of the piece but it also provides a prototype of what will become an open system that aims to use available technologies for the exploration of this composer-conductor musical continuum.

Michael Alcorn's compositional interests lie at the intersection between instrumental, electroacoustic music and areas of new media creative practice. His music has been performed and broadcast in the UK, Europe, North and South America and the Far East and featured at leading new music festivals in Sweden, Finland, Germany, Poland and the US. He has received commissions from the BBC, The National Symphony Orchestra of Ireland, the Nash Ensemble, Singcircle, the Smith Quartet, Darragh Morgan, the Irish Chamber Orchestra, Opera Theatre Company and the Ulster Orchestra.

Miguel Ortiz is a Mexican composer and sound artist based in Belfast. His research explores a vast array of performing mediums ranging from traditional acoustic instruments such as cello and trumpet, to laptop improvisation, performance with bio-instruments and hyper-instruments.

Justin Yang is a composer/improviser/theorist/technologist and is currently a Lecturer at the Sonic Arts Research Centre at Queen's University, Belfast. His work and research focus on system based models of composition, employing technology to create multi-participatory works which explore issues of ensemble improvisation, real-time and distributed scoring, multi-nodal collaboration, and animated and graphic notation.

Creating music for bodies, instruments, and objects: live-generated scoring for inclusive interactive performance

Patricia Alessandrini & Xenia Pestova

Goldsmiths, University of London & Bangor University

This session will present, demonstrate and discuss strategies for live-generated notation for interactive inclusive performance for a collaborative project with six members of the ensemble Gageego! and six members of Share Music Sweden, an organisation dedicated to creating multimedia works including performers with and without disabilities'. As the members of Share Music will be using specially-designed interfaces in order to perform on instruments and objects, the members of Gageego! will also be equipped with interfaces for performance, such that the boundaries between instruments, bodies, and objects will be blurred, as will distinctions between those of Share Music.

In this project, live-generated scores will be used to create an expressive score language for performers not trained to read traditional musical notation. Beyond generating a set instructions for performance on the technologically-augmented instruments, these scores will transmit continuous data sets acting as visual feedback for the performance on these instruments. The scores will therefore rely as little upon text cues as possible, in favour of expressive graphic representations of sound and gesture. They will also form links between scored information for the Gageego! ensemble and this continuous data flow. Finally, they will allow performers from both ensembles to influence the temporality of score events through their performance upon the modified instruments.

In a month-long residency at the Pedra Sina Foundation in Madeira, Portugal, Xenia Pestova, a performer specialised in performance with electronics, will give input into the development of the score-generation system. In the session, she will both demonstrate the problematics of performing from the live-generated score and contribute to creating a new score through live input from her performance.

Patricia Alessandrini is a composer whose works principally feature live electronics and multimedia elements. Through these media, she engages issues of representation, interpretation, perception, and memory. Her compositions have been performed by the Arditti Quartet, Ensemble Alternance, Ensemble InterContemporain, Ensemble Itinéraire, and New Millennium, in festivals including Agora, Archipel, Festival en tiempo real, Musica Strasbourg, and Mostly Mozart. She studied electronics at the Bologna Conservatory and IRCAM. She holds a diploma in composition from the Conservatoire de Strasbourg and a PhD from Princeton University. In 2008 she was granted a PhD Studentship at SARC. She has taught computer music at the Accademia Musicale Pescarese, and is currently a Lecturer in Composition with Technology at Bangor University. http://alessandrini.virb.com/

Xenia Pestova is a concert pianist with an unusual and colourful profile. As a dedicated promoter of music by living composers, she has commissioned and premiered numerous new works, and is a frequent collaborator on interdisciplinary projects with new technologies. She has a duo with Amsterdam-based pianist Pascal Meyer, widely praised for their recent recording of Stockhausen's *Mantra* for the Naxos label, which won a Diapason d'Or award (France). In addition to her love for the piano, she enjoys performing on other keyboard instruments and interfaces, including her collection of toy pianos. http://xeniapestova.com

Playing Notated Space

Diogo Alvim

SARC, Queen's University, Belfast

This paper focuses on a recent work, an ever variable music performance/situation, that had two different versions already, both performed in Sarc, Queen's University Belfast.

The second, Inside Out (Situation #2), was worked with saxophonist Franziska Schroeder last March, and is the focus of this presentation.

Integrated in my research on the relation between architecture and music, both from a procedural (methodological) and an experiential perspective, the musical material of this work is a physical one as well. Four different pipes (with small speakers inside) are distributed in the performance space. Their lengths are related to the range of the (wind) instrument playing, so that they resonate relevant pitches. The piece also includes electronics (sine tones) that brings out the resonant effect, and modulates the instrument's timbre.

The (main) performer is located in the middle of the audience, and turns to different sides along the piece, facing different pipes and changing the relation between direct and reflected sound to different parts of the audience. At the end of the piece, the resonances are turned inside out - out of the pipes, into the room that becomes the new resonant body.

This setting, or situation, generates a great deal of material to be performed- the specific resonant pitches of each pipe, their position in space, the position of the performer, the space itself. Thus the score consists of a set of drawings that represent the performance space, the pipes and their resonant pitches; thay also contain an abstract overlay, perhaps the only composed layer, that suggests an atmosphere to each part of the space, thus stimulating the field of improvisation. The score is not only a non linear graphic score, but also a site-specific one, since it works with the space as material to perform.

Diogo Alvim (Lisbon, 1979), studied architecture and composition in Lisbon. Currently doing a PhD in Composition/ Sonic Arts at SARC, Belfast, with funding from FCT, Portugal. His research focuses on the crossings between music and architecture. He has presented his work in several events, of which: in 2008, the Festival Música Portuguesa Hoje, at CCB, Lisbon, Festival Synthèse 2009, in Bourges; Festival Musica Viva 2010 (Miso Music); ISMIR Conference 2012, Porto; and with the collective Unlikely Places, at Network Music Festival 2012 (Birmingham), Global Composition Conference 2012 (Dieburg), and ICMC2012 (Ljubljana). He often collaborates with other artists/performers and writes music for dance and theatre.

Notation and Temporality in Ferneyhough and Xenakis

Pavlos Antoniadis & Dimitris Exarchos

Hochschule für Musik Carl Maria von Weber, Dresden & Goldsmiths, University of London

'To notate the work is at one and the same time to listen to its echo.'

—Brian Ferneyhough

The proposed paper will compare approaches to notation by Iannis Xenakis and Brian Ferneyhough, as manifest in both their work and their writings. Although they share a surface of extreme notational complexity, the ideologies underlying the informational overload can hardly be conceived as parallel: One could generally (even simplistically) distinguish between Xenakis's approach, with its focus in 'sound masses', as *top-down*, and Ferneyhough's, with its polyphony of 'multi-layered interfering functions', as *bottom-up*. In both cases though, notation 'radiates' several and potentially conflicting layers of temporality *prior* and *posterior* to the notation: pre-compositional material and its poetic manipulation; *corporeal navigation* in learning and real-time performance; perceptual engagement in a live performance or repeated listening to recordings. These are all distinct temporalities, on whose borders notation might be said to operate.

A comparison between the 'outside of time' structures in a work like *Herma* by Iannis Xenakis with the 'musical diary' of fragmented materials, which serves as the reservoir for Ferneyhough's *Opus Contra Naturam,* will be intertwined with the corporeal temporalities of learning and performance invited by those very scores. Such a joint exploration of borders will draw from two distinct fields: the post-phenomenological approach of Jean-Luc Nancy, with his emphasis on terms such as writing, sense, touch or technicity, on the one hand; as well as from latest developments in cognitive science, the field often referred to as ' embodied and extended cognition', 'environmentalism', 'enactivism' or 'externalism', on the other hand. A reassertion of the unique ontological position of notation in an era of medial expansion would be the common locus and ultimate goal of this project.

Pavlos Antoniadis is a Berlin-based pianist and musicologist, specializing in complex contemporary and experimental music. He performs regularly with the new music ensembles Work in Progress and KNM Berlin, while organizing and playing solo concerts in Europe and elsewhere, often in collaboration with renowned and younger composers. Radical complexity, live electronics, music theatre and idiosyncratic excursions in music history are his points of focus as a soloist. He has recorded for Mode, Wergo and Los Angeles River Records. As a musicologist he advocates the development of performer-specific discourses and practices for new music, with an interdisciplinary approach to the bond between notation and corporeality, influenced by cognitive science and cultural theory. Next to his published writings (Suhrkamp Verlag, CeReNeM Journal, EAM Book Series, JIMS online etc.), he is currently developing an interface for real-time gestural processing of complex piano notation at IRCAM (musical research residency 2014). Pavlos holds degrees in piano performance (MA, UC San Diego) and musicology (Athens National University) and is currently completing his PhD ("The development of a performer-specific navigational tool for complex piano scores after 1950") at the Hochschule für Musik Dresden. Chryssi Partheniade and Ian Pace have been particularly influential for his development as a pianist. www.pavlosantoniadis.com

Dimitris Exarchos is a music theorist specialising in contemporary music. He holds a PhD from Goldsmiths, University of London. He has participated in international conferences and has been invited to deliver talks and lectures in the UK and abroad. Currently he teaches at Goldsmiths and has also taught at the University of Surrey. Recently he he was resident in Berlin for a research fellowship at the State Institute of Music Research. His research interests include post-structuralist approaches to aesthetics and analysis.

Notation as liberation

Richard Barrett

Institute of Sonology, The Hague

In this presentation I examine the implications of the idea of improvisation as a method of composition, and my own development over the last twelve years of one way of combining it with notated composition which I call "seeded improvisation", which involves free improvsation together with precise and complex notation, and which attempts to use these notations as an influence on spontaneous musical actions without in any way prescribing them.

Richard Barrett (1959) is internationally active as both composer and improvising performer, and has collaborated with many leading performers in both areas, while developing works and ideas which increasingly leave behind the distinctions between them. His long-term collaborations include the electronic duo FURT which he formed with Paul Obermayer in 1986 (and its more recent octet version fORCH), composing for and performing with the ELISION contemporary music group since 1990, and regular appearances with the Evan Parker Electro-Acoustic Ensemble since 2003. Recent projects include *CONSTRUCTION*, a two-hour work for twenty-three performers and three-dimensional sound system, premiered by ELISION in November 2011. He studied composition principally with Peter Wiegold, is based in Berlin and currently teaches at the Institute of Sonology in The Hague, having previously held a professorship at Brunel University in London. His work as composer and performer is documented on over 25 CDs, including six discs devoted to his compositions and seven by FURT.

Notation of Live-Electronic Music – The recipient's side

Sebastian Berweck

Independent Researcher

Live-Electronic Music, here defined as any notated music with electronics that employs at least one actor on- or off stage for its production, has become a staple in the concerts of contemporary music. Its notation, however, seems to be a bit orphaned and there is as yet no tradition as in acoustic music. In my PhD theses "It worked yesterday – On (re-)performing electroacoustic music", which deals with the challenges a performer faces when playing electroacoustic music, I found that one of the basic issues re-performances face are the incomplete notations. This concerns not only the notation of the music itself but also the basic information on the instrumentation and on the technology. E.g. a piece for oboe is much better defined than a piece for synthesizer, because said synthesizer could be a selfmade or stock hardware synthesizer or it could be a computer program. The number of players is another basic information that has become shady: is a piece for piano and live-electronics necessarily a duo or can it be played by the pianist alone, as was the original idea for e.g. Luigi Nono's …sofferte onde serene…? Similarly at loss is the notation of the instructions for the software and the hardware: in 8 of 9 case studies the instructions were either faulty or incomplete. Based on the findings from working on over fifty compositions that feature electronics I have made a catalogue of what information needs to go in the score in order to be able to make a truthful rendition of the work without the composer's presence and I would be glad if I could present this at the conference. Early results on the research on how to notate controllers that is currently undertaken would also be presented and would surf as a basis for discussion.

With well over 160 world premieres to his name, **Sebastian Berweck** is one of the most sought-after pianists for experimental contemporary music. He is known for his energetic interpretations of unusual repertoire in- and outside the piano as well as working with electronics. Sebastian Berweck is a member of stock11 and recently finished his PhD on (re-)performing live-electronic music at University of Huddersfield's Center for Research in New Music (CeReNeM).

Musician-tweaked Algorithmic Composition with "slippery chicken"

Michael Edwards

University of Edinburgh

I have been developing my "slippery chicken" algorithmic composition software in Common Lisp and its object-oriented extension CLOS since 2000. This is an open-source environment for declarative or generative algorithmic composition building on CLM, CMN, CM, and Lilypond for score, sound file, and/or MIDI file outputs, and the integration of these into closely aligned hybrid acoustic-electronic pieces of music. It can be downloaded from http://michael-edwards.org/sc/.

Until now it has been almost exclusively used for the generation of traditionally notated scores, with an iterative development cycle resulting in a finished and polished fixed score. The musicians who then interpret this score need not know how it was generated. The piece I am working on presently, and which I propose to discuss, relaxes this process. Though the data which gives the piece its main characteristics is fixed in advance, some of the parameters which I would normally tweak as part of the compositional process are now available to the musician. S/he can experiment with a MaxMSP interface and generate different versions of the complete score, controlling global transitions and pitch developments. It remains to be seen whether this results in a variety of fixed versions which the player can choose from and practice--much in the same way as with any fixed piece--or whether they take the risk of configuring it just in advance of the performance. A demonstration of the software can be seen at https://www.youtube.com/watch?v=oj20Cbiqhvs.

Michael Edwards. Born Cheshire, England, 1968. Studied oboe then composition at Bristol University with Adrian Beaumont (1986-91); privately with Gwyn Pritchard; and computer music with John Chowning at CCRMA, Stanford University (1991-96). Consultant software engineer in Silicon Valley (1996-97); Guest Professor at the Universität Mozarteum Salzburg (1997-2002); currently Reader at the University of Edinburgh. Compositional interests lie in the development of algorithmic composition structures for instrumental music and the integration of these within similarly generated computer-processed sound structures and live electronics. Also active as an improvisor on laptop, saxophones, and MIDI wind controller. www.michael-edwards.org

Problems of Notation in Xenakis' Music

Benoît Gibson & Makis Solomos

University of Evora & Université Paris VIII

The music of Xenakis raises many questions related to notation. Writing in all its forms always played an important role for him, hence the number of documents located in the Xenakis Archives held at the Bibliothèque nationale de France. For this introductory study on the notion of notation in his music, we focus on four different points:

- What is often referred to as "graphic scores", which are in fact compositional tools that the composer then transcribed into traditional scores.

- The scores themselves (instrumental scores). If Xenakis innovated with his music, with the sound world he created, etc., most of his scores remain conventional, for his main concern was efficiency. But despite this apparent simplicity, they introduce new symbols and raise questions as to how to notate the individual parts in the score.

- In relation to Xenakis' electroacoustic music, there are many notational sketches that could be called "montage sketches", where Xenakis indicates the sounds to be used and their location on each track.

- There is also the question of the material necessary for the projection of his electroacoustic music.

A last question could be raised about the relationship between notation and the analysis of Xenakis' music.

Benoît Gibson studied viola, music theory and analysis at the Conservatoire de Musique de Montréal in Canada. He then completed a PhD at the École des hautes études en sciences sociales in Paris. He is presently teaching music analysis at the University of Évora (Portugal) where he also directs the Research Unit in Music and Musicology (UnIMeM). His work on the music of Iannis Xenakis has been widely recognized as a major contribution to the understanding of the composer's creative thinking.

Makis Solomos is Professor at the University Paris 8. His main fields of research are: 1. Xenakis' music: he has written several articles and two books, and he has given conferences in various countries. He has co-organized three international conferences on Xenakis' music. In collaboration with Benoît Gibson, he is currently preparing a critical edition of Xenakis' writings; 2. Research on recent music, exploring subjects like Adorno, globalization, new technologies, spectral music, electronic music, the emergence of sound, ecology of sound etc., and composers like Webern, John Zorn, Varèse, Boulez, Vaggione, Pascale Criton, etc. He is the editor of many books, and has published several articles. His last book, *De la musique au son. L'émergence du son dans la musique des XXe-XXIème siècles*, which develops a non-linear history of the emergence of sound in recent music, has just been published (Presses universitaires de Rennes).

Pitch Clocks and Note Stacks:Visualisation Tools for Real-time Music Notation

Tom Hall

Anglia Ruskin University

Strategies for real-time computer notation of music usually take the form of either contextual graphic symbols, or attempts to adapt Western Common Music Notation to the digital medium. For "note"-based music, the latter approach has an initial advantage, in that its materials are familiar to musicians. Whilst a literal translation of this form of notation to computer or mobile screens may be appropriate in some situations, it has its limitations: as any reader knows, the experience of reading text onscreen is a fundamentally different to reading from the printed page. Furthermore, projects involving improvisation may call for an alternative less traditional approach.

These considerations were the motivation for implementing in computer software a number of alternative notations for note-music. I will discuss implementations made in the SuperCollider programming language, one using "pitch clocks" (aka pitch circles) and another that I call "note stacks", in which a representation of the history of played notes is displayed on-screen. This software can be animated in real-time to display progressions of notes and chords, whether tonal or atonal (and including microtonal), as well as other information.

These notational software tools have been used in since 2009 to visualise fixed or algorithmic real-time electronic music performance. The system has also been used in 2012 to create a score for improvised performance with an instrumental performer. Screenshots and a short video demonstrating the use of this software can be accessed at the following URL: http://www.ludions.com/notation/.

Tom Hall is a Cambridge-based Australian composer, musicologist and performer. He interests include collaborative electroacoustic music combining composed, algorithmic and improvisatory elements using multichannel sound. Many of his recent compositional and performance activities have included the use of his own software written in the SuperCollider programming language. Musicological interests include early UK and American tape, electronic and computer music, and the music of Morton Feldman. Tom is a lecturer in creative music technology at Anglia Ruskin University. www.ludions.com

Compositional Mnemotechnics as Diagrams

Chris Halliwell

Goldsmiths, University of London

This paper attempts a re-evaluation of the meaning of "score," informed by the concept of the diagram as initially described in the work of Foucault ("Discipline and Punish" (1975)) and then as extended by Deleuze (Most notably in his "Francis Bacon: The Logic of Sensation" (1981)). Here, "score" does not designate a particular kind of media or format for inscription, but rather a mnemotechnic object the initial inscription of which precedes actualisations of its content. The score is understood neither as a means to an end, nor an end in itself, but as existing within and informed by a history of practices (of composition, interpretation, performance, notation; but also engraving, graphics, software design, etc.); and a history of the work itself (a history which will - ideally - continue to be constituted through performances). I will be describing how the score exists as a field of forces re-inserted into a process of production, and offering a reconsideration of the (supposed) relation between score-as-text and sound, and of the interpretive aspects of performance practice in light of this. Perhaps the most significant consequence of this reconsideration of the score is a shift away from thinking the score as a reification leading to further reifications, and towards thinking it as an historically constituted and constitutive machine made use of in the social practice termed music.

Chris Halliwell (London, 1973). Composer, musician, critical theorist and software designer. Completing a doctorate in composition at Goldsmiths.

Standing in for Something Else: The Case of Notation, New Complexity and Reception in the British Art World (1988–1996)

Roddy Hawkins

University of Manchester

The publication in 1988 of Richard Toop's essay 'Four Facets of the 'New Complexity'' marks the beginning of an important period in the reception and performance of music associated with New Complexity. Significantly, it is the period in which 'the narrative of New Complexity' emerged and solidified (Hawkins 2010)—precisely the narrative so firmly entrenched in the wider British art world today. (This narrative charts, in crude fashion, the last throw of the modernist dice.) Furthermore, discursive patterns during this time frequently reveal notation as the central topic of debate and discussion. While recent Anglophone reception (e.g., Taruskin 2006) has focused particularly on the function of notation in an attempt to demonise New Complexity as a compositional approach, others have argued that a focus on notational complexity misses the wider significance of performance in this repertoire (Duncan, 2010; Fitch 2008; Redgate, 1997; Toop 1988). Regardless, the first half of the 1990s is a period that bears witness to the institutionalisation (Bourdieu, 1996) of the term New Complexity.

I am particularly concerned to highlight how this institutionalisation occurred. This paper examines two parallel tendencies of new music reception in the 1990s: 1) that by prominent music critics operating in the London art world; and 2) the relative burst of scholarly attention generated in the English language. Discourse analysis suggests that in most cases the focus on notation acts as a cipher for something else. In the case of the British art world in particular, I argue that attempts to understand complexity by focusing on notation help to legitimate two mutually complementary processes: 1) the attempt to map a stylistically plural postmodern culture and 2) moves toward claiming a new vitality for British composition. Thus framed, debates about notation were, and remain, a site for much broader arguments about the place and relevance of contemporary music in Britain and beyond.

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Roddy Hawkins is a musicologist working at the University of Manchester, where he has taught since 2010. His research and teaching encompasses aesthetics, the sociology of popular music, sound studies, and contemporary music practices. His work is concerned with the reception and mediation of music in contemporary culture, and he has a particular interest in audiences, listening and consumption practices, and new modes of presentation, performance and participation. He received his PhD in 2010 from the University of Leeds, where he was supervised by Martin Iddon and Mic Spencer.

(Pre)compositional strategies and computer-generated notation in some recent works: the evolution of a method

Sam Hayden

Trinity Laban Conservatoire of Music and Dance

My recent acoustic works have involved different solutions to the same broad initial context, using computer-assisted compositional techniques to help solve the fundamental compositional problem of how to enable the proliferation of diverse surface materials, whilst maintaining an underlying formal coherence. Much computer-music research has focused on aspects of digital sound synthesis. In this case, the composition and notation of entirely acoustic music is nevertheless inseparable from computer-assisted compositional tools. My conception of material emerges from a dialectical relationship between the sonic possibilities inherent in available instrumentations and complex notational structures, created using IRCAM's OpenMusic, as abstract structures are mediated/articulated through physical instrumental constraints. This paper will outline the evolution of this method, highlighting the intersections of spectralist and stochastic approaches with reference to both earlier and recent works, in particular *misguided* (2011) for saxophone(s), clarinet(s), trumpet and trombone, composed for ELISION, and *surface/tension* (2012) for oboe and piano, composed in collaboration with Christopher Redgate. The underlying material for *surface/tension* was the product of two distinct (pre)compositional strategies, each yielding a different kind of 'found object': (a) the spectral analysis of multiphonics unique to the new Redgate-Howarth oboe; and (b) the algorithmic generation of artificial spectra and complex rhythmical structures. 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(s) in unanticipated directions. In conclusion, I will discuss briefly some extensions to this method involved in composition of a new String Quartet for Quatuor Diotima. I argue that use of such digital tools aids the creation of new musical ideas, sounds and modes of expression, beyond existing paradigms of musical culture, since musical formalization creates a hyperawareness of the structural constraints within which one is working, and therefore the possibility to transcend them.

Sam Hayden studied composition with Martin Butler, Michael Finnissy and Jonathan Harvey at the University of Sussex, Joseph Dubiel and David Rakowski at Columbia University and Louis Andriessen at the Royal Conservatory, The Hague. He has been the recipient of prizes including the 1995 Benjamin Britten International Competition (*mv* (1992/2002) for large orchestra) and the 2003 Christoph Delz Foundation Composers' Competition (*Sunk Losses* (2002) for large orchestra) composed during a residency at the Akademie Schloss Solitude, Stuttgart. He has also attended residencies at the Civitella Ranieri Center in Umbria (2000), and a Fulbright Chester Schirmer Fellowship (2001), enabling him to work with Brian Ferneyhough at Stanford University, and was nominated by Jonathan Harvey for a Faber Music Millennium Series commission (*Collateral Damage* (1999) for ensemble). Recent commissions include *Emergence* (2004/10) for solo accordion, ensemble and live electronics for Frode Haltli/Oslo Sinfonietta; *Relative Autonomy* (2004) for the London Sinfonietta; *Substratum* (2006/08) for the BBC Symphony Orchestra; *Die Modularitäten* (2007) for ensemble mosaik (Berlin); *permutazioni/a caso* (2009) for RepertorioZero (Milan), *schismatics II* (2010) for electric violin and computer for Mieko Kanno; *misguided* (2011) for for ELISION and *surface/tension* (2012) for solo oboe and ensemble for Christopher Redgate/Cikada. Hayden's works have been performed at festivals including Ars Musica, Bath Festival, BBC Proms, BIG Torino Biennale Arte Emergente, Gaida Festival, Gaudeamus New Music Week, Huddersfield Contemporary Music Festival, ISCM Festival, Klangraum, MaerzMusik, *Musik im 21. Jahrhundert* (Saarbrücken), NYYD Festival, Tage für Neue Musik (Zürich), Time of Music, Ultima and Warsaw Autumn. His works have been recorded on the Divine Art, GROB, Oboe Classics, United Phoenix Records and UTS labels, and a portrait CD (*presence/absence*) was released by NMC in 2012 as part of their *Debut Discs* series (NMC D168). He was appointed Reader in Composition at Trinity Laban Conservatoire of Music and Dance in 2013. www.samhaydencomposer.com

Ways of Making People Move: mapping and interpretation in the Live Generation of Augmented Musical Scores

Richard Hoadley

Anglia Ruskin University

Recent technological developments have enabled experiments in cross-domain mapping and transcription - processes we often do intuitively - where data from many sources: video, biomechanical or physical movement, for instance, can be used to generate musical notations in real-time. These representations ('ways of making people move') might consist of common practice notation, graphics, text or any combination of these. Live transcription creates a particular relationship between composer, score, performer and performance, where details are unknown, but generalities are controllable. These performances can themselves be augmented by electronically generated sound or other composed, notated material, while the musicians' live performance retains quality and spontaneity.

This paper, which will include practical demonstrations, presents work involving the above processes. The resulting performances are analysed and the performers encouraged to provide their own insights into their experience with the process.

Technologies used include the SuperCollider audio programming environment and the INScore augmented score project. Hardware used in the creation of bespoke interfaces includes ultrasonics, the Kinect and the Leap Motion. As well as providing a fascinating and creative musical experience of preparation and performance, the process highlights a number of issues concerning performance practice, instrumental technique, rehearsal and the balance between notation, now no longer fixed in time, improvisation and sight-reading. Examples of non-specialist improvisation through physical computing and the impact of machine listening are also introduced.

In recent years **Richard Hoadley** has composed using his own bespoke systems implementing physical interfaces and algorithmic software which together generate original compositions in real-time as a feature of the performance. He has developed a number of devices including the 'Gaggle' which investigate and facilitate physical interactions with musically expressive algorithms for installations, performances (including dance) and therapeutic environments. In 'Calder's Violin' (2011-12) he included methods for the live presentation of algorithmically generated notation and augmented scores, an approach developed further in 'The Fluxus Tree' and 'Three Streams' in which physical movement generates music notation which is then performed live by an instrumentalist. He is affiliated with the Digital Performance Laboratory at Anglia Ruskin University.

The Live Audio-visualisation of a 3D Mandelbox Fractal

Ryo Ikeshiro

Goldsmiths, University of London

The session will involve the presentation of two audio-visualisation works by the author based on a three-dimensional Mandelbox fractal: *Composition: White Square, White Circle* (2013) and *Construction in Kneading* (2013). The aesthetic implications of the approach of audio-visualisation, its roots in visual music and my personal experience with graphic scores will be discussed.

Audio-Visualisation is the simultaneous sonification and visualisation of the same data. Despite the relative ease with which this technique can be carried out, it still remains largely unexplored in comparison to the proliferation of A/V work in general. My claim is that audio-visualisation can serve a didactic purpose through allowing the underlying process behind abstract art to become understood. In addition, I believe that through this approach, the combination of sound and moving image may provide a possible solution to the problematic spectacle of a performance on any electronic device such as a laptop.

The analogue precursor to audio-visualisation is visual music, and in particular, the practice of directly drawing onto the film and the accompanying optical soundtrack. Such works can be associated with the Structural/Materialist film movement from the 1970s in Britain whose theory is applicable to the approach of audio-visualisation.

My first attempt at visualisation arose from composing and programming generative moving image graphic scores. The significant differences in the medium's capabilities in comparison to "mobile" scores will be posited. Its relation to my current practice of audio-visualisation will also be explored.

Within the framework of New Media and digitisation, generative moving image graphic scores and in particular live audio-visualisation take full advantage of the capabilities of "transcoding" and "variability". Thus they are idiomatic uses of digital technology that are also relevant to the cultural context of our times.

Ryo Ikeshiro is a UK-based Japanese artist. His works range from live A/V performances and interactive installations to generative music pieces and scored compositions. He has presented work at both media art and music festivals such as: Videomedeja, Novi Sad; MADATAC, Madrid; Sound Travels, Toronto; CONTEMPORANEA 2011 Festival di Nuova Musica, Udine; Redsonic, Exploding Cinema and the Southbank Centre, London; re:new, Copenhagen; as well as academic conferences such as: ICMC, Ljubljana and New York; Xenakis. La musique électroacoustique, Paris; Seeing Sound 2, Bath; Xenakis International Symposium, London. He has released A/V art on s[edition]. He curates exhibitions, screenings, and a series of events called A-B-A featuring performances, talks, and discussions. He has also had his articles published in journals such as *Organised Sound*.

'Not Music Yet': Graphic Notation as a Catalyst for Collaborative Experimentation

Zubin Kanga

Royal Academy of Music

In the past five years the collaborative relationship between composer and performer has emerged as an important field of enquiry. Challenging the assumptions of distinct roles and creativity in solitude, recent research publications by Östersjö, Roche, Hayden/Windsor and Heyde/Fitch have examined their own creative practices to explore many different models of collaborative relationships. The author's doctoral research in this field examines the collaborations on twelve innovative new works for solo piano, one of which is the graphically notated score, *Not Music Yet*, by Australian composer, David Young. This presentation explores how Young's use of graphic notation played a catalytic and transformative role in the collaborative process, opening up a creative space where sonic and pianistic experimentation were necessary for interpretation, while also facilitating new perspectives on the conventional roles and responsibilities of composer and performer.

In 2010, the author, a concert pianist, commissioned Young to compose a new work for solo piano. Young's decision to notate the score as a large watercolour painting served as both a point of resistance and a catalyst in the collaborative process. The paper examines Young's strategies of managing and manipulating interpretation as well as the author's own practice in creating a performable realisation of the score, using a wide variety of extended techniques. As this realisation is tested and further developed in a workshop, the traditional roles of composer and performer are inverted, with Young affording the author complete control over fundamental compositional decisions, while attempting to control the theatrical and pianistic subtleties of the author's performance. The paper positions these conclusions within the context of the author's doctoral research, which examines the effects of notational practices, imbalances of authority and external pressures on the collaborative process.

London-based Australian pianist, **Zubin Kanga** has recently performed at the Aldeburgh (UK), Borealis (Norway) and London 2012 Festivals as well as appearing as soloist with the London Sinfonietta and the Melbourne Symphony Orchestra. He is a member of Ensemble Offspring, one of Australia's leading contemporary music ensembles, and also performs with Ensemble Plus-Minus, the Kreutzer Quartet, Halcyon and Synergy Percussion. A Masters graduate and current PhD student at the Royal Academy of Music, London, he has collaborated with many of the world's leading composers including Thomas Adès, George Benjamin, Michael Finnissy, Beat Furrer, Liza Lim and Steve Reich. www.zubinkanga.com

Composing with Improvisation, In 'Frenzic Sound Dialects' series

I Chin Li

Goldsmiths, University of London

Composing with improvisation, in appearance it seems to be a contradictory or somewhat a withdrawal position as a composer. But nevertheless, on common performing ground and stages, in nowadays it is quite usual to see 'live electronics' and 'free-improvisation', if not over whelming everywhere, the employment of this technique is rather a common practice for both musicians and composers today. Here I take it as a more practical tactic to extend musicality, to explore the 'liveness', and to expand the 'potential organic development' further, which in the end the music will further stride on itself at different performances. From what I have approached, not only I use it as a skill in helping musicians how to interpret my semi-open musical form; but also, I structure it to enhance the musical creativity within my composition, aim at both complexity and freedom. Of course, the development and exploration always comes with restrictions; that is, not to become self-absolved in certain music genres or techniques. In adapting semi-open forms, musicians have to follow the guidelines of structure. Sub-headings tempi, dynamics, mood, articulation, and textual preparation are also provided in the material for musicians to develop contextually. In the same time, the relationship between musicians and composer is discussed. Some features are incorporated into my composition such as: 1. Musicians cohere and adapt in a closer collaboration with composer. Although improvisation is primary, text and graphic tools denote behavior and instruct musicians; these function as signifiers that represent, communicate, and express my intentions while allowing many possibilities for interpretation. 2. Improvisation as a tool of process - It fosters a process of unlearning and re-learning through the actions of visual interpretation, absorbed

listening and playing. 3. A transformational technique for regenerating creativity – An alternative way for a composer to explore and reveal the inner identity of his/her working method is simply to regard improvisation as a skill to generate novelty, and to react to the novelty generated by others, whilst following a structure synchronously or asynchronously. 4. Transgression between reading and executing - For composer and musicians, the transgression of the normal boundaries that distinguish composition from improvisation is released, and thus seen as a creative process in itself.

After **I-Chin Li** graduated from Taipei National University of the Arts, he received numbers of scholarships and funds from Committee of Cultural Development, Taipei Art Village from Taiwan. Since 1997, he began his research and performance tour staring from New York, Berlin, Köln, Darmstadt, Sydney, Canberra, and London. From 1998 onwards, he received commissions by several contemporary theatre and modern dance groups in Taiwan. To continue exploring, he extended his studies toward cross-cultural issues, new media technology, and interdisciplinary art in modern theatre as a composer and a theatre performing artist. In 2006, he established a music theatre group 'Arena di Avant Musica', together with his wife, soprano, Chien-chun Lin. His compositions for music theatre employed elements widely from traditional to modern, including ethnic fusion, improvisation, live electronics, and experimental avantgarde. Currently He is now studying PhD in Goldsmiths, University of London, under Dr. Michael Young.

Computer Representations for some Open Form Works

Mikhail Malt & Benny Sluchin

IRCAM, Paris

Traditional notation of music is time related. Music starts on the left, laid on paper it is organized in staves (musical systems) and is sequential in order. When dealing with works of open form, the conventional presentation is not enough, and the composer provides verbal instructions that helps in the preparation of the score for the actual performance. A second score is thus generated by the performer, but represents only one among the multiple eventual possibilities.

Our presentation focuses on this category of works and a CAP (Computer Assisted Performance) interface, that is in fact a generic presentation. Three examples are discussed : *Domaines* (1968) by Pierre Boulez, *Duel* (1959) and *Strategy* (1962) by Iannis Xenakis and *Concert for Piano and Orchestra* (1958) by John Cage.

These works have all a particular spatial disposition of the musicians, and the freedom concerned with the form is related to the relationship between conductor and musicians. In *Domaines*, two agents (the solo clarinet and the conductor) play an essential role in choosing an order (in fact a permutation of six elements) of the movements. This requires putting the music in the right order and having it presented immediately, as these decisions are made in real time. In the works of Xenakis, both based on the mathematical Game Theory, the two conductors make their choice of the material to play, according to the game matrix. They have to transmit their choices to the different musical groups, and indicate where to start. This process is far from satisfying with the music on paper traditional presentation. Finally, Cage's *Concert* have no score but only individual parts. They have to be carefully prepared according to a set of instructions. The indeterminacy required, makes the music parts not adapted. The material has to be 'freed' from its paper presentation in order to get closer to the composer's intentions.

Mikhail Malt, having double formation, scientific and musical (Engineer, composer and musical conducting) started out his musical career in Brazil as both flutist and orchestral conductor, having conducting youth orchestras for almost ten years. He has a PHD grade with a thesis at the "Ecole des Hautes Etudes en Sciences Sociales" dedicated to the use of Mathematical models in Computer Assisted Composition, and from 2006 to 2012, was Associated Professor at Sorbonne Paris IV. Nowadays he is researcher at MINT-OMF("Musicologie, informatique et nouvelles technologies" Team, as branch of the "Observatoire Musical Français"), and Computer Music Designer in the Educational Department at Ircam, Paris-France. He is currently pursuing his composition and research activities in the fields of artificial life models, musical representation and compositional epistemology.

Benny Sluchin studied music at the conservatory of his native city, Tel Aviv, and in the Academy of Music in Jerusalem. Simultaneously, he studied mathematics and philosophy at the university of Tel Aviv and received his "Master of Science".Since 1976, he has been a member of the Ensemble InterContemporain (directed by Pierre Boulez), playing the most representative music of the present century, and participating as soloist in premières of solo works by Iannis Xenakis, Vinko Globokar, Gérard Grisey, Pascal Dusapin, Frédéric Martin, Elliott Carter, Luca Francesconi, Marco Stroppa, James Woods, and others. Apart from this, he participates in various research projects in brass acoustics at IRCAM (Institut de Recherche et de Coordination Acoustique/Musique), Paris. He finished his doctoral thesis and is the author of many articles and pedagogical books. The SACEM prize for the pedagogical realisation was given in 1996 to his Introduction to contemporary trombone techniques and Singing and playing simultaneously on brass instruments (Éditions Musicales Européennes). Benny Sluchin has taken part in many recordings and completed Le Trombone Contemporain, Musidisc 243673, French Bel canto Trombone, Musidisc 243662 and Xenakis - Keren (Erato 2292-45770-2).

Notation Collaboration: Visual Communication Design in my Recent Notation

Scott McLaughlin

University of Huddersfield

I am currently collaborating with visual artists and graphic designers to create open-form scores that rely on graphic and prose elements for different functions. My music exploits metastable states within specified materials, activating the sounds in different ways to afford quasi/bounded-indeterminate variation within the sounds. Formally, the music consists of iterations of the same process on the same material, with variation arising from the metastability of the material. This repetition is mirrored in the notation, which seeks to 'nudge' the performer in slightly different directions, activating the material in different ways.

The notation uses visuals analogues to these metastable sounds and their possible morphologies. Prose is used to define/explain the performance techniques fundamental to the piece (metastable sounds such as certain families of multiphonics: in strings, woodwinds, percussion). This prose defines the environment of the piece, describing the 'phase space', the boundaries of what sounds can be used by the player as resources in the piece. The graphic notation may be continuous rather than event-based or symbolic, and may be computer-generated (Processing) or hand-drawn. It is a performative shorthand that suggests ways in which the player may explore this environment (this may include micro/macro-level teleologies), varying the material by applying different forces over varying durations.

The graphic notation is not intended to be freely interpreted. Drawing on concepts from visual communication design (gesture, gestalt, semiotics, infographic) to amplify and focus meaning, the notation is an analogue, directly connected to the sound-image defined by the prose, and variations of the graphic employ the same level of perceptual ambiguity as the sound. Working with graphic designers allows me to focus the performer's interpretation onto specific sites of performative indeterminacy in the sound, and to afford structure through analogous visual/audio similarities.

Scott Mc Laughlin is a composer and improviser (cello, live electronics) based in Huddersfield, UK. Born in Ireland (Co. Clare) in 1975. Currently he lectures in composition and music technology at the University of Leeds. His research focuses on the physical materiality of sound and performance, combining approaches from experimental music with dynamical systems theory to explore autopoiesis and recursive feedback systems in constraint-based open form composition.

Noise-Interstate(s): Towards A Subtextual Notational Methodology*

Joan Arnau Pàmies

Northwestern University, Illinois

By employing a relatively recent conception of noise within the domain of information theory (as in an array of deeply rooted layers of information rather than mere undesirability), my work as a composer has successively been treating noise as the psychological outcome that the performer develops during the attempt to realize the specific nature of certain unconventional notational objects into sound. Notation, in this case, has the capacity to trigger and/or produce contingent formal paths which had not explicitly been formalized throughout the compositional operation. Thus, the performer's mental state during the process of translating such notational signifiers into concrete sonic objects catalyzes the existence of a multiplicity of obliquely predetermined trajectories whose purpose is to enrich the overall musical experience. Two newly developed notational techniques will be discussed:

1. *Perspective Notation (PN):* Its fundamental goal is to devise a movable staff whose limits are in constant transformation throughout the formal development of the musical work. *PN* is designed to separate the notation essentially into two domains: *parameterized objects* (signifiers that represent multiple instrumental techniques juxtaposed onto each other) and *projection surfaces* (where these objects confront the particularities of the surfaces). This phenomenon generates highly unpredictable situations.

2. *Temporal Displacement Notation (TDN): TDN* detaches the intrinsic features of both projection surfaces and parameterized objects from temporal pace. During the compositional process, this disconnect allows time to be treated as an independent dimension that does not necessarily have to relate to the nature of the aforementioned objects and surfaces. Thus, this phenomenon introduces paradoxical situations into the score with the commensurate increase in the incidence of noise:

In order to fully delve into the intricacies of such technicalities, three of my most recent works shall be discussed: *Study on Deliberate Equivocation* for solo piano; *[k(d_b)s]* for solo bass with optional accompanying ensemble; and *[IVsaxVIvlc]^[III(bflbclvln/a)]* for solo sopranino saxophone and solo cello, plus an ensemble with bass flute, bass clarinet, violin, and viola.

*This presentation is a restructurization of an essay entitled "Noise-Interstate(s): toward a subtextual formalization", published in *Noise In And As Music* (Huddersfield University Press, 2013)

The music of **Joan Arnau Pàmies** (b. 1988, Catalonia) has been performed and workshopped throughout the United States, Canada, Russia, and Europe by ensembles and individuals such as the Arditti Quartet, Ensemble Dal Niente, Felix Del Tredici, JACK Quartet, Kathryn Schulmeister, Moscow Contemporary Music Ensemble, New Morse Code, and Nora Volkova Ensemble. Pàmies holds a bachelor's degree from the New England Conservatory and is currently pursuing a doctorate in composition at Northwestern University under the tutelage of Jay Alan Yim and Hans Thomalla. Current projects include new pieces for Ensemble Recherche and the Tana String Quartet.

Philosophy of Language and Musical Notation. "Tractatus Logico Philosophicus" by Ludwig Wittgenstein and "Treatise" by Cornelius Cardew

Magda Polo

University of Barcelona

The 1950's and 1960's were decades of significant change within the art world. Experiemental Music emerged onto the world stage and manifested itself in several distinct forms; musique concrète, electronic music or chance music, amongst others. However, there were certain aspects which these all shared in common; for instance, the considerable influence of the visual arts and philosophy, or, new ways of defining and referring to sound itself, as "silence" or "noise", a new musical language. Musical notation, which had always been perceived as an objective and universal system, also began to transform alongside new conceptions as to the role of the composer, interpreter and audience. A new form of notation emerged, graphically based and purely subjective. From 1963 to 1967, Cornelius Cardew developed a musical score entitled "Treatise". It was directly inspired by Ludwig Wittgenstein's "Tractatus Logico Philosophicus", a work which had an enormous impact upon Cardew. The isomorphism between language and reality comes together in Cardew's proposal to create a musical score which interiorised silence in the same way that Wittgenstein, in the final aphorism of the Tractatus tells: tells us to be quiet about that which cannot be expressed.

I will analyse both works in terms of what they share in common, also those elements which run in parallel between the two both philosophically and musically speaking, the intention being to establish a new philosophy of language, as much for thought as for musical notation.

Magda Polo Pujadas received her PhD in Philosophy of music in 1997 at the University of Barcelona. Her doctoral dissertation was on the pure music and programm music in Romanticism. She taught at the Universidad Autónoma de Madrid, Universitat de València, Universitat Autònoma de Barcelona, Universidad de Carabobo, Universidad de Cantabria, Alma Mater Studiorum - Università di Bologna and at the ESMUC (Escola Superior de Música de Catalunya). She has been director and creator of various music shows: *Babylon* (2010), *Scriptum* (2010), *Sinestàtic* (2011), *Musical dripping* (2011), *Ad libitum* (2011), *Antidot* (2012) and *Volaverunt* (2012). She teaches History of music and Aesthetic of music at the University of Barcelona. She is the author, among other titles, of *Aesthetics of Music* (UOC, Barcelona, 2007), *History of Music* (Publican, Santander, 2010), *The music of Feelings. Philosophy of Music of the Enlightenment* (Editum, Murcia, 2010), *Pure music and Programm music in Romanticism* (Auditori, Barcelona, 2010 and 2011), *The Wittgenstein's Viennas* (PAM, Barcelona, 2011) and *Philosophy of music of the future* (PUZ, Zaragoza, 2011).

Notating the Unpredictable

Pedro Rebelo

SARC, Queen's University, Belfast

Notation can be seen to sit conformably between theory and practice as it symbolizes practice, generates and implements theory, and produces practice. Historically, its presence changes in significance across the development of activities such as music or architecture. From design tool to canonic text, notational artefacts both solidify and formalize practice, as will be expanded below. How, then, does the role and function of notation change with specific contemporary practices, which are by definition ill-defined and feed off fluidity and change? What is the nature of notation in distributed and collaborative practices such as improvised music or network music performance?

The talk is illustrated with examples from recent project including real-time 3d notation used in the work "Netgraph" (http://pedrorebelo.wordpress.com/2011/01/22/netgraph/). The presentation can include a short performance by myself on solo piano of the work "Cipher Series" (http://pedrorebelo.wordpress.com/2010/05/12/cipher-series/) which is a series of timed graphic scores for any combination of instruments/musicians.

The works presented have all been performed several times by different musicians. As such, the talk will provide a reflection on the dynamics of collaboration, compositing with improvisors and how graphic notation can become a platform for distributed creativity.

Pedro Rebelo is a composer, sound artist and performer working primarily in chamber music, improvisation and installation with new technologies. His music has been presented in venues such as the Melbourne Recital Hall, National Concert Hall Dublin, Queen Elizabeth Hall, Ars Electronica, Casa da Música, and in events such as Weimarer Frühjahrstage fur zeitgenössische Musik, Wien Modern Festival, Cynetart and Música Viva. His work as a pianist and improvisor has been released by Creative Source Recordings and he has collaborated with musicians such as Chris Brown, Mark Applebaum, Carlos Zingaro, Evan Parker and Pauline Oliveros. Pedro has been Visiting Professor at Stanford University (2007) and has been Music Chair for international conferences such as ICMC 2008, SMC 2009, ISMIR 2012. Pedro is currently Director of Research for the School of Creative Arts, including the Sonic Arts Research Centre. In 2012 he was appoiProfessor of Sonic Arts at Queen's.

Putting the Score in its Place: Performing Pictorial and Verbal Notation in Locational Context

Lauren Redhead

Canterbury Christchurch University

There is a tension between the aesthetic experience of location (such as performance space) and the aesthetic experience of performance itself. This is not often explored unless the specific location of performance is considered of particular significance on one occasion. Less frequently is it considered that location, geography, place, and space, might have an on-going significance in the perception of performances of music. How does location a□ect the performance of a graphic or text score? And what are the implications of locational, geographic, and psychogeographic pressures on performance?

I will examine performing very di□erent approaches to pictorial and verbal notation, by Scott McLaughlin, Caroline Lucas, and Adam Fergler, on the organ, and discuss the influence of space and place on the performances of these pieces and the interpretation of their notation. As an organist, the spaces in which I perform are often equally as important to those who use them for non-concert purposes and those who maintain them, and the instruments themselves are often considered important for their liturgical and signifying purposes as well as for their value in the performance of musical works. The buildings which house them, primarily churches and concert halls, are also caught in between notions of the modern and historical, the rural and the urban, in British society. These considerations, along with those of being faithful to the score, lead to some of the ways in which I, as a performer, conceptualise and perform these works, and the ways in which my performance could be interpreted. Drawing upon the work of Guy Debord, Nicholas Bourriaud, Nina Sun Eidsheim, Robert Fink, and using recorded examples of my own performance, I will discuss the extent to which performing graphic and text works reveal that performance space is a kind of notation.

Lauren Redhead is an internationally performed composer, an organist specialising in the performance of experimental music, and a musicologist whose research focuses on the aesthetics and socio-semiotics of contemporary music.

On generality

James Saunders

Bath Spa University

Notation varies considerably in the way it prescribes actions and results. While some approaches tend towards precision and the specification of events with great detail, others present generalised fields of possibility. This paper will explore ways of considering notation from a generalised perspective, and how such an approach might question the nature of arbitrariness in compositional decision-making.

James Saunders is a composer with an interest in modularity, series, and open forms. He performs in the duo Parkinson Saunders, and with Apartment House. He is Head of the Centre for Musical Research at Bath Spa University. See www.james-saunders.com for more information.

Performing Notation - the 'colouring' of signs

Franziska Schroeder

SARC, Queen's University, Belfast

In this presentation I will look at a range of recent graphic works commissioned in collaboration with composers based at the Sonic Arts Research Centre in Belfast. As a starting point I will take the ritual of performance practice in Classical Music, which might be considered a highly regulated practice where the role of the performer is more one of a self-effacing servant (the orchestral musician who serves the score of the composer). I will draw on the notion of "Werktreue" (faithfulness to the work), which links to ideas of performative faithfulness and execution, a concept that certainly was endorsed by composers such as Igor Stravinsky who famously asked for 'execution' rather than interpretation of his works.

I will re-examine this concept of "Werktreue" as it underlines the idea of the prominence of the work, where the overall practice of music tended to be aligned with the totality of musical works. For instance in Jan Broeckx's "Contemporary Views on Musical Style and Aesthetics" (1979), or Carl Dahlhaus' "Foundations of Music History" (1983) it was argued that the subject of music and the cornerstone of music history is made up of the works and not the event. In that view performance was not thought of as having meaning in its own right, and Jerrold Levinson argued for the music works as being "the center and aim of the whole enterprise of musical activity" (1990, p67). Even Contemporary philosophers such as Deleuze and Guattari (1988) question the work more so than the performances of these.

As a performer, I will re-address this imbalance of work/practice by examining several graphic scores that were created during collaborative processes with composers from the Sonic Arts Research Centre. A slight detour will take me to the incredible detailed graphic drawings (at times using six-line staff notation) of the contested Swizz schizophrenic artist Adolf Wölfli (1864- 1930), who not only invented an entirely fictional autobiography, but also designed an entire vocabulary of forms (see Wölfli 2013). I will highlight essential performative decisions involved in the process of interpretation of selected graphic scores, and will argue that any creative discipline requires the interpretation (or re-interpretation) of signs, marks and notes as opposed to the pure execution of them. Christopher Small's argument for musicking as a totality of musical performance and Bruce Ellis Benson's notion of music-making as "the continual creation and recreation of music – a constant improvisation" support such a view. It will become clear that my argument is more in line with Schefer's idea of a 'practice of notation' rather than an 'art of composition' (1995, p149), since it understands notation as a 'colouring rather than execution of notated signs'. This view is in resonance with the way in which the composer Carla Bley saw her works as

> "pieces that are like drawings in a
> crayon book and the musicians
> colour them themselves"
> (Carla Bley quoted in Benson, 2003, p135)

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Franziska Schroeder is a saxophonist and theorist, originally from Berlin, Germany. She received her PhD from the University of Edinburgh in 2006 for her research into performance and theories of embodiment. She has since written for many international journals, published a book on performance and the threshold, and has edited two volumes for Cambridge Publishing Scholars, the most recent one being on improvisation. Franziska performs regularly as soloist as well as in duo, trio and large ensemble formations. Franziska has been an AHRC and a RCUK Research Fellow at the Sonic Arts Research Centre in Belfast and is now a Lecturer at the School of Creative Arts, Belfast, where she coaches 3rd year recitalists and MA performance students. Franziska has recently been awarded one of the 5 prestigious HEA Prof Sir Ron Cooke Fellowships for studying improvisation in Brazil – research work, which she will be carrying out in 2014. www.sarc.qub.ac.uk/~fschroeder/

From sound to sign

Jonathan Stephens

University of Aberdeen

Interaction between composers, performers and instrument makers has influenced the development of composition and performance from earliest times. The third quarter of the 20th century, however, witnessed a particularly fruitful period of creative activity, in which the boundaries of instrumental and vocal performance were greatly extended. During this period, the purpose of notation was broadened, from essentially that of *recording* composers' intentions to providing performers with a *stimulus* for response. In the process, the role of the performer shifted from that of executant to creative participant, as notation became a reference point for reaction rather than a script for delivery.

This paper considers some of the factors that contributed to this paradigm shift, including developments in electronic technology; the conflicting aesthetics of serialism and indeterminacy; and the emergence of close working relationships between composers and performers – such as Stockhausen and the Kontarsky brothers, Sylvano Bussotti and David Tudor. The use of new signs to represent new sounds, together with non-traditional ways of conceptualizing composing and performing, made it difficult for some musicians to engage with newer notations, particularly where they did not possess the necessary creative skills or identity of improviser-performer.

My presentation will consider some of the practical challenges presented by newer types of notation in the 20th century – focusing in particular on the exploration of sound, word and image across the artistic boundaries of composer, writer and artist. Examples of graphic and text scores will be set alongside the work of artists and poets, to explore the musical possibilities that may be suggested at the interface between various visual forms and images. A range of notated examples will be explored, and the session will include practical demonstration and audience participation in considering some of the issues and problems presented when translating sign into sound.

Jonathan Stephens is professor of music and music education at the University of Aberdeen. He has taught at universities and conservatoires and participated in conferences in the UK, Europe, USA, Canada, Australia and Asia on a range of topics, including aspects of music and music education; integrated arts; creativity; improvisation and composition; and contemporary music and its notation (the subject of his doctoral thesis). His compositions have been performed in the UK, Scandinavia, the USA, Canada and New Zealand, and include two works for the late Elisabeth Klein - an international concert pianist and former pupil of Béla Bartók.

Tactile Paths: On and Through Borromean Rings

Christopher Williams

University of Leiden

Tactile Paths is an artistic research project that aims to articulate the feedback between notation and improvisation in experimental music, centering on artists such as myself, Richard Barrett, Anthony Braxton, Cornelius Cardew, Vinko Globokar, Malcolm Goldstein, Polwechsel, Frederic Rzewski, Wadada Leo Smith, Christian Wolff, and John Zorn. In this diverse body of work, the written score is not merely a prescriptive or   mnemonic document, but rather part of a dynamic musical environment where instruments, players, groups, and the performative occasion all play an active causal role – both in performance and over the course of composition, study, and rehearsal.

Drawing on my practical experience, and on literature in Situated Cognition, Peirceian Semiotics, and Improvisation Studies, the project explores

- – how composers and players negotiate the formality and mediacy of notation, and the physical immediacy of highly individual sound worlds
- – where the "out-of-time" structures encoded in notation and the "in-time" contingencies of improvisation meet
- – the mutual influence of ensembles and scores developed by and for composer-performers

This presentation will introduce the project by way of Robin Hayward's *Borromean Rings*, a 40-minute sustained-tone piece in just intonation for written for the duo Reidemeister Move (Hayward - microtonal tuba and myself – contrabass; see http://robinhayward.de/Reidemeister%20Move.html for more information). Discussion will centre on the how our improvisatory instrumental approaches and collaborative history are embedded, expanded, and challenged by the score.

Christopher Williams is a is a wayfarer on the body-mind continuum. His medium is music. He lives and works in Berlin. B.A., University of California, San Diego. PhD candidate, University of Leiden. Compositions include conventionally notated chamber music, radio art, and collaborations with dancers and other improvisers. Performances on the contrabass with Derek Bailey, LaMonte Young's Theatre of Eternal Music, Robin Hayward, and dancer Martin Sonderkamp. Collaborations with composers Chris Adler, Benjamin Carson, Yoav Pasovsky, Benjamin Patterson, Ana-Maria Rodriguez, James Saunders, and Erik Ulman. Publications in Open Space Magazine, The Improvisor, and Critical Studies in Improvisation. Talks in North America, Europe, and India. Member of the Berlin Improvisation Research Group. Curator of contemporary and experimental music events in Barcelona between 2003-2009 with Associació Musical l'Embut, and currently of Certain Sundays, a monthly salon in Berlin. Associate of sound experience design firm Charles Morrow Productions.

From Notation to Composition - How in my practice the exploration of notational possibilities has led to new compositional opportunities

Justin Yang

SARC, Queen's University, Belfast

This paper explores my experiments with computer animated notation. It examines how I turned to computer animated notation to address issues with static musical notation. In particular looking at the work of Nancarrow, Cage, Tenney, and how a number of these composers' approaches presented difficult challenges for traditional musical notation. I then discuss how computer animated notation can provide some interesting solutions to the notational problems provoked in these works.

In the second part of the paper I investigate how addressing these notational challenges has led to new prespectives on the compositional process and has introduced new considerations into my compositional practice including time as musical material, real-time and multi-nodal interaction with the score, networked score environments with the possibility of physically distributed performance, performer feedback and communication, and interaction between notation and other media including visual media and movement.

Justin Yang is a composer/improviser/theorist/technologist and is currently a Lecturer at the Sonic Arts Research Centre in Queen's University, Belfast. His work and research focus on system based models of composition, employing technology to create multi-participatory works which explore issues of ensemble improvisation, real-time and distributed scoring, multi-nodal collaboration, and animated and graphic notation.