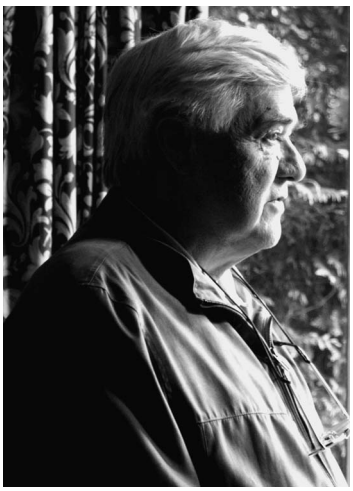
OBITUARY
Richard Orton (1 January 1940–12 February 2013)



Founding Editor of *Organised Sound*

Scholar – Educator – Performer – Composer – Programmer

Richard Orton, a visionary figure in the field of electroacoustic and computer music, died in hospital in Nottingham on 12 February 2013 after a short illness. Tributes have poured in from all over the world for this remarkably innovative thinker, who left an indelible mark on the musical history of our time.

Richard earned piano and class teaching diplomas at the Birmingham School of Music and taught in Stourbridge for a year. Gifted with an exceptionally sonorous tenor voice, he then won a choral scholarship to St John's College, Cambridge, read music and sang in the college chapel choir for four years, honing his intense musicality. He graduated with BA and MusB degrees.

SCHOLAR

Richard was a Founding Editor and an Associate Editor of *Organised Sound: An International Journal of Music and Technology*. This was a natural outlet for a person well known for his scholarship and deep thinking about all aspects of innovative contemporary music. His publications began with a focus on education. In 1976 Richard made significant contributions to the Open University course *Art and Environment*. He wrote several workbooks relating to music and sound: 'electronic sound', 'resources in sound', 'home experimental kit handbook' (with Simon Nicholson), 'sound space and sounds without words' and various student–tutor notes (The Open University, 1976). In 1981, Cambridge University Press published his book *Electronic Music for Schools*.

In 1989 Richard contributed two chapters to *The Heritage of Music*, Vol. 4: *Music in the Twentieth Century*, ed. M. Raeburn and A. Kendall (Oxford: Oxford University Press, 1989): 'Igor Stravinksy' (pp. 167–71) and 'Electroacoustic Music' (pp. 295–303). He also contributed to *A Companion to Contemporary Musical Thought*, ed. J. Paynter, T. Howell, P. Seymour and R. Orton (London and New York: Routledge, 1992). He edited Section 2, 'The Technology of Music' (Volume I, Chapters 17 to 29) and wrote 'Musical, Cultural and Educational Implications of Digital Technology' (Volume I, Chapter 17, pp. 319–28), and 'From Improvisation to Composition' (Volume II, Chapter 37, pp. 762–75).

The bulk of Richard's published writings consists of technical papers about various aspects of electroacoustic music, particularly those relating to the use of computers and algorithmic programming. These were often co-authored with his colleagues at the University of

Organised Sound **18**(3): 235–239 © Cambridge University Press, 2013. doi:10.1017/S1355771813000198

York: notably David Malham, Andy Hunt and in particular Ross Kirk, and are published in conference proceedings or by the Music Technology Group at York. There are too many to list here, but the following titles give a fair indication of his involvement at the forefront of developments: 'Mainframe Computer Music on Microcomputers' (AES reprint 2479 (M–5), with Dave Malham, 1987), 'MIDAS: A Musical Instrument Digital Array Signal Processor' (Glasgow ICMC, with Ross Kirk, 1990), 'Graphical Control of Granular Synthesis using Cellular Automata and the Freehand Program' (Montreal ICMC, 1991), 'Progress in the Application of 3-Dimensional Ambisonic Sound Systems to Computer Music' (Montreal ICMC, with Dave Malham, 1991), 'Tabula Vigilans' (San José ICMC, with Ross Kirk, 1992), and 'Design Strategies for Algorithmic Composition' (*Contemporary Music Review*, 15, 1996). A full list of his publications is given below.

EDUCATOR

He became a lecturer in music at the University of York in 1967. As an innovative experimental composer Richard was invited by Professor Wilfrid Mellers to join a team of composers at the founding of the new department. Richard went on to propose a new teaching methodology at York – the 'Project System' – that encouraged students to focus intensely on defined areas of musical study, irrespective of year group boundaries, and to form their own portfolio of musical interests. This allowed them to understand and connect musical ideas for themselves outside prevailing musical canons. This innovative approach was adopted by Professor Wilfrid Mellers and continues to be practised in the York music department to this day. It has been emulated subsequently by many other universities across the world. Within the Project System he conceived a 'practical project', where all first-term students joined with all other members of the department in the creation of a large-scale performance work, often a mixed-media production. This gave first-year students an introduction to practical music-making and their fellow students, breaking down barriers and facilitating cooperative efforts. Similarly, Richard established the *Mediamix* series of concerts, which combined performances of electroacoustic work with film, dance and other media, and regularly included his own experimental compositions. Richard organised the *Electric Zodiac* project of 1990, subtitled 'A multi-media entertainment based upon astronomy, astrology and mythology', and composed *Terra I* and *Terra II* for it.

In 1968 Richard co-founded the electronic music ensemble Gentle Fire along with Hugh Davies. He also formed the York Electronic Music Studio (EMS), the first electronic music studio created within a UK university, showing that his musical imagination was already embracing the evolution of music into the electroacoustic domain. The studio began as a modest *musique concrète* 'classical' tape studio with Revox and Ferrograph tape recorders, a small Uher mixer, some microphones (including contact microphones) and editing equipment, later acquiring voltage-controlled synthesisers, Ambisonic surround sound and digital systems. He inaugurated the EMS with *Kiss*, his first composition to use recorded sounds. *Kiss* was notable for its use of contact microphones, varied sound sources and numerous magnetic tape techniques.

The University of York thereby became a leader in the field of electroacoustic music under his direction, and many distinguished graduates assumed posts that were prominent and influential in the field: Robert Fraser (Colchester), Dennis Smalley (City University), Jonty Harrison (Birmingham University), Trevor Wishart (independent composer and visiting lecturer in many institutions throughout the world), Martin Wesley-Smith (Sydney, Australia), Rajmil Fischman (Keele University), Andrew Bentley (Sibelius Academy, Finland), Eduardo Reck Miranda (Plymouth University), to name a few – and myself, if I may (administrator and coordinator of the Composers Desktop Project since 1987).

As the years went on, Richard's understanding of the potential of electroacoustic music continued to deepen, and in 1986 he collaborated with Ross Kirk in the electronics department on another visionary project: the concept of an MA/MSc course in 'music technology' that embraced music, computing and electronics equally in its curriculum design. Richard wrote *Musical Fundamentals: The Structure of Music*, for the music technology course with sections on timbre, pitch, rhythm, parameters and musical form. Ross Kirk writes: 'Without his leadership on this matter, we wouldn't have overcome the various short-sighted vested positions held by many around us, and as a consequence, the first UK academic course in the field was established at York. Many other universities followed our lead, once we had established the credentials of the discipline, so his contribution has national significance, allowing generations of students to pursue their dream.' In a personal correspondence Ross goes on to say: 'His steady view of that which constituted the discipline was virtually unique in this country at this time, in the early 1980s.' This is a very revealing statement. Behind Richard's calm and unassuming exterior lay an intense clarity of vision. It guided him, and it guided others in ways they may only realise in retrospect.

COMPOSER

1984 saw the unveiling of one of Richard's most wonderful compositions: *Timescape*, first performed

in York Minster. This extravaganza was based on the Medieval Mappa Mundi (Hereford Cathedral Library) and used *musique concrète*, analogue synthesis, digital synthesis and signal processing (the past, present and future of electroacoustic music), along with solo trumpet, a medieval band, an organ and a soprano solo, which echoed down from the towering walls of the Minster, singing a version of the supplication written on the map. The whole composition is seamless and intensely mystical, beginning in 'Eternity: before time' and ending in 'Eternity: beyond time'. I was present at this first performance, and it was staggering and intensely moving.

Richard composed music throughout his career. His works were notable for their originality, stylistic scope and, occasionally, a surprising theatricality. All were imbued with a rich musicality and had a clear, focused presentation. The integration of material was a key consideration, and one hears in all his music a fluid balance between pitch and sound, tone and texture. The complex textures in his *concrète* pieces presage the way he explored randomisation in later algorithmic compositions written with his own algorithmic computer music language *Tabula Vigilans* and with *ScoreBuilder*, a randomness evolved within musically informed constraints. This was a topic we often discussed, and Richard gave fascinating talks on the subject, such as 'Choice and Chance in Algorithmic Music' presented at the University of Limerick, illustrated with numerous *Tabula Vigilans* scripts. Some of his algorithmic compositions are collected on the CDs *ScoreBuilder Works, 2005* and *IRUM 1001 'Anne Clark'*. The *IRUM 1003* CD contains two important algorithmic compositions (*Timeshadows* and *Ceci n'est pas un orchestre*). *Tabula Vigilans* was also employed in the composition of *Stellations* for 15 solo strings.

Among his commissions were *Icarus* (commissioned by violinist Christopher Rowlands, then leader of the Fitzwilliam String Quartet), *Ambience* (commissioned by trombonist James Fulkerson), *Scatter* (commissioned by James Fulkerson and Stephen Montague), *String Quartet No 2* (commissioned by the Sorrell String Quartet), *Ennead* (commissioned by the Cheltenham Festival of Contemporary Music), *Music for an Amateur Film* and *Film Sequences* (commissioned by the film-maker Eric Gibbins), *Aphrodite-Sextet* (commissioned by the New MacNaughten Concerts), *Mythos* for solo alto saxophone (commissioned by Jan Steele) and *Stellations* (commissioned by the European Community Chamber Orchestra). I particularly remember a performance of *Stellations* in the University of York's Central Hall in 1996. The work was sandwiched between two pieces from the classical repertoire, which made its crisp and scintillating harmonies striking in comparison with the tonal harmony that framed the work.

I cannot fail to mention some of his other theatrical compositions besides *Timescape*. One of these is *Mug Grunt*, performed by three men who literally grunt into mugs and move them according to precise diagrams in the score. Beneath the unusual exterior there is a great deal of musical logic. Overall, there is a movement from inarticulate to articulate (the occasional word emerges near the end), and there is a long 'development' passage in the middle of the piece in which three independent rhythmic streams converge towards a single time-point. Another piece with a notable theatrical dimension is *Brass Phase*, written in 1974, for 12 brass instruments. The players are seated on revolving chairs, so that their skeins of music are physically panned around the concert hall as they play. Similarly, the conductor directs from four cardinal locations. *Clock Farm* is a montage of recorded clock sounds (an imaginary farm of clocks), with an optional photographic slide sequence of clock images. *Mythos* is performed in ultra-violet lighting, re-enacting Perseus' flight through the labyrinth, pursued by the Minotaur. The saxophonist can dance his or her way through the labyrinth (while playing) or a dancer can enact the pursuit while the saxophonist plays on stage.

There is so much more that could be said and discovered about Richard's music. You can consult the full catalogue of his compositions, which will be archived at the University of York.

PROGRAMMER

Richard's clarity of vision found another outlet when he participated in the discussions of a York-based composer-discussion group 'Interface', mostly comprising his former students. These included Andrew Bentley, Phil Ellis, myself, Christopher Fox, Graham Hearne and Trevor Wishart. During the early 1980s this group listened to, discussed and performed contemporary music and was active when Clive Sinclair initiated the personal computer revolution. The discussions were, I believe, very much grounded by Richard's secure grasp of the potential the new technologies had for music-making. Richard and others in the group began their first forays into programming. The minutes of the Interface meeting on 22 March 1983 document several small programs that Richard wrote on his Sharp MZ–80A and indicate how clearly he understood the musical potential of computer software: programs to create sub-harmonic series, swirling glissandi, Partch's 43-note scale, permutations, and other controlled glissandi. This set the mark, as it were, and others in the group began programming as well.

When everyone decided to get the same computer (an Atari ST with MIDI ports), things moved quickly, resulting in the formation of the Composers

Desktop Project (CDP) in 1986. It began distributing its first direct-to-disk sound transformation systems in June 1987: Atari ST + SoundSTreamer (by Dave Malham) + Sony PCM + Hard Disk + sound operating system (Martin Atkins) + sound transformation software (Andrew Bentley, who wrote 'Groucho', the first set of time domain programs/Trevor Wishart, who wrote the first of the spectral domain programs while working at IRCAM on *Vox 5* in 1986) + GUI (Rajmil Fischman, who also wrote and documented a graphics library). Richard was a founding member of CDP and active throughout its continued expansion until his death.

In the 1990s, his collaboration with Ross Kirk continued with the latter's Musical Instrument Digital Array Signal Processor (MIDAS) Project. This led to an ever more serious involvement in music software programming and the invention of his own music programming language, *Tabula Vigilans*. The paper 'Tabula Vigilans' (Music Technology Group, University of York, 1992) by him and Ross describes its conception and use with MIDAS. Another paper, 'Evolution of Timbres through the use of *Tabula Vigilans* on the MIDAS System' (*Contemporary Music Review*, 10(2)) gives a good indication of Richard's long-term vision. Similarly, 'Algorithmic Composition with special reference to *Tabula Vigilans*' (R. Orton, 1994?, unpublished) provides an overview of its potential for musical composition generally.

As evidenced by several papers on the subject, Richard was very interested in the visual representation of sound. He wrote two programs for the CDP Atari Systems to draw shapes on screen that would then be synthesised with *Csound*. These were *Adsyn Draw* (1989, revised 1993) and *Freehand* (1993). They were not rewritten for the CDP PC or MAC systems, but the ideas emerged again in the 'Drawscreen' module of *ProcessPack*, where the synthesising was done within the program. His involvement in *Midigrid* and *MIDAS* also included exploring visual possibilities.

When he took early retirement in early 1996, Richard was honoured by the University of York with a lifetime Emeritus Readership. After this Richard devoted himself to software development and composition using his own software, as detailed above in the 'Composer' section. His initial project at this point was to use *Tabula Vigilans* to write *ScoreBuilder* and *FormBuilder*, then realised with a graphic interface in TCL/Tk. The former develops its algorithmic potential to create algorithmically generated scores (and print them via *Sibelius*), and the latter helps the user to design scores for specific instrumental groupings.

I myself come into the picture more directly at this stage, when years of friendship and discussion led to a new software project which we came to call *ProcessPack,* initiated in 2006. The aim was to create high-level composition tools based on research I had been doing into musical micro-forms. These are micro-level formal patterns found within a musical composition (or improvisation), often trans-stylistic and trans-cultural, and we had talked about these concepts many times, beginning with a presentation called 'Towards a Methodology of Style Analysis' that I gave at an Interface meeting in 1983. An interim event along the way towards *ProcessPack* took place on 27 October 1995, when Richard and I collaborated on a 'Mystery Interactive Listening Device' for an enjoyable fund-raising evening hosted by Penelope Worsley. Between us we designed a number of basic musical patterns, which he then programmed with *Tabula Vigilans* scripts. These patterns could be triggered by participants via Pressure Pads, Ed Williams' *Soundbeam* or a MIDI keyboard, leading to some amazing improvised music.

From 2006 onwards Richard worked intensively on the *ProcessPack* software, adding ideas of his own while recasting mine into a much more elegant form. His unexpected illness and death came in the midst of a white-hot period of development, leaving incomplete a long list of planned work.

Richard's colleagues are unanimous in saying that he was a joy to work with: consistently good-natured, humorous, calm, supportive and always focused on the task in hand. He would never talk about himself or his creative work unless asked, and it is unfortunately only now that one starts to think of all the questions that were never asked. But as we look more deeply into his accomplishments, we increasingly discover a great and visionary person who has had a transforming effect on musical life today.

Richard is survived by his wife Rae, by his brothers David and Robert and by his sisters Pat and Jean, four children (Clare, Giles, Simon and Graeme) and six grandchildren.

By Archer (Tom) Endrich
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APPENDIX – RICHARD ORTON'S PUBLISHED WRITINGS

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