

## **Remote Music - so why are we doing this?**

You are about to hear a unique experience for the ears: a performance of a composition designed to be played by three ensembles from three different locations - simultaneously. So why are we doing this? Because the technology to make it happen is there, like a mountain that needs climbing? Or, are we aiming to go a step further than those composers of the Renaissance who loved to create antiphonal effects across the echoing spaces of their cathedrals? The answer lies with a simple idea to help orchestral musicians make more dynamic contact with their audience.

## ***Schizophonia***

### ***World Premiere at ILIOS 2002***

*Transcript of the 'Pre-talk' given by  
Nigel Morgan at Harstad Kulturhus,  
Norway on 31 January 2002*

The story begins at RESOUND, the education and community department of the BBC National Orchestra of Wales. In the UK there is now an expectation that every orchestra and opera company will provide a lively 'outreach' programme. In the principality of Wales the severe geography and the poor and outdated infrastructure of its roads and railways make it difficult for what is essentially a 'radio' orchestra to get around to its audience for more than the occasional concert tour.

Last year, the BBC planned a conference to discuss how the performing arts might make use of the developing broadband comm.-unications structure now becoming available across Wales. This conference titled [\*Platform 2001\*](#) offered a unique opportunity for the education and community team at BBC NOW. Could their outreach work be made more effective by linking up members of the orchestra with those taking part in workshop programmes before and after the orchestra's (usually all too brief) visits? On paper the idea looked possible, but difficult.

To test out this idea, RESOUND devised a performance for the *Platform 2001* conference that would bring together students in North and West Wales with members of the orchestra in Cardiff (South Wales). The result was [\*Conversations In Colour\*](#), a triangular exchange of sounds, visuals, words and music. This unique piece involved the work of a sonic and visuals artist, a composer, and a team of engineers and sound designers. At the heart of the piece was a five-movement composition for three 'remote' ensembles. This musical score was to make no concessions to possible time delays, and demanded a high degree of synchronicity and musical accuracy. At the first performance in April 2001 Codec-enhanced ISDN alongside a remarkable level of technical expertise achieved by a small team of BBC NOW musicians combined to deliver an effective performance. As an upbeat to tonight's

world premiere of *Schizophonia* we'll be creating a special 'ILIOS' version of this music from the *Platform 2001* experiment, the *Five Studies after Josef Albers*. This piece is all about the expressive qualities of colour. So *Schizophonia*, with its subject material sound and communication, is very much a companion piece.

### Schizophonia - an outline

*Schizophonia* is a composition in seven movements for voices, instruments and digital media lasting about 45 minutes. The piece opens with an introduction for three soloists from BBC NOW who lead the performance from their respective locations in Harstad, Tromsø and Oslo. This introduction is marked 'like a conversation between friends' and demonstrates in seconds the musical telepathy the BBC NOW musicians have achieved through rehearsing without those all-important visual signals and gestures that are such a part of musicians performing together live. As this introduction proceeds the music gently gathers the participating ensembles of wind and strings until the voices enter and the music 'takes off' into the first of two extended toccatas, movements that involve all three ensembles.

The idea of the toccata is central to *Schizophonia*. The word toccata comes from the Italian *toccare*, to touch. This is music 'touched' and not sustained. The toccata we come across in Frescobaldi and then Bach, and later Ravel and Prokofiev, is quick music, often mercurial, like a improvisation, obeying no particular form . . . and so too in *Schizophonia*.

After the first toccata the choir from Oslo and the wind ensemble from Harsted perform the first of two Vocalisms to words by Walt Whitman. The second Vocalism follows immediately with the choir accompanied by the string orchestra from Thomsø. The two Whitman texts from his celebrated Leaves of Grass collection are curiously prophetic in their exhortation to communicate the human (spoken) word.

At the centre of *Schizophonia* there is a kind of 'cabaret' for the 4 solo singers with keyboard accompaniment.

Finally, the music returns to a second and final toccata, equivalent in length to the first, which folds itself into a short epilogue for electroacoustic sounds.

### Schizophonia - the words

What is this *Schizophonia* about? The word itself was invented by the Canadian composer R. Murray Schafer in his book *The New Soundscape*, now the bible of a growing acoustic ecology movement. It means, literally, 'split sound', the phenomenon of sound split from its source. Schafer says it is a 'nervous' word, describing as it does the strange situation new technology has placed us in, where sound has now parted company - through amplification and recording - from the natural circumstances it once evolved from; originally sound could only travel as far as the human voice could project it. Try as we might the human voice cannot exactly replicate a vocal utterance. It is only in the last 100 years or so that we have found means to preserve and reproduce sound.

Think of the word in two parts: 'schiz' means split and 'phonia' means sound. The 'schiz' part of the word covers the physical split in transmission of sound, the split in time (through recording) and the split through electronic manipulation (the cutting and splicing found in studio editing). The 'phonia' part of the word enables us to focus on the components of sound and our relationship with it. Time and duration are clearly important, but so too is silence and memory. These impact upon our relatively new, but almost overbearing, relationship with recording. There is strong evidence to suggest we are losing our ability to memorise both words and music belonging to centuries of tradition and practice. Our text has become the CD and we rarely, as listeners, get our hands on the music. The bounds of our aural experience also get wider and wider, and we are daily flooded with new sounds and sonic messages.

But there is a letter from the *Schizophonia* word we have missed, its central 'o'. In the composition this 'o' is the human voice, the mouth open to speak, the mouth from which our words come. Whereas the two toccatas focus respectively on the *schiz* and *phonia* parts of the title, the instrumental and vocal movements between the toccatas concentrate on the central 'o'.

The texts for the toccatas come from two chapters in a remarkable book by Sean Cubitt called *Digital Aesthetics*. This book, written by the Professor of Screen Studies at Waikato University in New Zealand, looks beyond our computer culture and asks what kind of culture we might or should have. It is also a wonderfully poetic book full of extraordinary and often deeply felt images.

The first toccata takes its title from the preface of Cubitt's book - '*The Universal Touring Machine*'. Read this as a description of the computer but also as a pun (a play on words) on the name of one of the pioneers of artificial intelligence, Alan Turing. The second toccata is called '*The Mobilisation of Sound*' and has been fashioned into three meditations on Sound, Time and Recording.

The text at the centre of the *Schizophonia* is entirely different. It is a collection of [12 Design Rules](#) by the American Internet-guru Esther Dyson. At the end of Esther Dyson's book *Release 2.1*, a book that addresses fundamental conflicts in the spread of digital communications, Dyson brings together what she calls her Design Rules for Living on and with the Internet. You could think of these as the Twelve Commandments of the 'net. In the context of her book these short paragraphs are powerful statements of common sense, statements that have won the approval and support of the leaders of our information revolution such as Bill Gates and Steve Jobs. Here's a short example of Dyson's text presented as a proverb or aphorism:

*Design Rule No.III - Trust But Verify*

*Know you 'can' trust  
those you deal with.  
Be honest when people  
want to know more about you.*

Before the *12 Design Rules*, two choral and instrumental episodes with a wholly different text, the [Vocalism](#) poems by the 19C American poet Walt Whitman. I discovered these poems shortly after the tragic events of September 11 when Whitman's epic collection of poems *Leaves of Grass* spoke to me more directly than any passage of biblical scripture. His poem in two parts, *Vocalism*, not only provided a message for these troubled times but fitted perfectly into the argument of *Schizophonia*.

### **Schizophonia - the music**

Of the very small number of musical compositions which have originated as pieces for 'remote' performance, *Schizophonia* and the *Five Studies after Josef Albers* appear to be unique in the way each engages the element of synchronisation. This component of music is something we as listeners are able to respond to quite differently: the precision of a large ensemble or choir making music exactly together can be a matter of wonder, but so too can be the music produced when jazz or rock musicians play around with and against synchronisation, dragging and pushing against a steady beat, playing out of time during solos and stepping back in on choruses.

In early music for multiple ensembles, such as the antiphonal music of Gabrieli written for performance from the many galleries in St Mark's, Venice, the musical texture was skilfully designed to accommodate the long echo and reverberation times of large buildings. The mesh and flux created by harmonious sound masses moving at different speeds through and across space is a unique and wonderful experience - synchronicity blurs and we are momentarily in a new aural territory. In the latter part of the 20C Karlheinz Stockhausen has explored and exploited this phenomenon in works such as *Sternklang* and the *Helicopter Quartet*.

Composing for Codec-enhanced ISDN multi-performances offers a similar musical challenge and adventure because each ensemble carries with its own acoustic space, and the latency (or time lag) between ensembles can be controlled down to around 7 milliseconds. Remember, the time lag across a symphony orchestra is in the region of 15 milliseconds.

The musical structures behind *Schizophonia* are a quiet development of preoccupations both technical and musical that have been evolving in my music over many years. The pitch and tonality material take their starting point from the very simple idea of splitting the musical octave into equal divisions of three parts. In his *Thesaurus of Scales and Musical Patterns*, Nicholas Slonimsky calls this a Ditone Progression and provides some 200 patterns that originate from this source. For *Schizophonia I* have chosen just seven patterns (numbers 186 to 192).

During the introduction you can hear pattern 186 very clearly in the solo bass part. But as the introduction progresses and we hear in the wind and string ensembles a polytonal 'split' beginning to appear between each ensembles, a split which is then maintained throughout both toccatas. Slonimsky's pattern 186 splits the octave starting on C into an augmented arpeggio, C E G# C, and then ultraplates (Slonimsky's term for inserting one or more notes above the principal notes of a scale) this pattern to create C F E A G# C#. In order to achieve a tonal split between each ensemble this pattern becomes a scale (c c# e f g# a) and two more tonalities are devised, an 'outside' scale (d d# f# g a# b) and a 'mix' scale (c# d f# a a#). Each ensemble 'owns' its own tonality position as either 'inside', 'outside' or 'mix', and this is developed across a scheme of gradually changing and revolving scales and tonalities.

Rhythmically, almost everything is derived from the texts except for the music of the Vocalism movements in which rhythms come from my own libraries of binary numbers in 4-bit and 8-bit forms.

The composition of *Schizophonia*, like much of my output in the last 15 years, is the result of an intense level of interaction between composer and computer. Despite the enormous processing power of computers very few composers outside academic research actually use programming as a means of organising and generating pitch, rhythm and orchestration. The computer is predominantly used to record, process, edit and sometimes generate new sounds, but rarely new music. Curiously enough the main exponents of the programming approach to composing are both from Scandinavia, Magnus Lindberg and Kaija Saariaho. The language at the heart of such work is predominantly Lisp, one of the oldest computer languages and one very much associated with artificial intelligence. *Schizophonia* is written in the Symbolic Composer dialect of Lisp, a Apple Macintosh application co-developed Nigel Morgan and Finnish musician and programmer Pekka Tolonen. Access to such a language allows the composer to model 'what-ifs' in a particularly powerful way. It can also be used to explore unusual and unique structures and relationships, sometimes using mathematical representations of natural phenomena such as fractals and coloured noise, and able to generate any parameter (pitch, tonality, rhythm, dynamics, orchestration, structure) of a musical score.

### **Schizophonia - the sound**

Now to the soundworld of this new piece. *Schizophonia*, like its companion piece the *Five Studies after Josef Albers*, meets the challenge of remote performance through assembling a special continuo group of three players. In Early Music the continuo was usually led by the composer from a keyboard backed up by a bass instrument and often a group of plucked instruments. The continuo held the essence of the music with much of its surface detail left in the hands of the performers.

Using electric and MIDI instruments -including a kind of electronic vibraphone called the Mallet KAT- this contemporary spin on the old fashioned continuo carry the complete music of the work. Through using electric, amplified and MIDI instruments the continuo have access to a vast panorama of sounds through cutting edge synthesis and sampling technology and via live signal processing.

The other sounds of *Schizophonia* come from the three ensembles - but as in performances of

early music instrumentation may be flexible. For this premiere, the FMKS band in Harstad provides an unusual wind octet of oboe, bassoon, trumpet and trombone, with piccolo, flute, clarinet and tenor sax. The Tromsø Symphony Orchestra deliver an ensemble of nine string players. In Oslo, the extensive vocal part is performed by members of Det Norsk Solistkor

*Schizophonia* requires from all its musicians a very particular performance style. Most of the music is 'touched' not sustained; it is to be played lightly with the simplest of dynamic contrast. Indeed, the players have some freedom in adjusting their own playing skills and approaches to the written notes. Articulation, phrasing and bowing, even octave placement are matters for personal or ensemble consideration during rehearsals. The score might be viewed like the script of a play - its delivery and presentation very much in the hands of the performers, with critical advice from a leader or director (who ideally should participate as a performer), and with a technical backdrop that should be utterly transparent and convincing! The role of the vocal soloists is of utmost importance, with clarity of text essential. In the toccatas the singers become a kind of Greek chorus and address the listener directly.

*Schizophonia* has no conductor, just the continuo leaders who play almost continuously and lead, but do not conduct. Curiously, this approach does not result in anarchy but in a most vital and intense focus on making the music work; it returns performers to a role once the norm in music of the 16C and 17C; it recognises that performers can and should have the interpretative space to make creative decisions about how and what they play.

In R.Murray Schafer's description of his word *schizophonia* he concludes:

### **Epilogue**

*I coined the term 'Schizophonia' in the 'New Soundscape' intending it to be a nervous word. Related to schizophrenia, I wanted it to convey the same sense of aberration and drama. Indeed, the overkill of hi-fi gadgetry not only contributes generously to the lo-fi problem, but it creates a synthetic soundscape in which natural sounds are becoming increasingly unnatural while machine-made substitutes are providing the operative signals directing modern life.*

So in *Schizophonia* the composition, the music ends with a soundscape of those machine-made substitutes that provide the operative signals directing our modern lives. This short Epilogue

contains many of the operative signals surrounding life in a big city - Xerox machines, computers, subway trains, artificial voices telling us to what to do and when, electric gadgets and, inevitably, the mobile phone. The Epilogue sounds were recorded on location in London and then assembled in the composer's Wakefield studio by Frances May Morgan.

For me, the whole process of bringing *Schizophonia* together for tonight's performance has been such an adventure. From the beginning there has been, from so many people, a large element of both risk taking and trust: in a technological possibility, and in the idea for a piece that confronts performers and audience with some of those fundamental conflicts technology is creating for us.