

Ringling the Changes

Unrealised; proposed for September 2003.

Proposal

Ringling the Changes

A project to celebrate the opening of St Martin's Square, by Pete Batchelor.

A proposal by Matt Price in association with Metapod.

Introduction

Recent activity in the Bull Ring represents a very exciting development for St Martin's Church, the shopping centre and the city, seeing its restoration to the heart of Birmingham City. The festivities which mark the opening of the site in September 2003 look set to reflect this, and already there is a sense of renewal in the renovation of the building's stonework, highlighting it as a focal point within the area. While this raises the visual and architectural qualities of the church, Pete Batchelor is proposing a project that would draw attention to its equally impressive sonic contribution to the local environment.

The Bull Ring has always been a rich terrain of sounds, the chatter of shoppers, the stallholders' cries, the traffic flying over the middle! And perhaps the most prominent of all the sounds of the Bull Ring is the peal of St Martin's. The tower of St Martin's boasts the world's first installation (completed 1991) of sixteen bells and its peal, spanning just over two octaves, is therefore unique in its complexity and colour. The new buildings of the Bull Ring, and in particular the addition of St Martin's Square, are set to dramatically change the experience of the peal as heard around Digbeth, offering an entirely new acoustic environment in which the sounds can be experienced. With the markets more comfortably situated, the shopping centre reactivated and the topography resolved at last, St Martin's Square is soon to have an entirely new spatial existence, and it promises to be a space that complements the Bull Ring and the church rather than overwhelms them.

Batchelor's project would be centred around St Martin's Square, addressing the new environment and the physical relationship between the historic church of St Martin's and the ambitious new architecture and urban planning of the Bull Ring. Batchelor's hope is to bring together the church bells of St Martin's with new technology in a way that celebrates Birmingham's heritage as well as its exciting culture today.

In addition to exploring the physical space of St Martin's Square, Batchelor's project is equally intended to address directly the members of the public who use the space and its facilities, and is as much a celebration of our communities as it is of our urban regeneration.

Project Summary

Batchelor will compose a diverse series of short pieces for the bells of St Martin's which will be performed at intervals throughout the day of the Bull Ring opening. The sound of the bells will be heard in conjunction with a multichannel electroacoustic/sonic art element designed to augment both the sound of the ringing (its pitches, rhythms and overall sonority) and the way in which these sounds occupy the surrounding space (i.e. St Martin's Square). The concept of change ringing being an art form seems not to be considered outside bell ringing circles, yet the skill and coordination involved in a clean performance is exceptional. As indeed is the stamina, since a peal may last for more than six hours. It is the aim of this project to provide a showcase for these qualities, in addition to exploring the ringing itself. The title of Ringing the Changes not only refers literally to the process of change-ringing, but is also the origin of the common expression meaning to try out different alternatives. The title also carries with it a sense of marking the physical, spatial, architectural, social, cultural and political changes and transformations that have been taking place around the church in the last 40 years, and particularly since the late '90s. As such, the project is very much about the relationship between the present developments and the history of the space.

This project represents a true marriage of established tradition and modern technology. The change-ringers at St Martin's have been invited to collaborate with Batchelor to rehearse and perform these compositions. The electroacoustic contribution will be disseminated by means of professional PA speakers located at various points around the new shopping centre, church and square. The whole operation will be coordinated and controlled from within the bell tower and the various speakers will be linked by means of a radio connection which will facilitate their synchronisation with the bells in the tower. A series of computer programmes have been designed specifically for the project with a view to emulating and developing the change-ringing process. Some of the compositions will be rendered by the computer in real time (i.e. at the time of performance) according to particular musical criteria established in advance, a projector display within the ringing chamber being used to 'call' the changes.

Other computer programmes have been developed to:

- 1) manipulate the bell sounds themselves, exploring their own inner characteristics and introducing others;
- 2) trigger the results of these manipulated sounds in synchronisation with the bell ringing performance;
- 3) distribute the sounds to the speakers around the Square in musically and spatially interesting ways, highlighting the acoustic properties of the surrounding architecture.

It is a primary concern of the project that the experience of each listener will be different depending on his or her location within the immediate vicinity. Between these main pieces, intermittent micro-compositions of no more than a few seconds – intriguing sonic surprises and head-turners – will be sent rushing around the square throughout the day.

In order to comprehensively advertise and document the installation, pre-event distribution of promotional flyers will be followed by the production of an information leaflet available to members of the public on the day of the event itself. A full-colour publication (1000 copies) will complete this aspect of the project, containing reports, photographic documentation and

background information relevant to the installation, available for purchase at local arts/bookshops. A CDROM including coverage of the event in addition to background material (Batchelor's preparatory work and raw electroacoustic component) will also be available.

In the event that the funds raised for this project fall short of those required for the full version outlined, we have considered several options that will nevertheless enable us to run a cut-down version, making the most of what funding we do secure. While the international profile of the project will be compromised as a result, the quality will remain as high as the resources will allow.

Background: Change Ringing Practice and the Ring at St Martin's Church

Change-ringing is a phenomenon peculiar to British culture, involving the available bells in a tower being sounded in various changing sequences. It is permitted purely by the way in which the bells are hung, being mounted on a full wheel, rather than on a half or quarter wheel as is the case with hung bells throughout most of Europe. This affords the bell ringer significantly greater control over the action of the bell, thereby:

- 1) allowing the bell to be 'set', i.e. pulled to a vertical (upside-down) position and held indefinitely, ready for a downswing (pulling the rope to spin the wheel (and bell) 360°, so that the clapper hits the bell, causing it to sound);
- 2) enabling a bell swing to be speeded or slowed. Ringing usually commences by performing 'rounds' - sounding the bells in order from highest (treble) to lowest (tenor). This order can be varied by effecting a 'change' between two adjacent bells: the bells are 'swapped' in time - a process which involves slowing the swing of one bell while speeding that of the other.

Through continued 'changing', the ringers can run through a variety of permutations of the original sequence, the number of which (without repeats) is limited only by the number of bells in the tower. A normal ring (most British churches have a ring of between six and eight bells), yields between 720 and 40,320 changes; St Martin's Church, however, is unusual in having a ring of sixteen bells, covering just over two octaves (C D E F G A B C D E F G A B C), which offers over twenty trillion permutations! And this assumes that all sixteen bells are included in the ring.

Change Ringing Component

The proposed installation would seek to exploit the diversity offered by this wealth of options. It would involve the composition of a series of changes for the bell ringers at St Martins, the sonic results of which would set the scene for the development of the bell sonorities using electroacoustic means. In addition to using the full palette of sixteen bells, there would be times when some were omitted from a sequence, leaving unconventional combinations (1 3 5 7 9 13 15 or 1 2 7 8 9 15 16 (where 1 = treble, 16 = tenor)) or just the higher or lower octaves. Such omissions, if regularly varied, would inevitably generate complex and interesting 'melodic' and rhythmic patterns. In combination with other irregularities, several bells being required to change simultaneously, or play concurrently for instance, these would also clearly demonstrate the expertise of the bell ringers.

The contribution from the tower would vary according to the activity in the electroacoustic part - there might be times when the bells would lapse into silence altogether, being sounded only to act as a catalyst for a new event in the square, for example. At such times, two or more bells might be required to sound in quick succession, creating a sonic 'gesture' to complement the material in the square.

All of these ideas would be explored comprehensively as part of the compositional process to establish the most effective and musical combinations.

Background: St Martin's Square - Acoustic Properties

Consider the following scenario: three listeners (A, B and C) stand in the vicinity of St Martin's Square while the bells are ringing (see Figure 1). Listeners A and B will each hear direct sound from the tower. But their experiences of the bell ringing will be quite different since they will also detect indirect, reflected sound from the surrounding buildings (which is in turn affected by the materials from which each is constructed). Since sound travels at a finite speed (340m/s), these reflections will be delayed by the time they reach the ears of each listener, the length of the delay dictated by the distance of the listener from each of the buildings. Depending on the number of delays detected within a given space of time, these will be perceived as either reverberation or echo. Thus:

Listener A will hear direct sound from the tower in addition to immediate reflections from the nearby Selfridges building and more significantly delayed sounds from the walls on the opposite side of the square

Listener B will also hear direct sound from the tower (prior to listener A); but being at an approximately equal distance from all the surrounding walls, most of the reflected sound should reach him at roughly the same time.

Listener C will hear no direct sound at all since this is blocked by an adjacent building; instead, she will hear only reflected (and somewhat attenuated) sound from the markets (some of which may have already travelled to the Selfridges building and back).

There are, of course, a number of other acoustic factors which determine how the sounds are perceived at each listener's location; nevertheless, the fact remains that the experience for each listener is substantially different and will change as each walks around the space. It is this phenomenon that I hope to exploit in this installation.

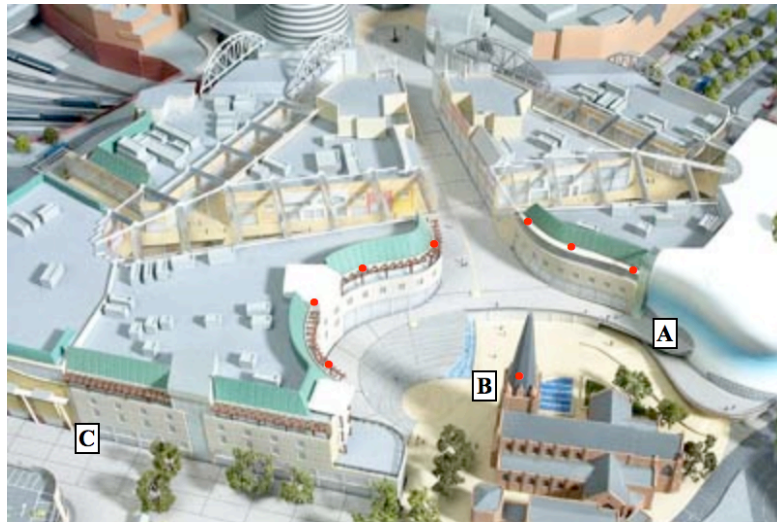


Figure 1: Proposed 8-channel installation occupying St Martin's Square only.¹

Electroacoustic Contribution

The proposed installation would involve the placing of several speakers (as discretely as possible) around the upper platform of St Martin's Square - preferably on the balconies at the tops of the buildings (as per Figure 1 - marked by red dots) or in the windows (depending on available space) -

¹ Graphic used with permission from The Birmingham Alliance.

in addition to a number within the bell tower itself. The positioning of these speakers is crucial to the further exploration of the acoustic properties of the space, presenting a multitude of possibilities for the spatial diffusion of the multi-channel electroacoustic component of the installation.

This would be designed to:

- 1) complement and enhance the existing reverberant qualities of the space by spreading subtle recorded bell resonances around the periphery of the square;
- 2) widen the source of 'direct sound' - effectively pulling the bells out of the tower to occupy the entire space - by having (recorded) bells sounding from the speakers on the surrounding buildings to supplement those in the tower;
- 3) explore the delay resulting from the distance between speakers by, for example, generating a series of different bell sonorities which sound from all speakers simultaneously. These may be perceived, depending on the location of a listener, as a single event (chord-like) or as a series of separated ones (arpeggio-like);
- 4) explore movement around the space:
 - a. sounds rushing from speaker to speaker, perhaps spiraling out from the tower into the square, or jumping between center (tower) and periphery;
 - b. waves of bell sonorities funneling out through (or indeed issuing from) the pedestrian concourse at the top of the square (this would be more effective with the addition of speakers along the length of the concourse).

In addition to spatial considerations, the electroacoustic part would investigate the spectral and morphological (i.e. the manner in which the sounds change through time) characteristics of the sounds, employing both raw (from original recordings) and processed (manipulated) versions to create compositions of bell sonorities which would complement the live change-ringing.

Performance duration

While the installation would be in place throughout the Bullring opening, both the duration and the frequency of its contribution to the celebrations would be entirely flexible depending on other events taking place in the area. Nevertheless, at this stage, I envisage there being regular (i.e. once every two hours) 'performances' of around fifteen minutes in length involving a series of rung changes in the tower which would gradually develop into the various electroacoustic elements described above.

Each performance would be unique, exploring a different possibility afforded by the various available combinations/configurations of bells and speakers. Between each performance, intermittent delicate fragments of sound - spatial gestures, or sonic fireworks - would be sent sweeping around the space to arouse curiosity in passers-by.²

² Proposal written by Peter Batchelor and Matt Price, February 2003