# SYMPATHETIC VIBRATION (*prolongation of sound by reflection*)

York St John University, Lord Mayor's Walk

*A project by Markus Jones*

*'The idea is not to try and create something completely new, but to enlighten some fading practices'.*

## Introduction

Timing is everything. I remember sitting in the Quad at York St John University on a very cold day early 2007, chatting to a colleague about how sound differs in the same space at different times in the year. I have been obsessed with the sound of these subtle little performances for many years and I can only be an active listener for a short period of time before the desire to record takes over.

The campus itself is approximately forty thousand square meters, set in the heart of the Roman City of York, overlooked by York Minster and Roman walls, with a wealth of sound presenting itself across the entire day from traffic sounds and the hordes tourist flocking all year round.

## Sympathetic Vibration

I began collecting sound spring 2007, wandering around campus; armed with a number of small recording devices, recording the most noticeable sounds I could possibly hear. Once I started to playback the sounds, I found myself gravitating towards the smaller sounds or those that might otherwise be overlooked i.e. the faint sound of the electricity in the wall, the water running through the pipes etc. I shortly returned armed with a number of contact microphones (see fig. 1), this enabled me to attach devices to the walls, windows, pipes and just about anything else I could lay my hands on, picking up every possible microscopic sound. In addition to microphones I used an electromagnetic coil (see fig. 2) to collect sound though electronic frequencies emanating from such devices as mobile phones, radio microphones and when near a location using a number of electronic devices i.e. an IT room; I managed to pick up little sections of slightly distorted conversation between the staff and students.

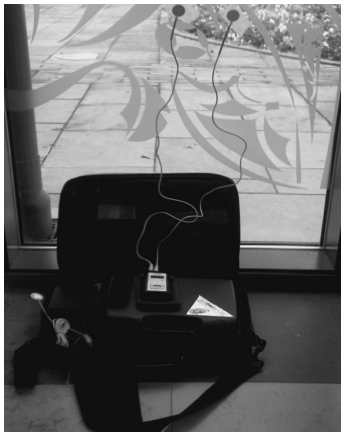

Fig. 1 Contact microphone attached to window

Fig. 2 Electromagnetic Coil attached to office telephone

## Extensions to project

Later that year, during the summer months I managed to sweet talk several members of staff to carry out part of the project 'Internal Broadcast'. The idea behind the project was to record a day in a life of an internal mail envelope (see fig. 3). I inserted a very small microphone into an envelope for those lovely people to carry around with them wherever they went (yes even the toilet in some cases!) passing on the envelope every 30-40 minutes, recording their every move.

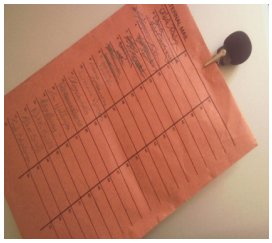

Fig. 3 internal mail envelope with attached microphone.

In another attempt to capture as much information as possible, I interviewed a number of students and members of staff, asking key questions about their own personal experiences whilst at YSJ and how the sound they hear can affect them. The results were varied, with people commenting on the sound whilst walking through the Quad, listening to the birds nesting; traffic passing by along Lord Mayor's Walk to the sound of countless different accents from all across the world. Once I collected, what I thought was enough information I dissected each fragment of conversation, taking the highlights and most interesting aspects.

## Soundwalk

One of the fundamental aims of the project was to assist both staff and students who are visually impaired, aiding them by using sound to identify their location. Having little knowledge of what it might be like to walk around the campus without the benefit of sight, I contacted a visually impaired student, who kindly explained to me the fact that he felt that vision is possibly overrated as much as the use of hearing is overlooked, something that I have never really thought about until then. The idea was then to develop a soundwalk across campus, (see fig. 4) mark out a route, and walk around using a binaural microphone. The binaural microphone (see fig. 5) gives a realistic feel of what we really hear, and how we hear it, factoring in natural sonic shaping of the head and ears, since these things happen naturally as a person listens, generating their own inter-aural time difference. (Basically it's the difference in arrival time of a sound between both ears). When listening to these particular recordings, it is important that you listen to them through headphones to achieve the binaural effect. I lettered each section, the aim being that the listener can choose their own personal course, either listen to the route on-line or drop each sound-snippet into their mp3 player.

Fig. 4 Map of York St John University campus

Fig. 5 Binaural Microphone attached to Glasses.

## Light Reader

Obviously we hear different sounds each day at different times in the year. Clearly the same could be said about the things we see. In order to encompass the true sounds reflected across campus, a telescope was used to collect the light; photoelectric sensors (see fig. 6) were attached to audio cable collecting light from the eyepiece of the telescope, which then translates discreet light sources into sound. Collecting light samples from inside particular rooms, also from external parts of the campus. I found this method much more successful at night, recording the lights in the building as they were turned on and off, emitting small pulses of sound which varied in both tone and pitch.

Fig. 6 Light Readers

## Conclusion

I always had an idea in mind of what the final pieces might sound like, working towards capturing the activation within the space in ways that possible shift focus away from the apparent, by using a mixture of field recordings and lo-tech electronic, but one thing I always tried to be aware of was the fact that the project would have little meaning without an audience and considering the immediate listener was a possible 6,000 students and 500 staff the involvement of both throughout the project was key to the final outcome…

## Acknowledgements
I'd like to thank all people involved in the interviews and the internal mail project, in particular Andrew Merrison for making me laugh, Chris Boyes for his constant enthusiasm and Audrey Layton for always saying yes.

The support of C4C and TechDIS, without whom the project may not have been possible and finally to all the people who didn't mind me recording their every move for several months.

## *Main Ingredients:*
**Contact Microphone**- Flat piezo disks you can attach to walls, window, doors, pipes and even people assuming they stand still for long enough.
**Electromagnetic Coil**- a conductor (usually a solid copper wire) is wound around a core to create an inductor. It acts a little like a radio antenna, picking up electromagnetic frequencies e.g. radio microphone, mobile phones etc…
**Photoelectric Sensors/ Photo Cells**- These are essentially mini electronic devices that allows light to travel through them, producing a small current, which in turn produces a kind of 'sparkly drone' like sound, depending the types of light in use.
**Binaural microphone** - Two small microphones that you attach one to each side of the head or one in each ear, depending on the type you use.

## *Project Output:*
SightSonic, Artist Platform. York, UK
Sonic Arts Festival, Expo, Brighton, UK
Fringe Soundscape, Hebden Bridge, UK
Sound Projector. London, UK
Vibrö Sound Arts, Paris, France.
BBC Radio 04, In Touch, UK
Sonic Art FM. London, UK
Walking in Sound, Vienna, Austria
SFX Radio, Seoul, Korea
Furthernoise, UK.
Toronto Electroacoustic Symposium (TES), Toronto, Canada

## *Awards Entered:*
Prix Ars Electronica, Graz, Austria
Qwartz Awards, Paris, France
SoundLAB VI, Cologne, Germany

## Biography
Designer of sound, musician and phonographer, educated at the Royal Northern College of Music and the University of York.

Largely focusing on site specific and installation work by simply offsetting our normal perception, given that the aim is to replicate a subjective experience of the surrounding sonic environment, collecting sound based on its original origin before twisting it into his interpretation of the original source.

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