

The Building as Instrument

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Forethought

Buildings have always been instruments, influencing the sound produced within them: a history of music inscribed in a history of architecture. Recent research into cave painting suggests that the earliest musical instruments involved the selection of reverberant echo-spaces in caves, played by the voice. As an acoustic space for the production of music, the building influences the reverberations and timbre of a sound, giving it an instrumental quality. Considering the typical but diverse genres of acoustic architectures like the concert hall, the gothic cathedral, or the cinema, the dominant spatial character is one that is focused towards the musicians and their instrument, or the image within the frame. Not so different from the role of a vanishing point in classical perspective, the traditional building-as-instrument had a focal point from which the sound emanated sonically, visually and physically in the form of a musician interfacing with their instrument. In contrast, the building as an electronically extended instrument is characterised by an uncoupling of the musician from their instrument, and of the image from its delimiting screen. This creates the possibility of dislocation within a location, a distributed instrument with no focal point, inhabited by players.

Location

The Meta-Orchestra surfaces for the fifth time in a disused mine-building, twenty thousand square meters of empty industrial terrain. The orchestra is seven people this time, in the largest space filled by the smallest group. There are a number of ways to think of this building: the intervention of the orchestra within it, the industrial mining past, its relatively short life-span, its fluid spaces and reverberant acoustics, the theme of 'manual labour' given for the festival, the relation of technologies to this technology of the past. But how far does this go? Is it an arbitrary link between the manual labour of the coalmine workers, their industrialised social structure, and the present day relation of the 'industrial' computer worker, to the extended interfaces of the Meta-Orchestra? Our aims are different.

(from Building as Instrument, text written and performed by the author as part of Meta-Orchestra performance, 30 April 2005, part 1)



The coalmine headquarters had a seven second reverberation. Unlike an echo, which sounds like an answering voice, the reverb impressed the sound on the life of the derelict building. The building wasn't answering back – it was substantiating the event, turning the sound into liquid, spreading it so all focal point was lost, leaving it as a container of sound, as an instrument.

Is it because of its derelict state that the building seems monumental? Its' sonic structure has changed since being abandoned because it is stripped and empty. It has become a shell, hollowed out, but filled in its place by an almost tangible atmosphere. Cold, damp, dirt. Bats. Leaks and changing light. Like a ruin where the stillness is greater than the silence, and where ones body gets cold and hungry. A small collection of ruined structures is all that's left standing of the coal mine, but, like the tip of an iceberg, it signals the network of tunnels extending over a kilometre deep below ground. It is a

building in a state of decay, unused, protectively watched by ex-miners for nostalgia and history.

What is this quality of an empty abandoned place? It exists as an absence of previous activity, retaining its marks that with a little imagination can conjure up the sonic residue of memory. The orchestra that played in this room sixty years ago is part of this residue. The Meta-Orchestra intervenes in this site, but finds itself in contrast with its surroundings: in order to set-up the delicate electronic equipment, the technology of our age, in a space deep in years of building dust, one first has to clean...

The billowing clouds of dust rising up meters above the heads of the sweeping Meta-Orchestra make visible the air movement in the building. Like the sounds it floats very gently, hanging in the air, the dust making visible diagonal beams of sunlight. These experiences are parallel to the long, long reverb, like time is stretched, where every sound played has to be slowed down to a quarter of its normal activity. Attacks do not behave like attacks, sound is put into space and hangs there, like the dust.



Instrument

With a few exceptions musical instruments, by their traditional definition of being *instruments*, relate to the human body in that they must be physically played in order to sound and in order to be instrumental in the making of music. In the contemporary digital definition however, the musical instrument is an interface between computing processes and the musician, where the sound is not heard where it is produced, and the finesse of bodily control is given over to the machines. If the potential of this situation is taken positively further, the traditionally dominant one-to-one relationship of the musician to their instrument is loosened, it can be turned inside out, it can be multiplied, the instrument can be inhabited rather than held. As a projected consequence the spatial aspect of music could once again dominate the temporal.

It is interesting to see how little questioning is made into the role of the instrument in redefining the future of music, sound and place, as if the musician-instrument duo is unquestionably a *solid*. It is more like air or liquid, or weightlessness. The complex relationships between the musician-instrument is central in this redefinition, immersed in the sonic, physical and electronic environments that can be invisible, intangible and dispersed. In this context, to treat the building as an instrument should be seen as one example of possible instrumental futures.

The intimacy of the relationship between a musician and their instrument is singular because of the intense identification with the sound produced, inducing a conflation of subject (musician) and object (instrument) through sound *in time*. If this acute mental/physical fusion is ruptured, as has happened with the introduction of electronics into music, sound must be embodied in another way. It is not unusual to think of physical embodiment within a sonic space, but to be able to play the sound within this space is to move outside of ones body, to see the sound from the outside while being within it.

The building as instrument is traditionally a situation where the sound activates the properties of the space, acting on the body/mind of the musician and listener, feeding back into the sound production loop. Now it is host to not only the acoustic instrument but also the distributed electronic instrument. It is not egocentric but exocentric and enveloping, essentially spatial not temporal. In this idea, playing the instrument can be done by anyone present in a kind of active listening.



An instrument does not sound by itself. An instrument, by definition, is something to be acted upon, something to be utilised. To make an inert musical instrument sound it has to be 'played'. The physical bodily contact needed to produce and control sound makes playing an instrument intimate. And the peculiarly sensitive relationship between a musician and their instrument.....

As an instrument the computer needs squeezing, stretching, elastifying. It needs grabbing, manipulating, tickling, and to be made responsive to these hands that so sensitively shape sounds out of tubes, strings, keys. In a musicians relationship to their instrument, the tactility of the interface is not purely manual, it comes through breath control, lungs, throat, tongue, lips, nose, reverberating in cheek bones and teeth, posture, pressure and all the fine gradations of musculature that loop from control of production of sound through to the hearing and the ear. The whole body is in reverberation in a process that reaches into the body on one side and out to

another body through sound. These reverberations are felt not just heard. The instrument is part of this sound producing body, it's hard to draw a line where the instrument begins and the body ends, or where the instrument ends and the next body begins. To think of the computer as an instrument then is to see it as an impoverished one, one that we cannot access or control easily, one that is not responsive, one that is relatively speaking dead.

(from Building as Instrument, part 2)

Dislocation



But it is the production of electronic sounds, of which the computer is the most compact and portable generator, that has extended and expanded a musician's palette of sounds to unrecognisable proportions. And with this extreme amplification of the sound palette is an extreme reduction of the bodily production

of sound through instrument. Each member of the meta-orchestra individually approaches this dilemma – where they used to practice breathing techniques and manual dexterity they now learn and practice computer programming. The mistake is to treat the computer as a self contained unit, as is a trombone or a violin. Each unit can link to another, creating a network of nodes through space, an expanded rhizome of lines, allowing the spatialisation of information. It is more of an electronic ecology that the orchestra builds and interacts with. Our instrument starts from the conjoined, distributed network of electronic devices, played in a collaborative way by the individuals access through their extended interface.

(from Building as Instrument, part 3)

Now expand the instrument. Let it grow into the realms of space. The sound emanates from the instrument, reflecting off the space, sonifying the latent acoustics. The sound of the instrument then comes from another place, it is not an echo, it is an electronic mirror taking the sound and playing it back from another location. The instrumental source has walked away from the player assuming a break, a disembodiment of sound from its intimate location as the cyborg extension of the person. We are now displaced. Our once empirical understanding of place and sound emanating from a person is folded with our ‘leap of faith’ into the fractured spaces of the electronic domain. We have grown used to disembodied voices, the telephone and its now mobile equivalent leave the location of the voice to be only imagined. But the folded space is one where what we see, what we hear and the location of emanation are all dislocated within the same locality.

Light behaves like sound. The projected image floats through space, a musician playing a trombone, spinning steadily in circles, in the daylight of the space that’s now in darkness. The trombone sound appears to come from another location, carried through the space by the video-walker. Moving through the building with the instrument of projector-speaker-computer-interface, it is as if the video-walker is dressed in the sonic skin of a musician playing in a displaced time. The image of the trombonist as he explored the sonic space of the same building is placed back as a source of light that reflects and refracts off the physical space, as the sound did in the days before.



The beam of light that projects the moving image has un-coupled itself from the screen. Previously these were co-ordinated, the frame distinguishing the physical space from the image space, where the screen opened up a window onto a virtual world where anything could happen. Both extremes of cinema and television share the screen and its frame, where we understand that the space of the image unfolds by its own rules, independent of the space we watch from. But once the projected image is loosened from the grip of the screen, the surface on which the image plays becomes much larger, opening up an interaction with the building, giving opportunities to fold the space in time.

A camera follows the video-walker, capturing one persons view of the event and relaying it wirelessly back across the building to be projected onto a doorway covered with barely visible gauze. The light is partially caught by the gauze, appearing as an image on a surface but at the same time spilling through into the space beyond. Microphones placed by the musicians capture the echoing re-placed trombone sound, process it and re-place it again in the space as a sound transformed, taken on by another personality, emerging as a

sound of hybrid origin. The processes of transformation are passed onwards over the electronic network to another player in another location, unheard until used in the production of new sonic skins.....

Intoxicating?

There are two ways of considering the regaining of physicality in the production of these sounds, firstly the intimate interface, and secondly the inhabited interface.

The intimate interface is close to the body, measuring finer precisions of control, of breath, pressure tilt, acceleration, all parameters that can be electronically sensed and mapped to parameters in the sound. In this way the electronic instrument approaches the player. The inhabited interface in contrast surrounds us. It does not fill the space but is more like a web that we can move within. It is the sound that fills the space, and the acoustic behaviour of a resonating body as vast as the mine building, the distance and nearness, the location of a sound that emanates almost like liquid. The instrument then is the building as extended by the electronic network. The physicality is in our walking through the space, feeling and hearing these reverberations set in place by 'instrumental' sounds.

(from Building as Instrument, part 4)

Sound is invisible and therefore tends towards the elusive. Light, although visible, is intangible and silent. In an electric storm, we see the light before we hear the sound, coming from the same electrical impulse but empirically divided into thunder and lightening. The building is as a case, a sounding board, a reflective and refractive surface for light and sound. It is an extension of its organic environment, growing out of it and decaying back into it. But every building is an enclosure of some sort, capturing, filtering sound and light and the emotional flows of people, as does a resonating body of a musical instrument. Electronic signals are passed through cables across the space, and wireless through the air – they have the same affinity with weightlessness as sound and light. There are nodes or points of contact, from where these elements are propelled into motion, interfaces which link us to the otherwise invisible electronic environment. The multiplicity of these points, which in themselves can be mobile, and disjunct from the

sound production points, enable us to play and has transformed the building into an instrument.

The acoustics of a reverberant chamber force the sound into a liquid behaviour. If these sounds could be *seen* travelling through space, leaving from a distinct source and location, dispersing, reverberating, would we understand more clearly what it may be like to set off these resonations? The sound is placed by a musician in the space, it's set-off, set in motion. The next sound may be set in motion before the other dies, relating each sound to one another through the resonating acoustics of the space. The echoes off one wall compared to another may make the liquid sound interfere, perhaps mix, perhaps separate or curdle. Perhaps we can ferment these sounds in their space, bottle them up and let them mature, so after their process of transformation they become intoxicating.



Afterthought

To take these thoughts further now is by way of acknowledging a radical shift in what it is to play a musical instrument. Both in the sounds made and the technologies used. It reveals a contemporary transformation in the conception of sound and place, into an environment, electronically extended, in which we take an active part. The audience-spectator is no longer focused on the body-instrument of the classical setting, but is personally contributing to the building as instrument. It is like a turning inside out of the intimacy of musician-instrument, into an inhabited space of multiple musicians and instruments, where the focus is not on one but on the network of players in space. Not every building is an instrument. A building can be an instrument for a while, a state of transformation induced by performers and listeners who place and play the sound and light. In this mutually active engagement, both the players and the building are transient.

Note:

The Meta-Orchestra is a flexible group of performers using electronically extended musical and visual instruments, exploring the relevance of new technologies in extending our perception of unusual places. As a platform for practical research and performance, the Meta-Orchestra brings together the different working strategies of artists and technologists in a non-hierarchical, non-academic structure. The collaborative working practice has been described in “The Meta-Orchestra: research by practice in multi-disciplinary electronic arts” *Journal of Organised Sound* volume 9-3 (Cambridge University Press), by the author. In contrast this piece discusses issues of place and sound within the mine building in relation to the Meta-Orchestra. See also www.meta-orchestra.org for more information.