

2005

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Abstract

This paper examines the role of sound installation and music composition practices in addressing the relationship between sound and telecommunications devices, in this case the mobile phone. The popularity of mobile phone artworks is rapidly increasing, with handsets readily available, artists excited about sponsorship opportunities, and the general push in electronic arts. This paper focuses primarily on work by Perth mobile phone Sound Art collective, Metaphonica, which explore many issues raised by this art form. "Phonebox" (2005) was a site specific sound installation where phones are called from a remote computer, presenting a synchronized composition featuring sounds created by the artists installed on the handsets as ring tones. This was in turn subverted by visitors to the exhibition location.

Mobile Phones in Art

John Cage: "I am here ... and there is nothing to say."¹

The use of telephones in art is not new. László Moholy-Nagy is considered to be one of the first artists to experiment with telephones to create a so called "telepresence" piece in 1922, using a telephone to transmit directions for fabricating paintings. Similarly, in 1969 the Chicago Museum of Contemporary art organized an exhibition entitled *Art By Telephone* where artists would call through to the gallery staff and instruct them as to the creation of their artworks. British group the Disembodied Art Gallery has created several telephone based works. *Babble* (1993) was a telematic art installation that received over seventy voice contributions from the public to an answering machine, later replayed into a gallery. *Temporary Line* (1994) was a telephone sculpture that activated the sound of whispering voices through handsets whenever a member of the public walked close to the sculpture (fig. 1). In 2005, *Zhong Shuo*, Ian Mott, Ding Jie, the Chongqing Art Collective and the Li Chuan Group used a the telephone for the collection and telling of stories from different locations around China.

Mobile phone works are a genre of electronic art which Frank Popper defines "communication art." He describes the six main characteristics of this genre: it stages physical presence at distance; it telescopes the immediate and the delayed; it focuses on the playfulness of interactivity; it combines memory and real time; it promotes planetary communication; and it encourages a detailed study of human social groupings.²

All mobile phone works could also be considered "telepresence" works to some extent. Stephen Wilson defines telepresence as "a technology for a person to be present in some form in a distant place."³ Mobile phone works can transmit a person in the form of their creative idea and its content.



Figure 1. The Disembodied Art Gallery, *Temporary Line*

The focus of this paper and the projects it discusses is on Sound Art using mobile phones. Sound content in mobile phone art can be divided into two general areas: pieces using “real” sounds recorded by or stored in the phones; and pieces that use the prefabricated sounds inside the phones (monophonic and polyphonic arrangements of MIDI sounds, preset ring tones, etcetera).

Mobile phones have been used in musical works as musical instruments in their own right. In 2003, Bernd Kremling, conductor the Drumming Hands Orchestra in Wuerzburg, Germany used mobile phone ring tones in orchestral works, set off by the musicians or by backstage hands at a predetermined moment during the performance. Other projects, such as *Artones.net* (2002) by British mobile phone artists the Phonebook Limited commissioned compositions using the sounds available in the phone handset software. *Dialtones: A telesymphony* (2001) by Golan Levin was a well documented example of a large scale performed “composition” that used ring tones downloaded to visitors phones as they arrive to the concert hall. It is this source material which was used to create the composition. In *Pocket Gamelan*, by Greg Schiemer and Mark Havryliv, Java interfaces were developed to allow performance of music using mobile phone ensembles, with the intention of allowing large groups of non-expert players to perform music based on intonation using their own phones. In *Mandala Three*, Schiemer and his collaborators swang their mobiles in bags in the air to create a interesting spacialization effect.



Figure 2. Alison Craighead and Jon Thompson, *Telephony*

Telephony (2000) by Alison Craighead and Jon Thompson (fig. 2), was an installation where gallery visitors were invited to dial a wall based grid of forty two mobile telephones, which in turn began to call each other, creating an arrangement of the prevalent Nokia Tune.

Handsets have also been used as transmitters for live phone tone composition. Tim Didymus conducted a live concert in 2003 featuring music and sounds generated entirely on the fly, using a mobile phone application called Intent Sound System (ISS)—a suite of audio technologies that makes it possible to relay music composed live on the phone to another in real time.

Each of these works used the sounds inside the handsets in a different way, determined to some extent by the amount of interaction the public had with the work. The recording of real sounds offers different possibilities for the mobile phone to take on more of a locative role. As a predecessor to real sound recordings, voice mail has offered many possibilities for artists working with sound and telephony. The Disembodied Art Gallery created a CD compilation entitled *Answering Machine Solution* (Staalplat, 1996) of tracks created by artists to be used as answer machine messages. Ian Pollock and Janet Silk created *The Museum of the Future* (1997), a work that accumulated texts from callers using a phone tree where participants could listen to and leave messages. Jim Pallas created *Phoney-Vents* (1973), where he played works to people he chose to call, and *Dialevents* (1978), where people could call in to listen to sounds of his creation.

Placing Voices (2005) by Brian House was a form of mobile sound blog software which used the built in sound recording feature of mobile phones and MMS messaging to place sound fragments on a web accessible map of the sounds as they arrive. The use of the internet in mobile phone art is becoming more common as the phones themselves have increased accessibility to the internet through GPRS and WAP functionality.

Uphone is an internet project that archives calls to its web site. In 2003, the *Uphone Sparrow Report*, by Kate Rich, used the mobile phone network to record and collect live data on the vanishing population of sparrows in New York and London. Zoe Irvine created the “Dial-A- Diva” project, which

coined the term “phonecasts,” described by the artist as “a person attending concert who uses their telephone as a microphone to broadcast the sound.”⁴ The project invited and broadcast songs into phones over a twenty four hour period.



Figure 3. Usman Harque, *Japanese Whispers*

Perhaps the most interesting artist working in the area of sound and mobile phones is Usman Harque from the UK. His piece *Sky Ear* (2004) was a one night event in which a glowing “cloud” of mobile phones and helium balloons was released into the air. People could dial into the cloud and listen to the sounds of the sky, which includes sounds of the atmospheric electromagnetic phenomena that are the audible equivalent of the Northern Lights. His piece *Japanese Whispers* (2000) was an experiment into the way sound changed when being digitally processed and transmitted through electromagnetic space using feedback loops created by the phone sounds (fig. 3). Both these pieces worked with the premise of phones as transmitters and receivers of sound to create and control other elements of the works.



Figure 4. Crispin Jones, *Social Mobiles*

Sound may also be employed to help users use their phones better, a premise explored in *Social Mobiles* (2002), a collaboration between design company IDEO and artist Crispin Jones (fig. 4). To quote the artist, “the phone requires the user to play the tune of the phone number they wish to call. The public performance that dialling demands acts as a litmus test of when it is appropriate to make a call.”⁵

Mobile Phone art is alive and well in Australia, through digital art organizations such as dLux Media Arts, who feature mobile phone art through programs such as Future Screen Mobile and d>Art.05 Exhibition program. It does have a visual focus, however.

Metaphonica

Meta (Greek: “about,” “beyond”) is an English prefix, used to indicate a concept that is an abstraction from another concept. Metadata refers to data about data, information that describes another set of data. A metaphor, according to rhetorician Ivor Richards, consists of two parts: the tenor and vehicle.⁶ The tenor is the subject to which attributes are ascribed, the vehicle is the subject from which the attributes are derived. Metaphonica is a title created by Western Australian sound artists Rob Muir and Cat Hope for their Sound Art for mobile phones collective, which aims to embody these concepts in their artworks.

Metaphonica create installations that are informed by the works cited above. They use handsets as network-able portable music players, loaded with the artists’ creations—digital storage chips with antennas and speakers. The sonic experience of the installation is in the listening, not in the calling. They play the stored compositions no matter where either artist or object may be located, and they allow the audience to be part of the work if they choose.

Sounds are created and then systematically arranged into a composition for each Metaphonica installation. The component sounds may be recorded directly onto the phones or other devices such as mini discs, then processed on audio software to achieve optimum audibility or other effects before being uploaded to the handsets. These handsets are then called from a computer operating telephony software (specially scripted by media artist Dave Primmer), according to the preconceived composition (fig. 6). The artists and visitors' phones may also call the installation and interrupt this sequence, as all these numbers have so-called "ring tones," or sound works, which are attributed to caller numbers: artist one, artist two, computer one, computer two, unknown number, etcetera. A landline calling a mobile from one network to another would ring for around thirty seconds. A mobile to one of the installation phones, no matter which network, would ring for around sixty seconds. The phones have no diversion set so simply ring out. No call cost is required to participate in the installation, for the artists or visitors, since the phones are never answered. The sounds just "are"—they are no longer alarms symbolizing the need to answer.

Phonebox (2005) was Metaphonica's first installation, a work that lamented the loss of the physical phone box on the Australian urban landscape (fig. 5). The handsets were placed in museum box style recesses in a wall, behind glass doors in a busy corridor at the Swanston Street Artspace at RMIT University, in the centre of the city of Melbourne, Australia. Sounds were chosen thematically and equalized for maximum audibility through the thick glass in the busy area.

Phonebox was devised out of a challenge—the offer of an installation space 6,000 kilometres away that was made up of cabinets with glass doors, without power, in a thoroughfare. The mobile phones as installation objects provided an excellent foil to this challenge. They are compact to post, rechargeable, lasting around twenty-four hours without charge, do not require the artists to be present to operate them, most people understand the operating basics of a mobile phone, and they can have their sounds shaped to travel through glass.



Figure 5. Metaphonica, *Phonebox* (photo © Grant Hobson)

Challenges aside, a major source of inspiration for using mobile phones as transmitters for Sound Art came from the writings of Duchamp, credited as conceptualizing and producing the first ever "readymade" artwork:

It is very difficult to choose an object, because after a few weeks you start to like it or to hate it. You must approach a thing with indifference, as if you have no aesthetic emotion. The choice of readymades is always based on visual indifference and, at the same time, on the complete absence of good or bad taste.⁷

This explains the position the artists took when sourcing the model of mobile phone handset. *Phonebox*, and indeed all Metaphonica works, encourage people to hear rather than see, hold or use their mobile phones; so their visual aesthetic is superfluous, and the handsets have their screens turned away from the viewer. Mobile phones have limited audio quality, and this has become a feature to work with for the artists, rather than a hindrance to overcome. It provides an opportunity to make new timbres and contexts for sounds.

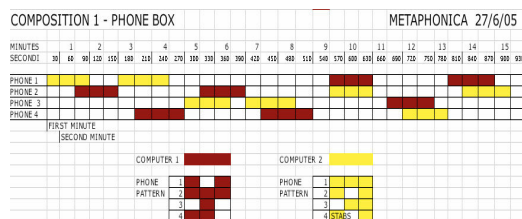


Figure 6. Metaphonica, *Phonebox*, composition example

People can interfere and interact with a Metaphonica work from any location, provided they have access to a phone line. Those who call from remote locations only have the knowledge that they are disrupting the composition—or maybe they just find the calling card provided at the installation and call the numbers to “see what happens” as the number they call rings out (fig. 7). In this way, the audience becomes part of the composition by the very act of disrupting it. They can also become physical performers in the installation when they stand in front of it and call, or even when they call from elsewhere. Visitors to the exhibition can imagine the place the phones are being called from, or think about the sounds and the way they interfere with their environment. Adding elements to the work that are not always immediately apparent. Locative issues are particularly useful for the artists—they need not be present with the installation. They and their preset computer may call it from any location. This complex relationship between audience, creator and performance lead to interesting questions about the creation and control of artwork, providing new platforms for a sort of accidental improvised participation.



Figure 7. Metaphonica, *Phonebox*, calling card in use (photo © Grant Hobson)

Metaphonica aims to encourage people to think of these very personal devices in a different way—simply as sound speakers to listen to; remote receivers for a music composition that anyone can add to as it runs its course. They use affordable, readily available technologies to do it.

Phonebox was one of the artistic director’s top five picks from the 2005 Liquid Architecture Festival of Sound Arts within which it was featured. The public truly engaged with the work and were generally surprised by hearing mobile phones, for many a necessary evil, used this way.

Building Sounds for Mobile phones

There are several important audio considerations when using mobile phones for sound installation. Primarily the sounds are quiet, as the handsets are built to sound best at very close range (i.e. on the listeners ear) unless one has a preset speaker phone function. The range of frequencies produced by the compressions and speaker ability is very particular. So sounds must be carefully equalized using audio software outside the handset to achieve clarity and volume tailored to their installation location theme.

Different handsets have varying audio possibilities. Many handsets have only MIDI (Musical Instrument Digital Interface) capability, and are only able to play monophonic or polyphonic compositions using a preset sound library. Many handsets now have mp3 and live sound recording and playback, using audio compression formats such as such adaptive multi-rate codec (amr) formats—although software companies such as Beatnik (working with Nokia) and Tao Multimedia are working with new platforms and ideas. Most of the scriptable mobile phone software uses Java programming, which operates as a plug in

giving extra options on the handset menu. Sounds are uploaded from computer and phone to phone using Bluetooth, Infrared or cable, depending on the handsets functionality.

Future Developments

As part of funded research, Metaphonica is working with VOIP (Voice Over Internet Protocol) models to make more lines available using less computers. Until now, each calling line out to the phones has required a separate computer running the telephony software. However, without additional hardware, there is currently an issue with caller identification (caller ID). A vital part of Metaphonica's system, as each sign belongs to a "caller," and most VOIP providers do not provide caller ID to the outgoing calls from their service. The artists have also been discussing with members of SIGGRAPH in Perth the possibilities of making specific phone software, new plug ins, and Bluetooth possibilities to enhance the locative elements of the installations.

In late 2005, Metaphonica created a new installation, entitled *Conning the Text*, which premiered at the 7th Totally Huge New Music Festival. It was a work using similar principles and processes as *Phonebox*, and was based on an adaptation of poet Edith Sitwell's work *Façade*. This work, originally performed in 1923 from behind a curtain with the aid of a megaphone, is a series of abstract poems where rhythms counterfeited those of music. The poetry in *Façade* is considered an important study in word rhythms and onomatopoeia, making it an ideal text for adaptation to Metaphonica's techniques of organization meeting interruption. Narrator Julia Moody recorded excerpts of Sitwell's work that were then processed by the artists and stored on the phones, then sequenced and interrupted in the same manner as the compositions in *Phonebox*.

Acknowledgments

The author wishes to thank her collaborator Rob Muir, the ArtsWA BEAPworks research grant program, the 2005 Liquid Architecture Festival of Sound Arts, WAAPA @ ECU and Dr Jonathan Marshall.

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Notes

¹ Cage, pp. 109-126.

² Popper, p. 127.

³ Wilson, p. 526.

⁴ <http://www.dialadiva.net/sing.html>

⁵ http://www.ideo.com/case_studies/Social_Mobiles/SoMo3-1.html

⁶ Richards.

⁷ Duchamp.