A Supersonic Bing Thing

Bing Studio Space  Saturday March 14th, 2015, 7:30pm
PROGRAM

BEASTiary (2012) Jonty Harrison

I'm Late (1989) Bill Schottstaedt

Hidden Values (2012) Natasha Barrett

The Hidden and Mysterious Machinery of Sound (2015) Fernando Lopez-Lezcano

Sonic organisms (BEASTies? No, this term more normally refers to their handlers – q.v.), gathered in their natural habitat of the concert hall (but only during the times of ‘set-up’ and ‘strike’), together with some recordings of these creatures in captivity (in both the new and the old BEAST store, for which this intrepid explorer is grateful to Julien Guillamat for his assistance) and in transit (though a Transit is no longer sufficient for moving this collection, which now needs a 17.5 tonne truck).

Species to be heard include the aluminium trussing, the scaffolding, the gaffer tape, the rubber matting, the wind-up tripod, various trolleys and flight cases of the genus *ambulataurus allaroundus*, the cable and its distant relative, the cable drum, the speaker grille, the speaker stand and its companion, the wooden top, the toolkit and its elusive parasites, the Allen key (*allenki semperdisparandi*), the spanner (*spanna absentia*) and the adjustable wrench (more commonly known as *monki*), and several members of the family of connectors (*cliki cliki*).

Research into this unique ecosystem is ongoing.

[**Heath and Safety notice:** listeners, especially those of a nervous disposition, should be aware that these sounds are very far from domesticated and will try to escape at every available opportunity. Typical behaviours include issuing calls (taunting or, more likely, just lost) from hidden locations, flying about at random, crashing through open spaces and creeping covertly through the undergrowth before emerging suddenly and without warning in alarmingly close proximity to observers.]

**BEASTiary** is dedicated to my family: to my late parents, Nancy and Doug (who gave unconditional support to all my enterprises and enthusiasms, no matter how barmy), to Ali (who has been a constant rock of sanity during this 30-year expedition) and to Clare and Emma (who offer boundless encouragement, despite the strange looks they get when they tell their friends what their father does for a living). It is also dedicated to my extended family: the 100-odd (no comment required!) postgraduate students who have been BEASTies since 1982 – it has been quite a journey!

**I'm Late** (1989) 3:18  
**Bill Schottstaedt**

*I'm Late* was written in 1989 using the Samson Box. I didn't save the SAM file, so this version was made with *Snd* and the *Scheme* version of the *fm violin*. On CCRMA's current machines, the music could easily be computed in real-time, and I could do an interpretive dance at the same time, if I had any hope of staying awake at such a cruel hour, but for old time's sake, we play it from a sound file. This rendering from the Scheme source includes 3D spatialization in Ambisonics (by Fernando Lopez-Lezcano) that better matches our existing sound system.
Part 1: The Umbrella (Duration 4’22”)
Part II: The Lock (Duration 8’48”)
Part III: Optical Tubes (Duration 6’44”)

Every year, new inventions push the boundaries of science and enrich our understanding of the natural world. Ancient and seemingly minor inventions have also shaped our societies and affect our everyday in a multitude of ways. A single object can connect to the history of the world, yet the utility of these simple devices go unnoticed. Hidden Value takes a moment to pause and explore directly, dramatically and through metaphor, three of these inventions: the umbrella, the lock (and key) and sight correction. The work was composed at IRCAM during a music research residency exploring advanced sound spatialisation techniques in composition. From the abundance of inventions that have found their way into everyday objects, I chose themes that would yield to the compositional use of space, the projection of near and far information and the transformation between sound masses, sound scenes and precise spatial points. Special thanks to soprano Evdokija Danajloska and percussionist Gilles Durot for their collaboration in the sound materials used in the composition of this work.

The research residency was funded by IRCAM, The Oslo City Cultural Grant for International collaboration, and the Norwegian Cultural Council. ‘Hidden Value’ was composed at IRCAM with support from the Norwegian Composers’ Fund. The work was composed in 7th order 3D ambisonics and also exists in a number of other spatial formats.

Part I: The Umbrella - An umbrella protects from the environment - protects from the rain, snow, sun and to some extent the wind. As a metaphor it protects and saves, defends and deflects, cover and disguise, but maybe it's just unnecessary baggage. The Umbrella explores a real umbrella and a real environment, but also the metaphor found in a short poem by Jorge Luis Borges Instantes

I was one of those who never goes
anywhere without a thermometer
without a hot-water bottle, and without an umbrella
and without a parachute. If I could live again,
I would travel lighter.
If I could live again, I would begin
to walk barefoot from the beginning of spring
and I would continue barefoot until autumn ends.
Part II: *The Lock* - The invention of the lock and key can be traced back over 4000 years. The theme of the lock and key and its metaphors, have been used throughout literary and dramatic history. Locked doors provide safety in a modern world. A lock hides secrets from prying eyes, locks people in, locks people out, represents power and ownership. The Lock plays out a drama between two forces: one represented by the female voice, the other by percussion instruments.

Part III: *Optical Tubes* - Optical Tubes, apparently invented by Descartes, were glass tubes that touched the eyeball like contact lenses, but with the unfortunate side effect that you could not blink! Over 50% of the adult population wear glasses to correct their vision. Seeing the world in focus or through a haze is something we can choose to do. In Optical Tubes, imagining how it would have been for objects to only appear in focus as you moved towards or away from them is a central musical idea.

**Pacific Slope (2002) 26:20**

*Pacific Slope* is the third of three works comprising a cycle titled *Epiphanie Sequence*. While the three works are very much concerned with musical textures and gestures, they are also quite taken with turning out and hearing the inside of musical sounds. Much of the musical material is often merely a re-voicing horizontally, in time, or vertically, in frequency, of these ‘insides.’

Along with this, the *Epiphanie Sequence* is also concerned with representations of performance and explores the opportunities and paradoxes the acousmatic form, particularly those presented by it's absent performer. And, as the works of the cycle are composed in full 3-D Ambisonic surround sound, the pieces explore spatial attributes as a compositional dynamic. Much of the work may be heard as a series of anecdotal periods detailing musical failures and successes, moving between narrative diegesis and musical abstraction.

Eventually, the composer/performer reverts from the role of a dynamic agent and instead returns to the position of the absent instigator found within most of the literature of acousmatic music; becoming, then very much motivated by seemingly environmental forces.

Regarding technique, while a number of composers have used Ambisonic technologies to create abstract musical works, the majority of these are limited to the placement of monophonic point sources, or occasionally two channel stereo sources, in a resulting periphonic soundfield. Due to the nature of the art, one would expect a composer of acousmatic music to require a “native Ambisonic” technique to capture natural, periphonic soundfields appropriately. For first order Ambisons, this is possible through the use of the Soundfield microphone. Additionally, by applying appropriate image warping techniques to a fully periphonic soundfield, it is possible to control a wide variety of spatial attributes for artistic aims. With *Pacific Slope* a set of soundfield warping techniques, named as the Ambisonic Toolkit (ATK), have been applied to this end—using only fully first order soundfield source recordings. The intention is to explore artistic possibilities enabled through Ambisonic recording, synthesis and signal processing technologies.

I would propose the acousmatic to be an art of shadows and phantoms summoned from the darkness: apparitions manifest and unrestrained by laws of nature. The acousmatic art becomes the supernatural art—of and beyond all music.

That’s the hope, anyway - JA
Pacific Slope

Assuming form, it reveals shapes half-seen and then half-hid.
In dark half-hid, a likening; in light half-dark, shapes visible. . . .
— Lao Tzu

The region of the North American continent that drains into the Pacific Ocean is referred to as the Pacific Slope.
The wave—unending, unyielding; powerful, yet intangible.
The bell—ancient call to transcendence. At once an attempt to stay the wave.
The slope—dark green boreal forest, between sky and sea, touched by both.
Yet masses move unheeding. Realizations, regardless . . .

Pacific Slope was first performed in 2002 at the Transparent Tape Music Festival 2 in Berkeley, California. A number of people assisted in gathering sounds—Jeff Silberman engineered the recording of bells in his studio just north of San Francisco, Matt Ingalls stood in icy Pacific waters at the Marin Headlands with Jeff's Nagra strapped to him, and Juan Pampin and Mirta Wyrmzberg broke fallen trees in the Oregon Coast Range.

Pacific Slope was composed in the artist's personal studio in Corvallis, Oregon during a sabbatical from Analog Devices (ARTC). Special thanks go to David Malham for his guidance and instruction regarding Ambisonic theory and practice, and to Sean Costello for his advice on DSP technique. Additional thanks to Jeff Silberman for the generous loan of a Nagra D digital tape recorder and an Audio Design Ambisonic decoder, and to Juan Pampin and the University of Washington for the loan of a Dēva location hard disk recorder.

Pacific Slope is recently published by Sargasso Records, London on a disc titled Epiphanie Sequence (SCD28056).

Mastering: Dominique Bassal (Montréal, Canada)

The Hidden and Mysterious Machinery of Sound (2015) 11:00
Fernando Lopez-Lezcano

I had been thinking about a piece that used simple sine oscillators in complex ways for a long time. Going back to basics, in a sense. With that idea in mind I dived into the innards of Bill Schottstaedt's new Scheme-based version of the CLM synthesis language and its s7 interpreter, and stumbled into new ugens that allowed me to pile sinewaves in many different ways. The "imaginary machines" examples I found there also helped shape the first code fragments I experimented with. What remains of many lines of discarded Scheme code is the program that writes this piece. It creates fractal machines that manipulate clockwork mechanisms, big and small "virtual gears" that interlock, work without pause, and drive the basic sound synthesis instruments. This universe of miniature machines is spread over 3D space using Ambisonics, and the resulting soundscape is made of interlocking patterns of sound that drift through space. WARNING: the piece contains repetitive phrases of sound (also known as "rhythms"), and is only intended for immature audiences.
ABOUT THE ARTISTS

**Jonty Harrison** (born 1952) studied at the University of York (DPhil in Composition, 1980). Between 1976 and 1980 he worked at the National Theatre and City University, London. In 1980 he joined the Music Department of the University of Birmingham, where he is Professor of Composition and Electroacoustic Music and Director of BEAST (and, until 2013, the Electroacoustic Music Studios). He has won several international prizes (Bourges, Ars Electronica, Musica Nova, Destellos) and been commissioned by leading organisations and performers. His music appears on three solo albums (*empreintes DIGITALes*, Montreal) and on several compilations (NMC; Mnemosyne Musique Média; CDCM/Centaur; Asphodel; Clarinet Classics, FMR, Edition RZ and EMF). [http://www.electrocd.com/en/bio/harrison_jo/](http://www.electrocd.com/en/bio/harrison_jo/)

**Bill Schottstaedt** grew up in Oklahoma, got various degrees in music from Stanford, worked for a few years in the computer industry, then joined the staff of CCRMA, and rusted in place.

**Natasha Barrett** is a freelance composer working with music, research and creative uses of sound. She is currently based Norway. Her doctoral research focused on acousmatic music and on instrumental music with live electronics. Since 1999 her work with sound has expanded to encompass sound-art, sound-architectural installations, interactive techniques, collaboration with experimental designers and scientists as well live performance and improvisation. Recent examples of this include the use of scientific data and geological processes in sound-art, spatial composition for hemispherical loudspeaker array and a special interested in HOA, and my third installation project with the group Ocean Design and Research Association. Her works are performed and commissioned throughout the world and have received numerous recognitions, most notably the Nordic Council Music Prize (Norden / Scandinavia, 2006), Giga-Hertz Award (Germany, 2008), Edvard Prize (2004, Norway), Noroit-Leonce Petitot (Arras, France, 2002 & 1998), Bourges International Electroacoustic Music Awards (France 2001, 1998 & 1995), Musica Nova (2001), IV CIMESP 2001, Concours Scrime, (France 2000), International Electroacoustic Creation Competition of Ciberart (Italy 2000), Concours Luigi Russolo (Italy 1995 & 1998), Prix Ars Electronica (Linz, Austria 1998), 9th International Rostrum for electroacoustic music (2002). My installations include a major work for the Norwegian state commission for art in public spaces.

**Fernando Lopez-Lezcano** enjoys building things, fixing them when they don't work, and improving them even if they seem to work just fine. The scope of the word “things” is very wide, and includes computer hardware and software, controllers, music composition, performance and sound. His music blurs the line between technology and art, and is as much about form
and sound processing, synthesis and spatialization, as about algorithms and custom software he writes for each piece. He has been working in multichannel sound and diffusion techniques for a long time, and can hack Linux for a living. At CCRMA, Stanford University since 1993, he combines his backgrounds in music (piano and composition), electronic engineering and programming with his love of teaching and music composition and performance. He discovered the intimate workings of sound while building his own analog synthesizers a very very long time ago, and even after more than 30 years, “El Dinosaurio” is still being used in live performances. He was the Edgar Varese Guest Professor at TU Berlin during the summer of 2008. In 2014 he was the recipient of Marsh O’Neill Award For Exceptional and Enduring Support of Stanford University’s Research Enterprise.

Joseph Anderson (b. 1970, USA) is a composer with a particular interest in the development of a spatio-musical practice of sound composition and performance. This work is focused on acousmatic music created through self-authored tools and signal processing algorithms. He is the lead author of the Ambisonic Toolkit which brings many of these advanced spatial techniques to a wider audience of artists and composers. As a former member of the Birmingham ElectroAcoustic Sound Theatre (BEAST) Anderson set up the San Francisco Tape Music Collective (SFTMC) with Matt Ingalls and Kent Jolly to bring the practice of sound diffusion to public performances in the San Francisco Bay Area. Through the SFTMC Anderson continues to programme and perform on the The San Francisco Tape Music Festival. Recognitions for his compositional efforts have included the “Grand Prix” from the 1997 Bourges Electroacoustic Music Competition for Change’s Music. Having been employed in a wide variety of contexts, Anderson has experience in both industry and academia, working as a DSP engineer in Silicon Valley at Analog Devices and more recently in a research role at DXARTS, University of Washington, Seattle. Anderson has studied Computer Music with Russell Pinkston at the University of Texas, and completed his postgraduate work (MMus, PhD) with Jonty Harrison at the University of Birmingham.  

(http://joseph-anderson.org/)

We would like to express our thanks to the Shenson Family for providing the funding for Joseph Anderson’s visit and for their further assistance with the funding of other visiting artists who will present lectures and concerts during the upcoming Spring Quarter as part of CCRMA’s Music 222 Course – Sound In Space

No food, drink or smoking is permitted in the building.
Cameras and other recording equipment are prohibited.
Please ensure that your pager, cellular phone and watch alarm are turned off.

http://ccrma.stanford.edu/concerts/