soundscapes

under the stars

PROGRAM

Colony, Movement 3 (1984)   Bill Schottstaedt

Etude for Nando (2012)   Jonathan Berger

Colony, Movement 5 (1984)   Bill Schottstaedt

Knock Knock... anybody there? (1994) Fernando Lopez-Lezcano

Inside Out (2012)   Chris Chafe

**Trisagion (Τρισάγιον, "Thrice Holy"), Setting IX
possibly 6th century**

Jonathan Abel, Bissera Pentcheva & others (acoustic design, recordings)

John Kocolas and Konstantine Salmas (voice)

Grooves (2011)   Åke Parmerud

Dinosaur Music (1984)   Bill Schottstaedt

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*From dinosaurs to birds, fog horns and brain signals metamorphosed into
sound, from real voices and whispers to vinyl pops, crackles and noise,
pure immersive spatial joy. Sound and space carefully crafted and patiently
shaped into musical forms coming out of 24.4 loudspeakers surrounding
you. Complete darkness, under the stars. Relax, close your eyes, open
your ears (wide!) and let yourself be transported to places unheard... (fll)*

Fernando Lopez-Lezcano, Curator

PROGRAM NOTES

Colony, Movement 3 (1982) 7' 41"
Colony, Movement 5 (1982) 8' 38"
Dinosaur Music (1984) 6' 25"

                                             Bill Schottstaedt

3D soundfield

The two movements of Colony were written in 1982, using the Samson box. Dinosaur Music is from 1984. At that time, CCRMA was housed in the moldering old D.C. Power Lab up at Felt Lake. We ran WAITS on a Foonly. To get anything done, you had to work in the early morning. Each morning, I'd sit there waiting for my tunes to compute, and watch the fog roll over the coastal range. Paradise.

Notes for this version: all three pieces have been re-rendered from source code into 32 bit floating point samples. The code for the pieces allowed them to be diffused in stereo or four channels. This has been changed to use a 3D soundfield by replacing the original localization unit generator (locsig) with a functionally similar ugen that translates the signals into 3rd order Ambisonics format (alocsig). While the horizontal placement of the signals follows the original code, height information has been added with slightly different approaches in all three pieces. Hopefully the best Schottstaedt you have ever heard.

                                      Fernando Lopez-Lezcano

Inside Out (2012)   **Chris Chafe**
21 channels, 6'10"

The piece combines two threads from my work this Summer. One is a "harbour symphony" for ship's horns performed by seven vessels in the port of St. Johns, Newfoundland at the Sound Symposium in July. The other is an ongoing project in collaboration with Stanford's Department of Neurology to listen to the brain at work using signals from electrodes. Both the horn-like sounds and the "singing brain" use John Chowning's FM singing voice synthesis technique. Thanks to Delf Hohmann for organizing the ships and Dr. Josef Parvizi for amazing insights into neural dynamics.

Knock Knock... anybody there? (1994-2012)

                                  Fernando Lopez-Lezcano

3D soundfield, 8'15"

In 1994 I wrote "Knock Knock... anybody there?" as an extension to four channels of the original stereo sound track I composed for a collaboration project with visual artists in which I took part in the same year. Willie Scholten and Ruth Eckland provided the sculptures and visual framework while I provided the sound environment for the installation. The music explores altered states of consciousness and in particular insanity, in a journey through a three dimensional soundscape where voices and sounds evoke multiple and conflicting states of mind. All the concrete sound materials used in the piece were gathered during a small meeting with friends

where we freely discussed the central topic that motivated the project. From the digital recording I extracted small but significant fragments of the conversation and subsequently processed them in the digital domain by using CLM instruments (CLM, Common Lisp Music, a non real-time Lisp based software synthesis and processing environment written by Bill Schottstaedt at CCRMA). The processing included dynamic spatialization of multiple moving sources rendered in a four-channel reproduction environment. The listener moves through the soundscape while voices and sounds tell several overlapping stories that might occur in the hazy border between sanity and insanity. The music even includes the piano jam session that happened at the end of the meeting...

Notes for this version: The original source code and recorded samples were waiting since 1994 for a digital makeover. It took some time to port the code from Common Lisp and very old versions of CLM (Common Lisp Music) and CM (Common Music) to s7 (a Scheme interpreter written by Bill Schottstaedt), the latest CLM and ported versions of some CM pattern classes. In the process the piece was re-rendered into 32-bit floating point samples and full 3d Ambisonics. The story being told remains the same...

Etude for Nando (2012)   Jonathan Berger
3D soundfield, 6'

A modest audible gift to Fernando Lopez-Lezcano who has rekindled my interest in spatial audio and provided the perfect working environment and tools to explore. This short study is a four-part mensurational canon in which each voice expands and contracts in its own temporal scale and is distinguished by timbre rather than by melodic interval.

Trisagion (Τρισάγιον, "Thrice Holy"), Setting IX (possibly 6th century)
3D soundfield, 3'12"

Jonathan Abel, Bissera Pentcheva and others, acoustic design; performed by **John Kocolas** and **Konstantine Salmas** live in a virtual Hagia Sophia by Jonathan Abel, Mike Wilson, Travis Skare, Nicholas Bryan, Miriam Kolar, Patty Huang and Bissera Pentcheva based on acoustic measurements made by Bissera Pentcheva in Hagia Sophia, with the kind permission of the AyaSofya Müzesi; spatialized to 24.4 in collaboration with Fernando Lopez-Lezcano.

Trisagion is the name of a short hymn (troparion) sung at the beginning of all eastern Eucharist liturgy. It functioned as a processional chant and became fully integrated in the Constantinopolitan rite in the sixth century. This performance is part of the Icons of Sound project, an interdisciplinary research effort supported by the Stanford Presidential Fund and SiCa, and directed by Bissera Pentcheva of Art & Art History and Jonathan Abel of CCRMA. The project focuses on the interior of Hagia Sophia built by emperor Justinian in 532--537 and employs visual, textual, and musicological research, video, balloon pops, the building of architectural and acoustic models, auralizations, and Byzantine chant.

The Great Church of Constantinople, present day Istanbul, has an extraor-

dinarily large nave spreading over 70 meters in length, marble covering the floor and walls, and crowned by a dome glittering in gold mosaics and rising 56 meters above the ground. The marble and gold visually simulate the quiver of water as light streaming through the windows animates the polished surfaces. This sensation of moving water, achieved through the visual animacy of shimmering surfaces, is simultaneously enhanced by the wet acoustics of the space. With reverberation lasting slightly more than 10 seconds, human breath emptied in the form of chanting is transformed into the sound of water splashing against the walls.

We have created a new method using balloon pops to measure the acoustic parameters of a space and build a computational model of how the space imprints itself on sound. This model enables us to offer contemporary listeners the aural experience of Hagia Sophia. Here, headset microphones capture the performers' voices directly, while 24 channels of processing place the audience and performers in a synthetic Hagia Sophia.

Grooves (2011)   Åke Parmerud
43 channels, 9'14"

When my German friend Kai Hanekken proposed me to make a composition using vinyl sounds I was at first skeptical to the thought. Being used and abused in (especially) electronica in the mid 80-s and onward, it is by now a cliché par excellence and I felt it to be a rather pointless undertaking. However, thinking a little bit further two things struck me. First I realized that no composition (that I heard of) had really gone deep into the investigation and exploration of vinyl noises before, so that in fact it was a field of a certain virginity hiding therein. Secondly, just because of its obvious cliché status, it was perhaps worthwhile to see if I could somehow twist it in a new and original fashion.

When Kai then offered me to digitize all of the various vinyl noises from his large vinyl collection I could not resist the idea anymore. I would have access to a very large material that I would not be able to extract myself (not to mention that I probably would not have the time nor the energy) and when I finally had the chance to create it in the 43 channel Klangdome of ZKM the game was on.

It came out as the single most hardcore piece I ever did to this date. Rough, aggressive, dark and generally obnoxious but in a rather pleasant way (in my mind).

I wanted the piece to gradually get to the point of "the ultimate crackle" spreading the vinyl noise over the full frequency spectrum and in the full volume of space. This can of course only be made in a rather big multi channel sound system. Feel free to listen and like or dislike it but remember to play it LOUD!

Thanks to Kai for insisting and spending so much time with the records and to ZKM for support.

ABOUT THE ARTISTS

Jonathan S. Abel is a Consulting Professor at the Center for Computer Research in Music and Acoustics (CCRMA) in the Music Department at Stanford University, working in music and audio applications of signal and array processing, parameter estimation and acoustics. He was a Co–Founder and Chief Technology Officer of the GRAMMY Award-winning Universal Audio, Inc., a researcher at NASA/Ames Research Center, Chief Scientist at Crystal River Engineering, Inc., and a lecturer in the Department of Electrical Engineering at Yale University. He holds Ph.D. and M.S. degrees from Stanford University and an S.B. from MIT, all in electrical engineering. He is a Fellow of the Audio Engineering Society for contributions to audio effects processing.

Jonathan Berger is currently working on two chamber operas that will be presented at Stanford this Spring. His violin concerto will be released by Harmonia Mundi this Fall. Berger teaches composition, computational music theory, and music perception and cognition at Stanford where he holds the Denning Family Provostial Professorship in Music.

Chris Chafe, Duca Family Professor of Humanities and Sciences, is a composer, improvisor, cellist, and music researcher with an interest in computers and interactive performance. He has been a long-term denizen of the Center for Computer Research in Music and Acoustics where he is the center's director and teaches computer music courses. Three year-long periods have been spent at IRCAM, Paris, and The Banff Centre making music and developing methods for computer sound synthesis. An active performer either on the net or physically present, his music is heard in Europe, the Americas and Asia. Gallery and museum music installations are continuing into their second decade with biological, medical and environmental "musifications" featured as the result of collaborations with artists, scientists and MD's. Recent new works include TQ11 "tomato quintet" for the transLife:media Festival at the National Art Museum of China, Phasor for contrabass and electronics, and Sun Shot for 7 ships (horns).

Fernando Lopez-Lezcano is a composer, performer, lecturer and computer systems administrator at CCRMA since 1993. He has been involved in the field of electronic music since 1976 as a composer, performer and instrument builder, blurring the lines of his dual background in music (piano and composition) and electronic engineering. His interest in space as an important component of his music dates to 1992 and his four-channel piece "Three Dreams". For the past few years he has been teaching the "Sound in Space" course and related workshops, and takes care of multichannel spaces at CCRMA. His music has been released on CD and played in the Americas, Europe and East Asia. He taught at Keio University in Japan in 1992 and was the "Edgar Varese Guest Professor" at TU Berlin during the Summer 2008 semester.

Åke Parmerud has been working full-time with music and multimedia art since late –70. Being trained as a photographer between 1972-74, he studied music at the University and later at the Conservatory of Music in Göteborg, Sweden. His list of works includes instrumental music as well as electro acoustic compositions, multi-media and interactive art, video and music for theater, dance and film. He is the most rewarded composer of electro acoustic music since 1978 when his piece "Proximities" received a first prize in the international festival for

music in Bourges, France. His music has been released on 2 LPs and 2 CDs and also appears on several compilations. Music by Parmerud has represented the Swedish Radio in Prix Italia at two occasions and he has composed a number of works commissioned by international institutions. Åke Parmerud also works as stage performer, doing live electro acoustic music with different kinds of interactive instruments. Solo or together with other artists. He has since 10 years worked as a sound and software designer for innovative interactive audio/visual installations and his own works "The Fire Inside", "The Living Room" and "Lost Angel" has been shown in Berlin, Paris, Mexico City, Leon, Gothenburg and Reykavik. Furthermore ,Parmerud has created various concert designs and acted as artistic director of large audiovisual events indoors as well as outdoors. His success as artist has led to several international collaborations.

Bissera Pentcheva is associate professor at the Dept. of Art and Art History at Stanford whose work focuses on Byzantium and the Medieval Mediterranean, more specifically aesthetics and phenomenology. She has published two books with Penn State Press: "Icons and Power: The Mother of God in Byzantium," 2006 that won the John Nicholas Brown prize from the Medieval Academy of America in 2010 and "The Sensual Icon: Space, Ritual, and the Senses in Byzantium," 2010. Pentcheva has held a number of prestigious fellowships among them: Mellon New Directions Fellowship, Alexander von Humboldt, Onassis Foundation, Dumbarton Oaks, and Columbia University's Mellon Post-doc.

Mr. **Schottstaedt** is a retired carpenter living in Menlo Park. Time weighs heavy on his hands. He hears that for composers of new music, life is one big wild party. So here's the music; where's the party?