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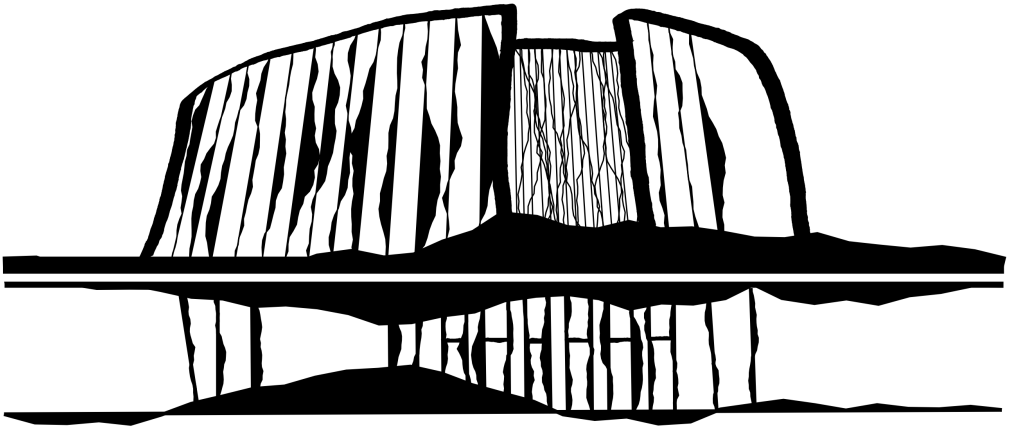
Department of Music

Stanford University

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CCRMA @ Bing:  
Bada Boom Bada Bing!



SONIC BOOM!

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Bing Concert Hall

Saturday February 16, 2013, 8:00pm

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## PROGRAM

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<b>Bicycle Built for Two (1892/1961)</b>	Harry Dacre arranged by Max V. Mathews
<b>Mortuos Plango, Vivos Voco (1980)</b>	Jonathan Harvey
<b>Tomato Music (2007)</b>	Chris Chafe
<b>Velvet Skin, Heart of Steel (2013)</b>	Fernando Lopez-Lezcano
<b>Engine (2010/13)</b>	Michael Berger
<b>Klaviersammlung (2011)</b>	Hans Tutschku
<b>Prologue from Theotokia (2013)</b>	Jonathan Berger
<b>Kitchen &lt;-&gt; Miniature(s) (2005/6)</b>	Fernando Lopez-Lezcano

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*From huge bells to construction steel beams and piano sounds, from car engine parts and sounds, to a boy singing, from kitchen utensils to the slow ripening of produce metamorphosed into sound, pure immersive spatial joy. Sound and space carefully crafted and patiently shaped into musical forms coming out of 24.6 loudspeakers surrounding you. Complete darkness, under the cover of Bing's sails and cloud. Relax, close your eyes, open your ears (wide!) and let yourself be transported to places unheard...*

Fernando Lopez-Lezcano, Curator

## PROGRAM NOTES

### **Bicycle Built for Two (1892/1961)**

**Harry Dacre**

**arranged by Max V. Mathews**

**one channel, 39"**

Max Mathews and Joan Miller were both acoustic researchers working at Bell Labs, then in New York. In 1957, Max Mathews figured out how to digitally synthesize sound on a digital computer, and wrote Music I, the first in a long line of music programming languages to which all digital synthesis has its root. By 1961, they had gotten up to Music IV, which they used to create a fully digitally synthesized version of "Daisy Bell" by Harry Dacre, also known as "Bicycle Built for Two". Arthur C. Clark heard this rendition when he visited Bell Labs and incorporated the idea into 2001, A Space Odyssey, later made into a movie by Stanley Kubrick.

We all miss Max very much...

...and also our friend, Jonathan Harvey, celebrated tonight with a performance of his classic work:

### **Mortuos Plango, Vivos Voco (1980)**

**Jonathan Harvey**

**8 channels, 9' 7"**

This work is a reflection of Jonathan Harvey's experiences at Winchester Cathedral where his son Dominic was a chorister from 1975-1980. It is based on Dominic's voice and that of the great tenor bell. This enormous black bell of superhuman power has inscribed upon it: HORAS AVOLANTES NUMERO MORTUOS PLANO: VIVOS AD PRECES VOCO (I count the fleeing hours, I lament the dead: I call the living to prayers). This serves as the boy's text. The pitch and time structure of this work is entirely based on the bell's rich, irregular harmonic spectrum, a structure neither tonal nor dodecaphonic nor modal in any western or oriental sense, but unique to itself. The eight sections are each based on one of the principal eight lowest partials. Chords are constructed from the repertoire of 33 partials; modulations from one area of the spectrum to another are effected by glissandi. Constant transformations between the spectrum of a vocal vowel and that of the bell are made by internal manipulation of the two sounds' components. The walls of the concert hall are conceived as the sides of the bell inside which is the audience, and around which (especially in this original 8-channel version) flies the free spirit of the boy. The work was commissioned for IRCAM by the Centre Georges Pompidou and first performed at the IRCAM day in the Lille Festival on 30 November 1980. It was made at IRCAM with the helpful assistance of Stanley Haynes in July-August 1980.

Simon Emmerson writes in his book *Living Electronic Music*: *"the piece also designs an ideal cube of eight channels within which the audience 'is projected'. The aim is to produce a play of movement which reinforces the spectral transformations of the piece. These are based on its fundamental materials, the great tenor bell of Winchester cathedral and the chorister's*

*(his son's) voice. The ideal listener is 'inside' the bell, its partials distributed in space; the boy's voice flies around, derived from, yet becoming the bell sound..."*

**Tomato Music (2007)**  
**15 channels, 10'**

**Chris Chafe**

Five vats of tomatoes were ripened for 10 days in the installation piece "Tomato Quintet". Greg Niemeyer, my collaborator, called our work a "new media still life" because nothing visibly happened during its run except for the very slow color change from green to red. Invisible chemical out-gassing was at work however and during the ripening process our sensors played music generated by computer algorithms which were influenced by the concentrations of CO2 and ethylene in the vats. The computer music piece, "Tomato Music," was composed after the fact to make the still life "come to life." Time has been sped up and what took 10 days now takes 10 minutes.

**Velvet Skin, Heart of Steel (2013)**  
**24 channels, 6'**

**Fernando Lopez-Lezcano**

The Bing Concert Hall may appear to be sonic velvet, gracefully covered with multiple overlapping sinusoidal curves carved from warm resonant wood, its sails and cloud ceiling caressing all sounds produced on stage into enveloping beauty, but at the core, the Bing Concert Hall is made of steel. I had a chance to bang on the steel beams as they were waiting on the ground before construction began. Sleeping steel, bidding for its time of hidden glory. I also climbed on top of the "cloud" ceiling after construction was finished, recorder in hand, and spent one hour getting sounds out of anything that could be banged or scrapped or bowed. Some of those sounds are included in this collage and short etude that is a prelude for a longer piece. Included are metal doors banging in asymmetrical rhythms, steel pipes and beams of all shapes and sizes, big ventilation fans left over after construction, and much more. The sonic materials were coaxed into musical form using Bill Schottstaedt's s7 Scheme language interpreter and CLM.

**Engine (2010/13 rev)**  
**26 channels, live performance, 5'20"**

**Michael Berger**

Engine is a rhythmic exploration of the dilapidated mechanical processes of the recent world.

The stereo composition is diffused throughout the hall by the composer's physical performance using a "Madcatz Real World Golf" game controller to drive a gaussian distribution algorithm written in Chuck. The 2013 revision of the piece re-engages with its core materials and pacing, and adjusts the spatialization algorithm to take full advantage of the 24.6 speaker configuration in the Bing Concert Hall.

**Klaviersammlung (2011)**  
**16 channels, 9'52"**

**Hans Tutschku**

The idea for Klaviersammlung developed over several years. Each time I visited the University of Cologne, I was impressed by the long hallway between the musicology department and the concert hall, which houses an impressive collection of desolate pianos from different centuries, charged with musical remembrances. One walks with respect, almost on tiptoes along them, to not disturb their dreams of a better past. Many times I thought about how their sounds could become the source material for a new composition.

In July 2011, I finally spent some hours and elicited quite "un-pianistic" sonic expressions from some of the instruments. A large spectrum of those played sequences, together with their transformations, became the starting point for an outrageous sound travel into the sonic world of piano.

Christoph von Blumröder's relentless work for the study and performance of electroacoustic and acousmatic music has been an inspiration for my own work since many years. Klaviersammlung is an homage to him; a sounding, rattling, screeching, and singing present for this 60th birthday.

**Prologue from Theotokia (2013)**  
**24 channels, 4'**

**Jonathan Berger**

Theotokia - a chamber opera for five voices, instrumental ensemble, and digital audio - places the audience inside the mind of a delusional schizophrenic suffering from auditory hallucinations. While the singers articulate the inner voices of the protagonist, the computer uses ambisonics to map accompanying sounds to the regions in the brain in which auditory hallucinations occur.

**Kitchen <-> Miniature(s) (2005/6)**  
**24 channels, 9'52"**

**Fernando Lopez-Lezcano**

A good quality sound recorder and a kitchen. Humanity tuned to common shapes and sizes that create shared resonances I have come to recognize everywhere there is a kitchen. These tightly chained miniatures explore a few of the many kitchen utensils and small appliances that I recorded (that is, anything that would fit with me inside my bedroom closet). Featured prominently through the piece is the mechanical timer of a toaster oven, as well as cookie sheets, plates, trivets, the klanging sound and inner resonances of the lid of a wok and many more kitchen instruments. More than 3000 lines of Common Lisp code are used to create large scale forms and detailed sound processing. Without Bill Schottstaedt's CLM (Common Lisp Music), Juan Pampin's ATS (Analysis, Transformation and Synthesis) and Rick Taube's Common Music this piece would not have existed. Grani (a granular synthesis software instrument) and other old software friends I have created over the years helped as well.

## ABOUT THE ARTISTS

**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.

Since graduating from Stanford's D.M.A. in Composition program in 2012, **Michael Berger** has been working at Smule in Palo Alto where he manages, creates, arranges, and edits musical content for the companies mobile music-making software.

**Chris Chafe**, Duca Family Professor of Humanities and Sciences, is a composer, improviser, 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. 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 with biological, medical and environmental "musifications" featured as the result of collaborations with artists, scientists and MD's.

**Jonathan Harvey**, Professor of Music until his retirement and return to England in 2000, was born in Warwickshire in 1939. He was a chorister at St Michael's College, Tenbury and later a major music scholar at St John's College, Cambridge. After a long terminal illness of the central nervous system, Jonathan Harvey died peacefully in Lewes surrounded by his family on December 4<sup>th</sup>, 2012. He gained doctorates from the Universities of Glasgow and Cambridge. An invitation from Boulez to work at IRCAM in the early 1980s eventually resulted in eight realizations at the Institute, and two for the Ensemble Intercontemporain, including the celebrated tape piece *Mortuos Plango, Vivos Voco*, *Bhakti* for ensemble and electronics, and *String Quartet No.4*, with live electronics. Harvey also composed for most other genres: orchestra, chamber as well as works for solo instruments. He has written many widely-performed unaccompanied works for choir - as well as the large-scale cantata for the BBC Proms Millennium, *Mothers shall not Cry* (2000). His church opera *Passion and Resurrection* (1981) was the subject of a BBC television film, and has received seventeen subsequent performances. His opera *Inquest of Love*, commissioned by ENO, was premiered under the baton of Mark Elder in 1993 and repeated at Theatre de la Monnaie, Brussels in 1994. His third opera, *Wagner Dream*, commissioned by Nederlandse Oper and realized at IRCAM was premiered to great acclaim in 2007. 2008 saw the premiere of *Messages* (for the Rundfunkchor Berlin and the Berlin Philharmoniker) and *Speakings* (co-commission with BBC Scottish Symphony Orchestra, IRCAM and Radio France); *Speakings* was the culmination of his residency (2005-08) with the BBC Scottish Symphony Orchestra from which *Body Mandala* and *...towards a pure land* have also emerged. All three works featured on the Gramophone Award-winning NMC disc released in the same year.

Harvey was in constant demand from a host of international organizations, and his music is extensively played and toured by the major ensembles of our time.

In 2007 he was awarded the Giga-Hertz Prize for a lifetime's work in electronic music. He published two books in 1999, on inspiration and spirituality, respectively. Harvey was Professor of Music at Sussex University between 1977 and 1993 where he was later an Honorary Professor as well as Honorary Fellow of St. John's College, Cambridge, was a Harkness Fellow at Princeton (1969-70) and Fellow at the Institute of Advanced Study in Berlin in 2009.

**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.

**Max Mathews**, Professor of Music, was a pioneer in the world of computer music. He studied electrical engineering at the California Institute of Technology and the Massachusetts Institute of Technology, receiving a Sc.D. in 1954. Working at Bell Labs, Mathews wrote MUSIC, the first widely-used program for sound generation, in 1957. For the rest of the century, he continued as a leader in digital audio research, synthesis, and human-computer interaction as it pertained to music performance. He was an inquisitive inventor well into his 80's and guide to all at CCRMA, where he remained active until his passing in 2011.

**Hans Tutschku** was born 1966 in Weimar. Member of the "Ensemble for intuitive music Weimar" since 1982. He studied composition of electronic music at the college of music Dresden and had since 1989 the opportunity to participate in several concert cycles of Karlheinz Stockhausen to learn the art of the sound direction. He further studied 1991/92 Sonology and electroacoustic composition at the royal conservatoire in the Hague (Holland).

1994 followed a one year's study stay at IRCAM in Paris. He taught 1995/96 as a guest professor electroacoustic composition in Weimar. 1996 he participated in composition workshops with Klaus Huber and Brian Ferneyhough. 1997-2001 he taught electroacoustic composition at IRCAM in Paris and from 2001 to 2004 at the conservatory of Montbéliard.

In May 2003 he completed a doctorate (PhD) with Professor Dr. Jonty Harrison at the University of Birmingham. During the spring term 2003 he was the "Edgar Varèse Gast Professor" at the TU Berlin. Since September 2004 Hans Tutschku has been working as composition professor and director of the electroacoustic studios at Harvard University (Cambridge, USA). He is the winner of many international composition competitions, among other: Bourges, CIMESP Sao Paulo, Hanns Eisler price, Prix Ars Electronica, Prix Noroit and Prix Musica Nova. In 2005 he received the culture prize of the city of Weimar.

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