

## Vertizontal Hearing (Up & Down, I then II)

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*Sonic Commentary: All Ears Contributors' Notes*

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## Sonic Commentary: All Ears

CURATED BY Bill Bahng Boyer

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### JEN REIMER AND MAX STEIN: WELLINGTON TUNNEL (5:59)

Contact: Jen Reimer and Max Stein. Email: <info@reimerstein.com>. Web: <www.reimerstein.com>.

Composed by Jen Reimer and Max Stein, Montreal, Canada. French horn, field recordings and live electronics. Performed by Jen Reimer and Max Stein in collaboration with Adam Basanta (light design). Recorded live in a subterranean tunnel, 15 November 2012, by Julian Stein.

The Wellington Tunnels were built in the 1930s as a passage underneath the Lachine Canal in Montreal. The tunnels were closed for security reasons and abandoned in 1994. The concrete tunnels are approximately 200 meters in length. Since moving to Montreal in 2008, we became increasingly intrigued by this location, and after visiting the space several times we decided to create a performance there.

When we first entered the tunnels, we walked 30 meters before plunging into complete darkness. The temperature dropped incrementally. From inside the tunnel, you could hear the quiet resonance of cars driving overhead and dripping water from the canal leaking through the ceiling.

The performance took place at midnight. The piece combined horn, field recordings, live electronics and 12 sound-responsive incandescent light bulbs. The light bulbs spanned the length of the tunnel, lining the ceiling from the entrance to the back of the tunnel, where two PA speakers were situated.

The light and sound guided the audience through the dark and resonant space. The amplitude and flickering lights grew in intensity as the performance progressed.

**JEN REIMER** (Canada) and **MAX STEIN** (U.S.A.) are sound artists based in Montreal. Their work explores the resonances and serendipities of urban and rural sonic environments through in situ performances, installations and spatial recordings.

Since 2008 they have created a series of immersive performances for horn, field recordings and live electronics in abandoned and public spaces including Wellington Tunnel, St Urbain Underpass, Bain St-Michel (Montreal), Mãe D'Água (Lisbon), Tunnel Bénédict-Jobin (Marseille), Rotonda Besana

(Milan), Vapaan Taiteen Tila (Helsinki) and Sottopassaggio di Porta Vescovo (Verona).

### SARAH HENNIES: GATHER (5:07)

Contact: Sarah Hennies. Email: <sarah.l.hennies@gmail.com>. Web: <www.sarah-hennies.com>.

Original length: 23'00". Composed by Sarah Hennies, Ithaca, NY, U.S.A. Recorded April–September 2015.

*Gather* is an electroacoustic work that pairs long periods of sustained tones (played on a vibraphone) with field recordings made at a system of waterfalls in Ithaca, NY (Buttermilk Falls State Park), as well as recordings made at home of a faulty radiator steam valve and FM radio static. The piece is the result of several years of research with the vibraphone wherein I mined new and unusual sounds and acoustic properties from the instrument using almost entirely so-called “traditional” playing techniques (i.e. striking the instrument’s keys with mallets in the usual fashion). My work exposes the vibraphone as a largely unexplored and unfamiliar instrument whose timbre has the sonic precision and intensity of sine waves that is then enriched by the imperfections and limitations of the human body’s ability to perform repetitive actions as well as the construction of the instrument.

*Gather* examines the complexity and ambiguity of identity in the context of a walk up the side of a gorge. Our environment’s identity is, by definition, ever-changing and subjective. Our experience and understanding of a complex environment is further complicated by our place and how we chose to move. Percussion and queerness share a common bond in that they are often defined by what they are not, because what they *are* is not easily defined. Modern percussion has evolved to the point that nearly anything that is not already an instrument may qualify as “percussion.” Similarly, queerness is experienced subjectively and queer identities often only share the trait of being “not straight.”

*Gather* considers the diminishing possibilities of living without the ability to define oneself.

**SARAH HENNIES** (b. 1979, Louisville, KY) is a percussionist and composer currently residing in Ithaca, NY. Her work is primarily concerned with an immersive, psychoacoustic

presentation of sound brought about by an often grueling, endurance-based performance practice that Nathan Thomas of Fluid Radio described as “a highly sophisticated and refined performance technique . . . that starts and ends with listening and encourages a different way of listening from its audience.” She received her MA in percussion in 2003 from the University of California, San Diego, where she studied with renowned percussionist Steven Schick, and is currently a member of Meridian, a percussion trio with Tim Feeney and Greg Stuart. Prior to relocating to Ithaca, Hennies was based in Austin, TX, for 10 years, where she performed with the Austin New Music Co-op, The Weird Weeds and a variety of other projects. Her work as both composer and performer can be heard on a wide variety of labels, including Quakebasket, Senufo Editions, Consumer Waste, Astral Spirits, Accidie and Quiet Design.

**MAILE COLBERT AND RUI COSTA:  
CALENDAR, DOORS, AND CORRIDORS (5:25)**

Contact: Maile Colbert. Email: <info@mailecolbert.org>.  
Web: <www.mailecolbert.com>.

Composed and recorded by Maile Colbert and Rui Costa,  
Lisbon, Portugal, 17 March 2016.

Empty salons. Corridors. Salons. Doors. Doors. Salons.  
Empty chairs, deep armchairs, thick carpets. Heavy hang-  
ings. Stairs, steps. Steps, one after the other. Glass objects,  
objects still intact, empty glasses. A glass that falls, three,  
two, one . . . [1]

21 December 2012 the world may have ended.

We had made the world end with our belief and desire in the calendar. Our current calendar wasn't working. No matter how much we planned with it, we couldn't capture the present, we couldn't give voice to the past and we couldn't plan a proper ending. We needed to believe a different calendar, a calendar that would end. We are tired and we are many, and we are not getting along. But we fooled ourselves, the calendar reset and another long count began. So we had to end it. We scoured the planet, leaving no culture untouched, putting things together until we thought we had a plan for the ending. We had the theory, we had the calendar and now we had the date.

We were listening to our heavens for instruction, surely something would tell us. On 21 December 2012 we connected with NASA's Inspire VLF receiver [2] to monitor. All we could do was receive. We collected the receptions and sonified the data. When we put it together, it sang its instructions.

They said our concept of end and beginning implies a middle we are always leaving. We need to add our doors to our transitions, we need something to open and something to close behind us. We need an end to mean something and to infuse endings and see beginnings in the thousands of endings around us. We need to hear footsteps in the hallway. We need our heavens to be heard, the frequencies in our range, tangible events to affect our senses. We need too much.

They said we need to remember how to look and listen, to

need less and feel more. That when we look up at the night sky we witness a living archive of light splayed out before us. A projection of the past Universe, not the one we share within our actual present in which we are witnessing it. Stars long dead and cold, stars exploded or imploded, stars of different colors in their stages of mortality . . . the image we are watching has already happened and has already changed drastically. That original moment we think we are witnessing has moved on, and even further from us as the Universe expands away, like the Angel of History, looking back at the past in despair [3]. And with time the voices reach us as well, too old for us to understand them. All we can do is listen and feel.

## References

- 1 Alain Resnais, *Last Year at Marienbad*, France, 1961.
- 2 NASA Inspire VLF (Very Low Frequency) program, Marshall Space Flight Center, Huntsville, AL. Listen here: <[http://science.nasa.gov/science-news/science-at-nasa/2001/ast19jan\\_1/](http://science.nasa.gov/science-news/science-at-nasa/2001/ast19jan_1/)>.
- 3 Walter Benjamin, “Theses on the Concept of History” (1940), in W. Benjamin, H. Arendt & H. Zohn, *Illuminations* (New York: Harcourt, Brace, & World, 1968).

**MAILE COLBERT** is an intermedia artist concentrating on sound and video. She is currently a PhD Research Fellow in artistic studies with a concentration on sound studies, sound design in time-based media and soundscape ecology at the Universidade Nova de Lisboa, Faculdade de Ciências Sociais e Humanas, through the Fundação para a Ciência e a Tecnologia. Colbert contributes articles on acoustic ecology and sound studies to *Sounding Out*, the award-winning sound studies journal.

**RUI COSTA** is a sound artist from Lisbon, Portugal. He is a founding member and artistic director of Binaural/Nodar, an arts organization founded in 2004 and dedicated to the promotion of context-specific and participatory art projects in rural communities of the Gralheira mountain range, northern Portugal. Costa has been performing and exhibiting his work since 1998 in festivals, galleries and museums across Portugal, Spain, Italy and the United States. He is also a regular speaker in conferences and gives workshops on sound art.

## **GERARD GORMLEY: MOCHOREL (6:39)**

Contact: Gerard Gormley. Email: <gormleymail@gmail.com>. Web: <www.beingstrangers.com>.

Composed by Gerard Gormley, Oxford, U.K., 2014.  
*Mochorel* is a noisecape based on field recordings produced over a two-month period in Morelia, Mexico, in 2011.

Morelia is a small, architecturally striking city whose soundscape is relentlessly scored with aggressive car engines and horns and police and ambulance sirens, resulting in a fascinating disjuncture between the visual and the auditory aesthetics of the place. In fact, having left the city, it is the noise intrusion within the soundscape that I remember most

clearly. All other sonic and visual memories are hidden under a haze of noise intrusion, which has become more exaggerated through the passage of time. It is this noise-focused memory that inspired the idea of recreating the soundscape of Morelia using the original field recordings but emphasizing the noise elements contained within.

*Mochorel* opened a new avenue in my compositional investigations: a framework for presenting noise as the defining sonic characteristics of a place. All of the recorded sounds in *Mochorel* have been highly processed and layered together in creating a textured bed of white noise, which still contain hints of the dynamic fluctuations found in the original sounds. The resulting dynamic fluctuations leave the impression of a functioning and evolving ecosystem of noise material.

In direct contrast to the noise-based compositional material, *Mochorel* is a relatively quiet work, and my intended purpose for presenting the audio at such a low dynamic level is to trigger a focused listening response, which will enable the listener to hear the intricacies of this noise environment, where under the fractured surface of white noise lies a wealth of textural variation.

**GERARD GORMLEY** (*aka being strangers*) creates noise-based works that explore various forms of microsound. Gormley works in electroacoustic music, audiovisual installation and sound design for film. In addition to his work as a composer, he is active as a sound engineer and has an ongoing research project that examines the history of 3D audiovisual systems. Gormley was awarded a PhD in composition from Queen's University Belfast, and he is currently a lecturer in Audio and Music Production at Buckinghamshire University.

#### **CHRISTOPHER HAWORTH: VERTIZONTAL HEARING (UP & DOWN, I THEN II) (8:58)**

Contact: Christopher Haworth. Email: <christopher.p.haworth@gmail.com>. Web: <leeds.academia.edu/christopherhaworth>.

Composed by Christopher Haworth between March 2011 and February 2012. The binaural recording was made in the surround sound studios at the Sonic Arts Research Centre, Queen's University Belfast, on 13 February 2012.

*Vertizontal Hearing* explores the unique capacity of sound synthesis to “play” or “trick” the ear. Almost all of the sound-generating methods that are used in the piece are derived or inspired by music psychology and psychoacoustics research. The following all feature in the work in one way or another: Diana Deutsch's Tritone Illusion and Phantom Words [1]; Albert Bregman's work on Auditory Scene Analysis (particularly grouping mechanisms) [2]; Helmut Haas' work on the role of the precedence effect in localization [3]; and my own and Gary Kendall's original research on auditory distortion products [4]. Yet while the revelation of psychoacoustic effects and auditory illusions are important to the work, what interested me more as a composer was working with what

might be called “functional” or even “anti-aesthetic” sound materials. For, in order to “succeed” as demonstrations of the hearing mechanism—whether auditory scene analysis, horizontal localization or whatever—the sound materials needed to be handled, and even listened to, in prescribed ways. This prescriptive quality is exemplified by the demonstration CDs that accompany psychoacoustics and music psychology textbooks, where there is often a “right” and “wrong” way to listen—otherwise you miss the phenomenon that is being demonstrated. Working with these materials thus imposed certain demands on the work: frequency ranges, durations, contrasts and other parameters were in some cases very narrowly prescribed. Yet their presentation as music transforms them; they cannot remain “anti-aesthetic” or purely functional. What I hope comes across, then, is an almost humorous sense of struggle—between materials that require particular conditions to reveal themselves and their organization in time as a musical work.

Note: At 6:30, a method of synthesis is used that is not well reproduced in the binaural recording. When presented over eight speakers, the high-intensity, high-frequency tones create auditory distortion in the listener's ears, producing a constantly rising tone that gradually slows down to a standstill. These methods are described in Kendall, Haworth and Cadiz [5].

#### **References**

- 1 D. Deutsch, “The Tritone Paradox: An Influence of Language on Music Perception,” *Music Perception: An Interdisciplinary Journal* 8, No. 4, 335–347 (1991).
- 2 A. Bregman, *Auditory Scene Analysis: The Perceptual Organization of Sound* (Cambridge, MA: MIT Press, 1999).
- 3 H. Haas, “The Influence of a Single Echo on the Audibility of Speech,” *JAES* Volume 20, Issue 2, 146–159 (March 1972).
- 4 G. Kendall, C. Haworth and R. Cadiz, “Sound Synthesis with Auditory Distortion Products,” *Computer Music Journal* 38, No. 4, 5–23 (2014).
- 5 Kendall, et al. [4].

**CHRISTOPHER HAWORTH** (*born 1981*) is a composer and musicologist from Preston, Lancashire, U.K. His interests as a composer span sound synthesis, auditory perception and cybernetic and systems art, with recent works exploring the explicit intersections between these domains. His creative research into distortion product otoacoustic emissions (sounds produced inside the ear) won a *Shut up and Listen!* award in 2011, while articles deriving from this work have been published in *Computer Music Journal*, *LMJ* and *Proceedings of the ICMC*. He is editor of the *International Computer Music Association's journal Array* and a board member of the association.

#### **JACOB KIRKEGAARD: STEREOCILIA FOR 7 EARS (8:00)**

Contact: Jacob Kirkegaard. Email: <jacob@fonik.dk>. Web: <www.fonik.dk>.

Composed, recorded, edited and engineered by Jacob Kirkegaard, Copenhagen, Denmark, May 2016.

*Stereocilia for 7 Ears* is made from recordings of spontaneous otoacoustic emissions—single or clusters of tones that some ears emit without stimulus. Using a specialized microphone inserted directly in the ears of selected students at St. John's College at University of Oxford, where I was sound-artist-in-residence in 2016, I captured hitherto-unheard complex clusters of tones. *Stereocilia for 7 Ears* presents the recorded ears having the strongest emissions as well as the most complex chords played one ear at a time. It premiered at the Louisiana Museum of Modern Art Denmark, May 2016.

**JACOB KIRKEGAARD** is a Danish artist and composer who works in carefully selected environments to generate recordings that are used in compositions or combined with video imagery in visual, spatial installations. His works reveal unheard sonic phenomena and present listening as a means of experiencing the world. Kirkegaard has recorded sonic environments as different as subterranean geyser vibrations, empty rooms in Chernobyl, Arctic glaciers and tones generated by the human inner ear.

Kirkegaard has presented his works at galleries, museums and concert spaces including MoMA in New York, Louisiana in Denmark, KW in Berlin, The Menil Collection and the Rothko Chapel in Houston, Aichi Triennale in Nagoya, the Mori Art Museum in Tokyo, Japan, and most recently via a solo exhibition at the Museum of Contemporary Art in Denmark. His sound works are released on the TOUCH (U.K.), Important Records (U.S.A.), mAtter (Japan), VON Archives (France) and Posh Isolation (Denmark) labels. His work is represented in the permanent collection of the Louisiana. Kirkegaard is the 2016 sound-artist-in-residency at Oxford University, U.K.

**YVON BONENFANT AND COX RING: MASZ (4:16)**

Contact: <yvon.bonenfant@winchester.ac.uk>.

Web: <www.yvonbonenfant.com>.

Co-composed by Yvon Bonenfant (voice) and Cox Ring (electronics), and inspired by graphic scores by Sebastiane Hegarty. Recorded 2011.

I am interested in how sound touches, and most particularly, in how *voicing* touches. This interest has recently become framed by scholars as an interest in the “materiality” of sound. Beyond this avowed materiality, sonic touch is also ephemeral, time based and sensual in a performance studies sense: It is a kind of intimate theater of both fleshly contact and sensation, on both superficial (skin) and profound and visceral (deeper flesh, even bone) levels. This recording attempted to explore the “translation process” through which we perceive sound on both aural and tactile planes, translate it into textured meaning and then reinterpret it for ourselves. It was also an homage.

Within our process, visual and sound artist Sebastiane Hegarty listened repeatedly to Diamanda Galás's 1991 recording of her seminal, activist work *Plague Mass* (Mute). Hegarty produced pages and pages of visually evocative representations of his reactions to the work: These were pow-

dery, scratchy, layered, intense—they cannot be described adequately in words—and they dialogued with the tradition of the graphic score. Cox Ring and I then examined these scores and mixed their stimuli with our own reactions to, and memories of, the *Plague Mass*. From these we distilled a strange sort of pop-song-length mix. The sounds here are certainly not Galás, and they are not me (though my body is “in” them), but Cox Ring, who came into existence for this project and then faded back into other pseudonyms, brought an inspired goofiness to the feel of this work. The piece tries to excavate the *joy* that underpins feeling the “touch” of Galás's voice for those of us who love her work: A joy that goes so far as to evoke the ecstatic nightclub. This is a reaction of elation to her ferocious commitment to expressing the “inexpressible”: an unusual sort of elation. So I sing, “You, you are the avenging angel and you sing the dead. For that, they, and we, love you: we love you,” Madame Galás. Please note: This recording should be listened to on maximum volume, with good bass speakers. Its almost-infrabass is deeply, well, disturbing. And to Madame Galás: The witch laughs are not an attempt to cheapen your sounds—they are goofy revelry in their very queerness.

**YVON BONENFANT** likes voices that do what voices don't usually do and bodies that don't do what bodies usually do. He makes art starting from these sounds and movements. These become all kinds of things: performances, interactive sculptures, an iPad app or even textiles. The touch of the queering and queered voice obsesses him. His most recent major project, *Your Vivacious Voice*, develops interactive environments that elicit extra-normal voicing from children aged 6–11 and then celebrates and aestheticizes these voices. It has so far reached 260,000 people. In 2016, he founded the creative studio and charity Tract and Touch to broaden the remit and develop legacy for this work. From a scholarly perspective, he has presented at 30 conferences and publishes practice/research articles in a wide array of peer-reviewed journals. His next project, *Curious Replicas*, conjoins audience voicing with wigs and hair—voice frizz, braids, curl and extensions abound. He holds a chair as Professor of Artistic Process, Voice and Extended Practices at the University of Winchester.

**TOMOMI ADACHI AND JENNIFER WALSH:**  
**TELEPATHIC CONCERT (10:04)**

Contact: Tomomi Adachi and Jennifer Walshe. Email: <putifront@gmail.com>. Web: <adachitomomi.com>, <www.milker.org>, <www.aisteach.org>.

Composed and recorded by Tomomi Adachi (Berlin, Germany) and Jennifer Walshe (Knockvicar, Ireland), 1 September 2013. Edited and engineered by Tomomi Adachi.

The People's United Telepathic Improvisation Front (PUTIF) is an initiative of Tomomi Adachi and Jennifer Walshe. In 2013, living and working at a distance of hundreds and sometimes thousands of miles from one another, Adachi and Walshe chose a specific time once a week to make an

improvisation together. Unable to hear each other normally, they listened and improvised together telepathically, synchronizing only their start and end times. During these sessions, Adachi and Walshe each made a recording of their own improvisation. These recordings were mixed together afterward with no editing whatsoever. Performances can be heard on <[soundcloud.com/putif](https://soundcloud.com/putif)>.

On 1 September 2013 Adachi and Walshe performed a telepathic concert. Adachi was in Berlin, Germany; Walshe was in Knockvica, Ireland. They invited anyone to listen telepathically to their improvisation and email descriptions of what they heard to them.

The following are selected descriptions of what listeners heard:

“I heard lots of wind, traffic, Jenny doing some high-pitched almost monkey-style screaming and Tomomi going rar-rar-rar-rar-rar quite low pitched, leaves rustling.”

“The sharp raspy/scraping sound that leaves make when blown along asphalt. Which lead to . . .

The sound of wind blowing through conifers (which always sounds to me like a river flowing). Then there was . . .

The bubbling/rhythmic/lumpy sound of water boiling in a large pot. Then it became . . .

The sound you get when you toss coins up and down in your palm. Chlunk, chlunk. Then . . .

Either a cat purring or the sound a child makes when murmuring when asleep. And finally . . .

Someone holding a sheet of newspaper and tearing it down the middle. This lasted for quite a while.

Then there was a loud bang (but that could have been a drive-by shooting here).”

“twa twa tttwawawapiiii sh sh shwamp tvisterinkechuari  
tke tke keyunstrari  
pa papu papwatt qiii niiii sh pchianstt  
nia mnia k  
wa hua niiii  
dunst de de deunst te te teun  
he he he  
kerutt te  
yeeee  
demenitun”

“-First minutes, silence or very low volume humming, like soundwave quality, not warm

-sibilant long sounds, in crescendo, some of them going to high pitch

-around 5:30 some very fast dynamics, humid crunchy sounds, like paper in the mouth or hand.

-around 7 some uuuuu . . . uuuuuu were i did differentiate the two voices, and even a third one doing very soft sh sh sh fast sounds.”

“Sounds like crazy electric banjo, and birds. Also, the Beatles . . . ?! on a very long string instrument.”

**TOMOMI ADACHI** is a performer/composer, sound poet, instrument builder and visual artist. Known for his versatile style, he has performed his own voice and electronics pieces, sound poetry, improvised music and contemporary music and also presented site-specific compositions, compositions for classical ensembles and choir pieces for untrained musicians all over the world, including at the Tate Modern, Maerzmusik, Centre Pompidou, Poesiefestival Berlin and Walker Art Center. Adachi has worked with a wide range of materials: self-made physical interfaces and instruments, brainwave, artificial satellite, Twitter texts and even paranormal phenomena. As the only Japanese performer of sound poetry, he performed the country's premiere of Kurt Schwitters's Ursonate in 1996. CDs include albums from the Tzadik, Omega Point and naya labels. He was a guest of the Artists-in-Berlin Program of the DAAD for 2012.

**JENNIFER WALSHE** is a composer and performer who was born in Dublin, Ireland. Her music has been commissioned, broadcast and performed all over the world. Walshe has been the recipient of fellowships and prizes from the Foundation for Contemporary Arts, New York; the DAAD Berliner Künstlerprogramm, the Internationales Musikinstitut, Darmstadt and Akademie Schloss Solitude among others. She has written a large number of operas and theatrical works, including XXX\_LIVE\_NUDE\_GIRLS!!!, an opera for Barbie dolls available on DVD from Mere Records, and Die Taktik for the Junge Oper Stuttgart.