Acknowledgments

Sound flourishes everywhere in the world. As a result, I came to understand early on that a comprehensive survey would be close to impossible. The vastness of the sonic art field proved a source of immense inspiration. When preparing Soundings: A Contemporary Score, I benefited from the generous leads of colleagues to travel to the furthest corners of the field: I visited alternative spaces in Osaka, Seoul, Melbourne, London, Oslo, Berlin, and Bushwick. I met with artists in their studios and in microscopy cafes, and investigation brought me through a network of lively world-wide sites. I listened to new noise and burgeoning ideas. I experienced sounds and compositions I had never dreamed of, much less heard.

The two years of research proved to be both exhilarating and revelatory. I hope that the artists’ work presented in the exhibition and the ideas articulated in the catalogue will persuade listeners everywhere to slow down and engage with the complexities and wonders of our ever-changing sonic landscape.

Cruical funding for this project has been provided by MoMA’s Wallis Annenberg Fund for Innovation in Contemporary Art through the Annenberg Foundation, by The Junior Associates of the Museum of Modern Art, the Office for Contemporary Art Norway (OCA), and the Danish Arts Council Committee for International Visual Arts. To all, I am extremely grateful.

Without the support of the artists, thinkers, curators, and friends who shared their knowledge and passion, this show would have been a quiet echo of its current self.

Many of my colleagues at the Museum generously supported Soundings. Foremost I wish to thank Leonora Morris for her commitment and intelligent contributions to the exhibition and catalogue. Former interns Jean Conner and Chris Rumore enthusiastically laid the groundwork of our investigation.

The selected works have properties and particularities that, in order to be manifested fully, relied on a great number of MoMA staff and their expertise. For their support, intelligence, and care, we wish to thank Ramona Bonnyman, Laura Belles, Reid Farrington, Mike Gibbons, Kathy Halberich, Annie Harrow, Pablo Helguera, David Holland, Sally Kennedy, Jay Levenson, Aaron Louis, Melanie Monios, Jerry Neauser, Susan Palamara, Peter Reed, Jennifer Tobin, and Carlos Yepes. For their generous loans, we thank the artists, as well as Anna Schwarz, Regina Flotia, Anna Schwarz and Gerdi Henry Lykke, Tanja Bonakdor, Dillon Cohen, and Matthew Dipple.

Colleagues in the field graciously shared information and valuable time. I wish to express special appreciation to Christopher Cox, who gave sage advice every step of the way. From Scandinavia, I wish to thank Maja Kasma, Ingrid Moe, Mariam Tendgaard Detre, Nilla Arnegren, Kjetta Gerland and Magdalena Hennig, Berghthora Laxdal, and catalogue essayist Anne Hilde Næset.

Lastly, I am grateful for the commitment and brilliant vision of all those who made this beautiful book possible. In particular, David Frankel, Marc Seep, Sarah McNicholas, as well as Pren Krishnamoorthy, Adam Michaels, and Anna Rieger at Project Projects. They joined the team, picked up the ball and created a home run with the catalogue design.


Barbara London
Associate Curator, Department of Media and Performance Art

The Museum of Modern Art is proud to present Soundings: A Contemporary Score, organized by Barbara London, Associate Curator, with Leora Marris, Curatorial Assistant, in the Department of Media and Performance Art. The exhibition presents a rich glimpse into a dynamic and nuanced field. "Quilts," however, is not an entirely accurate term when it applies to a show that will be apprehended mostly through certainly not exclusively—by listening rather than looking, by hearing rather than seeing.

Sound art has often been cast as peripheral, particularly in museums, where near-silent, so-called neutral spaces have typically been sought. Even so, the field has a robust history and has grown in importance over the past century and into the present. Artists associated with Dada, Surrealism, and Fluxus experimented with sound, and sound has figured centrally in the practices of major figures such as John Cage, John Luther Adams, Terry Fox, Pauline Oliveros, Vito Acconci, Christian Marclay, and Janet Cardiff, to name just a few. It is noteworthy that this exhibition is one of the first of its kind in New York.

The elusive, ephemeral nature of sound defies easy definition, yet sound is ever present in virtually all places. In today’s world of earbuds and personalized soundtracks, it seems high time to consider the role and impact of sound in our lived environments. The Museum of Modern Art, for instance, has a variety of distinctive discos. It’s easy for me to call up the buzz of the Agnes Gund Garden Lobby, the many whispers of (and on) the escalators, the murmur of the coat-check. Each gallery, too, has its own individual sonic character, which persists—and shifts—as exhibitions rotate. The talented artists in this exhibition and its catalogue are interested in opening our ears to these sorts of specificities and textures, to the durability, shape, history, and subtlety of sound. They offer profound insights into the vibrant aural spaces of our world. What this exhibition makes clear above all is that the more closely we listen, the more we begin to hear.

On behalf of the Trustees and the staff of The Museum of Modern Art, I extend my sincere gratitude to the lenders and artists. I also want to note that installing a cluster of sound works in a single space is no easy feat, and so I take my hat off to the numerous technicians, designers, installers, and curators whose wisdom, creativity, and expertise made it possible. We are also indebted to MoMA’s Wallis Annenberg Fund for Innovation in Contemporary Art through the Annenberg Foundation, The Junior Associates of the Museum of Modern Art, the Office for Contemporary Art Norway (OCA), and the Danish Arts Council Committee for International Visual Arts, which have generously supported the exhibition. Above all, my thanks go to Barbara London for her considered and wholehearted organization of this exhibition and catalogue.

Clare D. Lowery
Director, The Museum of Modern Art.
From the 1960s to the Present

Barbara London

Soundings: A Contemporary Score features recent work by seventeen young artists who work with sound. They come from the United States, Uruguay, Norway, Denmark, England, Scotland, Germany, Australia, Japan, and Taiwan and have a broad understanding of art, architecture, performance, telecommunications, philosophy, and music. As they move comfortably between mediums, listening and hearing remain central to their practices. Their environments, drawings, and assemblages have a palpable sonic presence—even the ones that must be seen to be heard. Sound as an art medium emerged during the 1960s from the foundations that had been laid for it over the preceding fifty years. 2 In the spirit of counterculture and revolution, artists were experimenting with time-based art that was intangible and difficult to commodify and were seeking ways for artworks to surpass the traditional museum exhibition and to reach a public outside the gallery walls. As the concept of the exhibition itself was being redefined by other independent art spaces, sound provided an escape from the traditional confines of art. For artists working on radio, music, and experimental television, the possibilities of sound were limited only by their imaginations. This is where Soundings comes in.

The exhibition is divided into four sections: Installation, Performance, Sound, and Environment. Each section is curated by a different artist, and the works are selected to reflect the range and diversity of contemporary sound practices.

Installation's by using state-of-the-art technology and new materials, they enabled them to place as much emphasis on sound as on image. Louis Andresson employed tape recorders, voltage-controlled oscillators, and other electronic devices to create complex soundscapes that were both cacophonous and melodic. His work often evoked a sense of disorientation, creating a psychological space for the viewer to explore.

Performance's by using sound as a medium for表达, they were able to create immersive experiences that engaged the audience on multiple levels. The works included live music, spokenword, and multimedia installations that combined sound with visual elements, creating a dynamic and interactive experience for the viewer.

Sound's by using electronic and acoustic devices, they created sonic environments that explored the relationship between sound and space. The works included sound art installations, sound sculptures, and multimedia environments that were designed to be experienced through movement and interaction.

Environment's by using sound as a tool for creating a physical or emotional response in the viewer. The works included environmental installations that used sound to create a specific atmosphere or mood, as well as works that explored the relationship between sound and the natural environment.

The artworks presented in this exhibition are a testament to the enduring power of sound as a medium for expression and communication. Whether through installation, performance, or environmental works, these artists have shown how sound can be used to create a unique and immersive experience for the viewer, inviting them to engage with the work on a personal and emotional level. The works presented in this exhibition are a testament to the power of sound as a medium for expression and communication, and they continue to inspire new ideas and innovations in the field of sound art.
an exhibition of works by three artists that was held in a town video gallery." Due to the small size of the space, the works were also arranged at a time, in rotation, for a couple of weeks. The artists for the exhibition came from the artists, who, with their curatorial convictions, were committed to working in a medium that won against the grain. Sonic work then had a connoisseur; a do-it-yourself sense of experimentation. It broke new ground, pushing the capabilities of institutions willing to exhibit it and the sensory thresholds and under- standing of auditory and visual languages were to be curious to experience.

Within contemporary art, the energy of the counterculture has dissipated, and sound no longer marginalized as a medium. Nevertheless, artists are more than ever drawn to it, perhaps because it is still so full of potential, and not yet quite defined. Today the art of sound questions how and what we hear, and what we make of it.


Artists with strong individual practices, Luke Fowler and Toshio Tsunoda both studied visual art and are involved in music production and performance. Fowler is best known for his film portraits of social radicals such as Cornelius Cardew, the avant-garde composer and political activist, and the Scottish psychopath Brian Robb. The mood and form of each of his films reflect the character of his subject. Tsunoda, a widely respected composer of experimental music, is also well known for his field recordings.

A duo, Fowler and Tsunoda explore the relationship between seeing and hearing. They first collaborated on Composition for Flatter Screen, a film-sound installation commissioned by the 2000 Yokohama Triennial. In this work, images of natural elements including water and fire are seen on a projection screen, across which a taught vibrating wire pulsates. An electric fan aimed at the loose cloth canalizes the air, bringing it into contact with the vibrating wire and distorting the projected images. Rhythm on the Horizontal Plane expands upon the earlier work by adding an element of doubling. Still and moving images are projected onto either side of a cloth projection screen, which is agitated by air currents produced by two oscillating fans. Two amplified piano wires stretch horizontally across either side of the cloth, bouncing the images. The tones made by the vibrating wires change in response to the shifting airflow and intermittent contact with the blowing screen. The resulting images are shot in 16-mm film, depicting signs of natural and man-made movement. The still images, projected from large-format color slides and in a综合的 scale, show transparent windowed and reflective surfaces.

Rhythm has roots in structuralist film and in the legacies of expanded cinema. Its synchro- nized audio and visual elements were assembled from random connections linking the strategies of chance first explored by John Cage and others. The artists see the horizontal division of the screen by the wire as a horizon line framing the landscape of images.

Marco Fusinato Our Lives Reckless (Shao, Xun show), 2012.

The exhibition work, Marco Fusinato’s Our Lives Reckless (Shao, Xun show), consists of a drawing in five parts for the artist’s new show, a project that dates back to 1983. Working on repro- ductions of five pages from the show, Fusinato selected a central point on each sheet to which he drew a straight line from every note on the page. His project proposes a new piece of music in which all the notes are to be played at once. The resulting image strikes the eye as violent blasts, great compositions that thunder in ever-increasing as the music implies into noise.

Richard Garet Before Me. 2012.


Sound is the driving force in Richard Garet’s installations, moving images, and perfor- mances. Garet served as a visual artist and a painter. He performed once before the story was told of his composition with the sound of the marble’s asaphen, which was picked up by a microphone and amplified by a speaker on the floor. Unlike the maul- dering stunner of a scratched LP, in Affluence, he sounds the flavor of the marble’s endless to and fro-licking sympathy and wishes for its speedy delivery.

Florian Hecker Affluence. 2013.

3-channel electroacoustic sound.

Christine Sun Kim 2012.

Ink, pencil and charcoal on paper, 38 1/2" x 50 1/2".

Christine Sun Kim.

Hecker studied computational linguistics and acoustical ecology at Max Planck Institute, Berlin, before receiving a degree in fine arts at the Akademie der Bildenden Künste in Vienna. He is the author of electroacoustic performances and installations and publishes writings on his own and others’ work. In his installation Affluence, which premiered at Documenta 13 in 2012, three sound streams could be heard simultaneously and also together as a unit, in the manner of the chimera of Greek mythology, a monster composed of three distinct animal parts. Based on a libretto by the philosopher Reza Negarestani, the sound streams of Affluence were spoken in English, Farsi, and German by readers whose voices could be heard to merge and separate. Threefold sound channels and complex what Hecker calls “bifurcated” listening. In Affluence, he explores this three-stream idea further. Sound coming from three speakers is molded to the space of the installation as one would mold a malleable, visible material.

Florian Hecker Affluence. 2013.

3-channel electroacoustic sound.


Hecker’s work consists of an old LP record player with an upside-down player, revisiting at 31 LPs. A clear glass marble placed at the upturned edge of the player’s smooth metallic surface advances slightly before rolling back to its starting point. This action is repeated again and again, ad infinitum. The scraping sound of glass against metal—the sound of the marble’s asaphen from which was picked up by a microphone and amplified by a speaker on the floor. Unlike the maul- dering stunner of a scratched LP, in Affluence, he sounds the flavor of the marble’s endless to and fro-licking sympathy and wishes for its speedy delivery.

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Florian Hecker Affluence. 2013.

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Harrow Mirza received an M.A. in fine art from Chelsea College of Art and Design and an M.F.A. in design and critical practice from Goldsmiths College, both in London. His work explores analogies of electronic gadgets, faders, and controllers that he has tinkered with and used to alter appropriated videotapes, outdated TVs, and old furniture. The glue in his work is sound. His work is sick and black, and it pulses. It was first seen in 2011 at the 54th Venice Biennale, where Mirza received the Silver Lion Award for most promising young artist. The installation brings together disparate ele- ments. A 9.5-gauge lump of pure gold—equivalent in weight to a $1 coin—bounces on top of a small speaker emitting pulsing white light that resembles those of an electronic drum. On the floor, small blue LEDS flash in unison. Also floor-bound and hidden within what looks like an exposed enclo- sure, a liquid crystal display screen extracted from a television flashes in conjunction with bursts of video images of an angry demonstrator at an upmarket department store in central London. The protests were condemning tax avoidance by wealthy corporations at a time when the government was cutting back social services. The crowd’s vehement response matches Mirza’s synchronization of pulsating sound and light. The word “sick” in the title has in recent years acquired a slang usage that overturns the idea’s usual meaning to its opposite: “sick” is “cool.” Except that it isn’t cool to say what you really mean, and so the inverted meaning doubles back on itself, and “sick” reverts to its conventional meaning. Originally conceived as a sound- track to David Goldblatt’s photographic portraits of South Africans who had been denied horrific crimes after confessing to their country’s Truth and Reconciliation Commission, Sick stands on its own as an indictment of repa- tions, commercial enterprise and their government allies, and it targets everyone against everyone.

Christen Nicolai wellknownRs. 2012. Water tank, water, tap, audio equipment, stopwatch, display screen. Collection the artist and Eilein Gagan + ART, Berlin

Christen Nicolai is a visual artist, musician, architect, and the author, most famously of a Grid index, a seminal work on the mathematics of grids and visual patterns. As a member of the bands Signal (with Frank Bretzke, ChrisGerlach, and Olaf Bender) and Cyclo (with Røy Pettersen), he gave his name by the name of Alva Noto. For many years Nicolai’s visual practice has been shaped by the principles of cymatics, a branch of science concerned with modal phenomena. In 2000 he investigated the relationship between order and disorder in Mild (Milch) by putting barely audible sound waves into a small pool of milk, thus generating undulating patterns on the milk’s surface. The patterns changed according to the frequency of the acoustic signals and were captured in a Cymatics film. The images are exacting and reveal the elegance of complex systems.

In wellknownRs, low-frequency sound waves are transmitted onto the surface of a pool of water create waves that are almost indiscernible and generate interference patterns. The patterns change depending on the variations in frequency that produce them. Reflected by a mirror onto a large display screen, they serve as a scientific visualization of the properties of sound and as a subject of meditation on the principles of order and chaos.

Camille Norment Trilights. 2008. Microphone cage, light, light electronics. Collection the artist

Norment’s work often brings to mind the uncanny. Cultural histories are contoured into physical, spatial, and temporal contiguity and that generates hallucinatory qualities of psy- chological atmosphere. In Trilights, the light is not ghosts, but both are present. The listener is the medium that draws out substance from that which is not there.


Perich arranged the hundreds of digital building blocks to create a contemporary composition of depth and complexity.

Susan Philipsz Study for Strings. 2002. 8-channel sound installation. Collection the artist and Tanio Bechara, New York

After studying sculpture in art school, Susan Philipsz became the only artist to have won Britain’s Turner Prize (in 2004) for a work composed of sound alone. She is known for creating evocative sound interventions using recordings of her own or well of another’s singing and reading of traditional folk songs—singing and love songs about sailors gone to sea. Transmitted through public address systems in places such as supermarkets, the underpinnings of city bridges, and on weekends in deserted financial districts, the songs and their delivery have a jerking and moving intimacy as they address memory and desire.

Study for Strings, which was commissioned by Documenta 13, is based on a forty-four string orchestra work by Pavel Haas, a student of Czech composer Leos Janacek. Haas wrote the composition in 1924 while interned at the Theresienstadt concentration camp, and the completed work was performed there, once, by incarcerated musicians. (A vision of the performance was used as Nazi propaganda.) Soon after, the composer and many of the musicians were sent to Auschwitz-Birkenau and killed. The conductor, Karel Ankerl, survived and remasteried the orchestral parts after the war. Philipsz evokes the path of the original performance for Study for Strings as well as the horror that followed. The entire score is performed by just two musicians, who play only their parts in the orchestral work. It is as if they are engaged in a serious conversation that unfolds slowly, full of pauses, each waiting politely for the other to complete their part. The silence resounds with absent music and conjures memories of the dead.


Tcherakosian is a member of the fourth generation of musi- cians and composers documented from Nôjås Tcherakosian (1973–1945), who studied with Ilmari-Korsakov and conducted Daghamy Béliss’s Rhythms. The young Tcherakosian trained as a composer and wrote instrumen- tal music into his early twenties, when he started delivering live electronic music, acoustics, the physiology of the ear, and the ways in which sound can affect the audience of his studies at Bard College with Mervyn Amacher and the sound engineer Bob Bodek, he became interested in psychoacoustics and the physical experience it offers. The work consists of 1,510 tiny speakers, each with a 1-bit processor emitting different microwatt frequency. The speakers are arranged in an arc, with low-pitched sounds on the left graduating to high-pitched on the right, and are mounted on a twenty-five-foot-long panel. What one hears depends upon where one stands in relation to the piece, which spans four octaves. Up close, distinct tones from individual speakers can be detected; at a greater distance from the center, the sounds blend into a uniform mass; and as listeners proceed forward and out of the piece they become aware of the other, they progress through different tonal boards, each eliciting its own range of psychic and emotional responses.

In the tradition of Mimi- malism, which in the 1970s pared-down form to the barest yet not too-simple basics, Perich arranged the hundreds of digital building blocks to create a contemporary composition of depth and complexity.


The silence resounds with absent music and conjures memories of the dead.


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Taiwan University before receiving an M.A. in Media Studies at the New School in New York. She works with sound as a means of investigating social relationships, seeking ways to explore the construction of social space in everyday life. Wang made Music While We Work for the Taiwan Pavilion at the 54th Venice Biennale. She chose as a collaborator the political activist and composer Chen Bo-Wei, a founding member of Black Hand Nakasi Workers’ Band, which since 1996 has been facilitating the active involvement of social minorities in cultural productions and political activism. Wang assembled a group of retired workers from a sugar refinery in the small industrial town of her childhood, where her own family’s life had revolved around the same factory. After attending workshops in listening and recording led by Bo-Wei, the retirees and their spouses—there were nine participants in all, many of them friends—returned to the factory to document the sounds of the environment they knew so well. Wang set them to “paint a world composed by your listening,” and together they created a soundscape of a very particular place, with its own particular language. The editing, like the recording, was a collective effort by the workers, assisted by the artist. The sound is paired with video in a work that is a tribute to its makers’ intelligence, sensitivity, and human warmth and a record of a certain way of life, and of acquired skills, that are fast disappearing.

Jana Winderen Ultrasonics. 16-channel ambisonic sound installation. 3-channel sound software and installation consultancy by Tony Myatt, Professor of Sound, University of Surrey. Collection the artist

Jana Winderen studied mathematics, chemistry, and fish ecology in Oslo and went on to graduate in Fine Arts from Goldsmiths, University of London, describe her work as "linked" field recording, she begins her compositional process in remote locations, where she chooses which sound, creature, or idea to follow, and thus lays the foundations for a project. Wherever we sense microphones to collect sounds that are unfamiliar or sometimes inaudible to the human ear. Using hydrophones, she captures sounds from deep beneath the ocean’s surface, then mixes the recordings into layered compositions that she uses in live performances and installations, on CDs, cassettes, and vinyl records, and for film and radio. The results are uncanny sonic episodes of places of existence as much for most of us to imagine as to be a creature in an underwater grotto. Revealing the complexity and strangeness of the natural world is central to her practice. Who knew that cats and dogs use sound to communicate and select a mate, or that even rats make a tremendous rosnce? Recently, Winderen has been recording the sounds of bats in flight. In Ultrasound, listners hear even more than the artist did she was circled by bats flying among a stand of trees. The imperceptible bat at the time, the bats’ ultrasonic echolocation calls have been rendered audible by slowing the recording to one-tenth of its normal speed. These clicking sounds have been combined in Ultrafolds with the chirping ens of underwater insects and sounds made by fish to protect their habitats or to find a mate. The result is a composition that vividly explores the activity of a fragile ecosystem revealed through sound.

In 2003, he lived among the Yanomami in Brazil and learned how Yanomami shamans use birdsongs and the sounds of insects to predict future events. The shamans’ method, called "haxi," of interpreting the voice and language of the forest underlay Vitello’s installation at the Carter Foundation, Yanomami Spirit for the Forest, in 2003. When Vitello became Associate Professor of Kinetic Imaging at Virginia Commonwealth University in 2004, he recorded an old-growth forest where some of the largest cypress and tupelo trees in Virginia still stand. Entering the area by canoe, he paddled along the Nottoway River, where he captured the calls of owls in the forest.

During a six-month residency in 1999, Vitello occupied a studio on the ninety-first floor of the World Trade Center, where he recorded the croaking noises the building made as it swayed in the wind. Playing contact microphones on permanently closed windows, he captured sounds of the world outside—the buzz of airplanes, helicopters, and boats in the harbor, and on Sunday mornings, church bells. The resulting work, Inside Out, emphasizes how much information about our environment comes through the sounds we hear. A Ball for Every Minute, commissioned by Creative Time, Friends of the High Line, and the New York City Department of Parks and Recreation, is broadcast through speakers installed in the Museum’s outdoor Sculpture Garden. Every minute, the sound of a bell is heard, and on the hour all the bells chime together. Recorded in New York City, the sounds include dinner bells, the New York Stock Exchange bell, the United Nation’s Peace Bell, bike bells, bells on cat collars, and alarm bells. An accompanying map locates each bell’s position within the city. Each bell tone within Vitello’s composition has a clarity that cuts through the blur of urban sound that penetrates the walls of the Museum’s garden.

Hong-Ki Wong Multichannel sound and 2-channel video installation. Collection the artist

Hong-Ki Wong pursued art and politics at the National
Sound belongs to no single artistic practice. It is taken up and channelled freely in music, theater, film, sculpture, video, installation, performance, and architecture. But there is one artistic practice that often employs these other mediums in the service of its own end purpose. How do you define this sound-centered art, and how to distinguish it from other practices within the wider auditory culture are subjects of debate. This much is known: sound art embraces science, music, noise, political activism, ecology, ethnography, memory, literature, and more. Not surprisingly. It assumes a myriad of forms presented in a multitude of ways and with countless objectives.

The term "sound art" has become shorthand for the broad array of artistic activity that either employs audio as one main component, or incrementally reflects on sound. The practice emerged as an obscure zone between composed music, installation, performance, and Conceptual art. Over the past two decades, it has found a home in art institutions, where its reception has coincided with "the sonic turn." This term designates the gradual shift of focus from the visual to the auditory that has been taking place in artistic and practical activities at a time when the mainlining of sound from peripheral devices into ears and brains via headphones has become a global phenomenon.

Marcia Deuchars contributed as much in any composer, scientist, or inventor to this shift. His Resonades, murmur objects that he presented as art, anticipated and to some degree prepped the way for the introduction of sound art within the precincts of museums, where murmur objects, like those, are now displayed, thought about, and collected upon. The path has not been without obstacles. Although contemporary art venues have become presenters of sound art, their pristine, white-cube exhibition spaces can be far from ideal for the purpose of containing and carrying sound. Sound bounces restlessly off gallery walls, causing reverberation, sound bleed, and echochops in spaces built for maximum contemplation and minimum distraction.

Traditional concert halls, despite superior acoustics, are equally ill-suited for sound experimentation. Their fixed seating arrangements render them unsuitable for presenting not only sound as an art form but also as new forms of music that piece performers and audiences in new roles and relationships. As I explore below, composers have been challenging Western musical conventions, including the concert format as a space for the performance of music. The result is a new understanding of the role of musicians and the audience. The sonic experimentation has not been confined to the concert hall. The 1970s and 1980s saw a proliferation of sound art, and in 1964, Ralph T. Coe organized the first international festival of sound art: the Sound, Light, Sight, Art that performed at the Nelson Gallery-Adkins Museum (now the Nelson-Atkins Museum of Art) in Kansas City, Missouri.

Despite the success of these early shows, the field continued to struggle for recognition. It wasn't until the 1990s that museums and galleries began to take sound art seriously. One of the most notable exhibitions was "Resonances," a group show at the Museum of Modern Art in New York in 1997. The exhibition featured works by around 100 artists, including pieces by John Cage, Robert Irwin, and James Turrell.

One of the key figures in the development of sound art was Charles Ives, who is often credited with being the father of American modernism. Ives's music was characterized by its use of multiple sound sources, often resulting in a polyphonic texture.

Recent exhibitions of sound art have included "Sound安装: A Century of Art That Perforates the Ears," which was held at the Museum of Contemporary Art in Cleveland in 2018, and "Contemporary Sound Art," which took place at the Museum of Fine Arts in Houston in 2019.

The present exhibition, "Sound: Installation Art," is a collaboration between the Museum of Fine Arts and the Museum of Modern Art. It showcases a range of works from the 1960s to the present, including pieces by artists such as John Cage, Robert Irwin, and James Turrell.

The exhibition is divided into three sections: "Sound: The Ear," "Sound: The Eye," and "Sound: The Body." Each section explores a different aspect of sound art, from its relationship to the human ear to its impact on the body.

"Sound: The Ear" focuses on the physical and psychological effects of sound on the human body. It includes works by artists such as John Cage, Robert Irwin, and James Turrell.

"Sound: The Eye" explores the visual aspects of sound art, including works by artists such as James Turrell, who creates light installations that respond to changes in light and sound.

"Sound: The Body" examines the impact of sound on the body, including works by artists such as John Cage, who has explored the relationship between sound and the human body in his performances.

The exhibition is accompanied by a catalog, which includes essays by leading scholars in the field of sound art. The catalog is available for purchase at the museum gift shop.

In summary, sound art is a vital and dynamic field that continues to evolve and expand. It challenges traditional notions of sound and music, and explores the ways in which sound can be used to create new aesthetic experiences. The exhibition "Sound: Installation Art" is a great opportunity to explore this fascinating field and to discover new works by leading artists.
"I expected complaints," Schaeffer wrote in his diary a few years after the broadcast. "I do not dread them. Twelve letters of complaint have arrived, of which twenty are friendly and enlightened." Written mainly by fellow composers and film directors, the letters expressed an understanding of Schaeffer's aim of decontextualizing sounds, but some asked for a clarification. By way of reply, Schaeffer sketched out the differences between abstract and concrete music in a special edition of the journal Polyanthos. He explained that abstract music is created in the mind, whereas concrete sound is made up of preexisting sound elements that are composed experimentally, by means of direct montage. The term "experimental music" has been rendered almost meaningless by years of overuse, but Schaeffer's method was truly experimental. Put together in a laboratory-like studio, his pieces are as much practical investigations of sound as they are artistic compositions.

Schaeffer's composer's methods are recalled in Before Me, Richard Garver's piece in Soundings, in which a glass marble, like one of Schaeffer's sonic balls, tinkles gently as it rolls on a turntable. "The first step in Schaeffer's work is to isolate a sound, only to slide back audibly, with its sound amplified, to its starting point on a record player's overturned revolving base," also descended from a concrete poem. Haroon Mirza's carefully composed sculptures, consisting of mechanical and digital objects such as radios and television sets, are nearly as advanced, and only to slide back audibly, with its sound amplified, to its starting point on a record player's overturned revolving base, also descended from a concrete poem. Haroon Mirza's carefully composed sculptures, consisting of mechanical and digital objects such as radios and television sets, are nearly as advanced, and only to slide back audibly, with its sound amplified, to its starting point on a record player's overturned revolving base, also descended from a concrete poem. Haroon Mirza's carefully composed sculptures, consisting of mechanical and digital objects such as radios and television sets, are nearly as advanced, and only to slide back audibly, with its sound amplified, to its starting point on a record player's overturned revolving base, also descended from a concrete poem.
LUKE FOWLER & TOSHIYA TSUNODA

Luke Fowler

As far back as I can remember, I have been interested in music. My neighbor’s father was in a band and encouraged us to play with whatever was at hand. In the early 1980s, my friends and I were excited about hip hop, dub, Dance and Electronic music, as well as heavy metal. We relied upon the WLM Copycat—a tape echo unit—to give depth to our Yamaha keyboards. It stripped back the need for complex, virtuoso playing. Then came PCs, Cyberpunk, and all things MIDI. My first synthesizer had a null user interface and a lifelike sound. In this time of primitive sequencers, you’d spend hours staring at a piano roll, fixing minute velocity changes. Those early MIDI days made sampling possible, but flexibility was compromised, both with each other and our instruments. It was a sterile and clinical means of producing.

In art school, I did a project called The Social Engineer (1999), an installation that used dialogue as material. My mother is a sociologist, and her use of cassette recorders in her research had an effect on my art. I have continued to use the interview as a tool in my research, though I am acutely aware of its problematic use in a mode of documentary representation. You can see this in my film The Way Out (2005), which is a portrait of DIY musician Xerxex Jones. The film centres around the question of whether or not Jones had constructed identities. I can often tell when a film diverges from its subject’s desired depiction and what its form is indebted to personal relations. In the second mode, the portrait is driven with residue or evidence rather than testimony—objects, signs, and interpretations. My films have used both modes.

In the 2000s, I became interested in using contact microphones to record the vibration of very small, otherwise inaudible sounds. In my improvised tape loop duo Liek Music (2008), I worked with the Instrument-maker Sarah Kennington to create a group of bowed metal instruments to use in the studio and on tour. These instruments were inspired by Hugh Davies and Walter Ruttmann’s steel cello. They had a beautiful glacial palate but were compromised by their fragility. I began to phase out the use of tape loops and samplers in favor of using field recordings and found objects as both source and focus of my sound work. In dialogue with collaborators such as Toshiya Tsunoda, Jean-Luc Guirnaut, and Richard Youngs, I have come to the conclusion that the impetus behind a work is a more significant and formative factor for me than considerations like expression, skill, texture, or other such musical values.

I found a quotation from the musician Taku Sugimoto which chimed with my thinking on matters of sound and listening:

'Think that, though there are several kinds of music, we adopt the same way of listening to them all. Led Zeppelin, AMM, Bach, and Romanian folk music are all different. But I think that the reason we appreciate the difference is that we listen to them in the same way. One of the aims of experimental music is to break this convention: it must be done again and again to dislocate this rigid way of listening to music. To make new sound is not experimental unless it opens a new way of listening.'

Taku Sugimoto, Musical Composition (Brisbane: 2006), p.14

1 Taku Sugimoto, Musical Composition (Brisbane: 2006), p.14

Taku Sugimoto, Musical Composition (Brisbane: 2006), p.14

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Toshiya Tsunoda
A perceived environment does not necessarily relate to what is vibrated sonically. In field recording, the "environment" is often determined prior to the act of recording. I find this reality disturbing; preconceptions are difficult to overcome.

For instance, in so-called soundscape field recordings, the sound of the river is usually a prescribed sound; it is as we expect it to be. This type of work, sounds are often used as tools to create a musical whole. It is my intention to create music, rather, for me, field recording is like landscape painting. I see recording as a subjective thing, inseparable from the person making it. Much like landscape painting, where the artist sees a scene from a first-person point of view, documentation is not just a hollow version of reality, but it is in itself a complete, autonomous entity that exists within its own space and time, and with its own role and implications in the world.

For instance, although footsteps are just grooves, physical impressions in the ground, we acknowledge them as independent matter, distinct from the ground in both concept and form. This is because we have the ability to recognize images and traces left by many factors colliding in a given space. To take a more auditory example, the sound of applause does not belong to either the left or the right hand; our concept of applause relies on an actual occurrence or interaction, a material and social object composed of hands, time, space, and, in this case, intention. Thus, I prefer to describe my recordings as a trace of a particular collision, rather than a secondary documentation of reality.

Sound is largely influenced by the shape or conditions of the space in which it vibrates. Like the strange echo one hears by listening close to the opening of a glass bottle. I often use extremely small air microphones, as well as contact microphones, to record vibrations within tight spaces or inside objects. Vibrations that travel through solids behave in unique ways, but they are not altogether different from vibrations that travel through the air. A vibration can travel to the walls of a building that is a few hundred meters away from the source. Such behavior can make us aware of occurrences taking place in spaces otherwise unknown or unavailable to us. In one instance, I recorded the vibration of a wire fence that divides the road from the sidewalk inside a small tunnel. After a car has driven by, its sonic presence lingers in the fence. Many factors lead to the existence and specificity of this vibration: the length and material of the fence, the velocity of the car, the size and structure of the tunnel, the temperature and humidity (i.e., season and weather). Furthermore, the people who dug the tunnel and the architects who designed it also play roles in creating this real-time phenomenon of vibration. All of this remains inaudible unless we place our ears, or recording devices, directly on the fence. I'm interested in making phenomena and landscapes like this one heard.
I've had a long-term interest in noise as music. On one hand, I'm drawn to its purity, and on the other, its ability to contaminate. In various ways, noise permeates many of my projects. In gallery contexts, some of my works relate to noise metaphorically, and others more literally, in terms of the former category, in the series Noise & Capitalism (2010), for instance, I enlarged a collection of twenty-first century incitement/felon pamphlets and then superimposed certain pages on top of others. The result is an illegible morass of text and image. An ideological mess. And in the series Double Infinitives (2009), I've taken print-media images of riots—of those decisive moments when a riot turns into a riot against a backdrop of fire—and enlarged them to heroic, history painting scale using the latest commercial print technologies. Even though the images have been appropriated from a vast array of geographical and historical moments, the series appears remarkably unified. In these works, one of the things I'm interested in is the way noise functions symbolically, or gesturally in this particular case. Double infinitives presents actions of rage, violence, and chaos as tableaux of silence and distilled energy.

A third in the more meta- (theoretical category, THERE IS NO AUTHORITY (2012) re-presents the message of self-determination, "THERE IS NO AUTHORITY BUT YOURSELF," on a huge, wild rug fabricated by one of the world's finest rug makers. It is a scaled-up reproduction of a hand-painted black and white backdrop that Crass (an anarcho-punk band) hung behind their stage. The rug reaches wall-to-wall across a third of the gallery space. The woven slogan faces the back wall, and viewers are thus forced to walk across the work, and then re-orient themselves spatially—by turning 180 degrees—to view the whole plane and discern what the rug spells out. No longer behind the stage, THERE IS NO AUTHORITY becomes focal point and foreground. The rug is not the entire work. Additionally, there is a monitor mounted on the wall, also facing the back of the gallery. It is connected to a camera in the rafters above, which is recording the surface of the rug. The camera sends this feed to the monitor with a short delay, increasing the likelihood that the viewers see their own image. In this way, the audience becomes a part of the work; they become implicit in the text.
There are some works for galleries that have audible noise content, at extreme volume. For example, Aesthetic Pulsus (2009) takes the equipment associated with contemporary spectacle (stage rigging, lighting and speakers—usually there to highlight the performer) and turns it directly on the audience, in an assault of 11,000-plus watts of white light and 105 decibels of white noise. This is an unequivocal, overwhelming action. It assaults the audience—simultaneously crushing them into the corner of the gallery space and making them the spectacular object.
I started working with sound, as a guitar player, at age 16. My technique was very amateurish but I remember having a lot of visceral energy. I made homemade tapes, playing guitar with pedal effects, I would record tracks on different recorders, and then record combinations of these onto a third. In the following years, my skills improved and I played in various bands. Eventually the repetitive repertories left me feeling creatively limited; I was dissatisfied with tonality and the idioms of music. I then decided to become properly trained as a painter. I was exposed to the art history of Western civilization and discovered that fascinating experiments with sound had been happening since the early twentieth century. Everything from Rauschen and the Petrakas to Dada, Fluxus, musique concrète, avant-garde European music, to Cape and the New York scenes. It felt very liberating and gave me license to reinvent myself artistically. I rediscerned sound as a material, and it felt natural to apply methods of plasticity to sound. I started treating it as malleable; it felt like sculpting in time. My work utilizes technologies from past and present. Ultimately, I want to make sure
that the material I choose to work with is sonically interesting, and that it can engage conceptually and subjectively with my broader investigations of technology's function-and-defunctionalization, commodification, culture, and environment. Moreover I am always working to change the identity or meaning of the material, to figure out ways to intervene in the ordinary. Background noise is an important subject in my work. The same can be said about mass and social media, and the cultures of technology and consumption. All of this advances faster than we can perceive and modifies the ways in which we live in the world. Of course, each person has his or her own perception and experience, but I think that collectively we are being bombarded by information and oversaturated by data. And so I try to rework sounds from my immediate environment: my home, my city, and my everyday life. I like to invert the normative function of background noise by drawing it up from subliminal status to active presence.
I'm working with sound in a three-fold practice of performance, publication, and installation. It's always been synthetic sounds that have fascinated me the most. When I was 16, I went to see Kraftwerk at the Zirkus Krone, which is a relatively small venue in Munich. It was an incredible experience, and I immediately wanted to know more. Then a few years later, the next epiphany: early performances by Panasonic at the Elektro in Berlin and the Ultravichall club in Munich. The extreme reduction and avoidance of any musical baggages, like vocals or melodies, as well as the completely non-musical-looking instruments they used, made a huge impact on me.

As far as my relationship to materials and medium goes, my process is deeply connected to subjective experience, and so I'll only suggest two points of departure here. First, the particularities and nuances of the different ways sound can be perceived and communicated—just think of all the extra-aural dimensions that enhance the sonic experience: the packaging of a record or CD, the setting of a performance, the space of an exhibition, the cables and the loudspeakers of an installation. Second, when working with sound as a material or auditory object, there are many essential prerequisites to consider in order to deepen the intensity of a piece: what is it that makes this sound more special or intense than that sound?
I have always perceived sound as a form of authority. I am never in complete control of the sound I make. I was born deaf, so American Sign Language interpreters, televisual subtitles, and conversations on paper, email, and text messages shaped my learning process. These modes filter information, leading to a shift in content and a delay in communication. Reflecting this, I use transducers, delay pedals, piano wires, and microphones when I perform. Additionally, I sometimes incorporate broadcast delay, the media’s practice of delaying live material. The standard delay is seven seconds, and it double or triple it to indicate the speed of my communication.

As I acquired American Sign Language and English, I became aware of my relationship with sound and its social currency. I identified the parameters of each language and how they interrelate with social behavior. In part, my art practice is an attempt to shift my relationship to sound away from society’s structures; that is, rather than seeking approval for making what are generally perceived to be correct sounds, I produce and translate sounds based on my own perception. My desire to legitimate my perceptions drives my interests in linguistic authority, the process of translation, and the deconstruction of preconceived ideas about sound.

Often mistaken for a language of handshapes, ASL is in fact roughly fifty percent manual, while the rest is expressed, intoned, and layered on the face and through the body. I use a piano metaphor to describe this, imagining that each grammatical/syntactical element correlates to a key placement, facial expression, handshape, repetition, and so on. Tink together, these aspects form a word or concept. For my Face Opera project, I distilled facial expressions as notes. A group of people who communicate primarily in ASL took turns conducting from four iPads comprised of linguistic layers that share similar face movements. A conductor would respond to each word with a facial expression, which the choir would then mimic. The audience had the opportunity to experience a non-verbal flow of information, and a non-vocal song.

We all have realities that we live to defend. Mine is voice. In Italo Calvino’s story A King (1986), a paranoid king surveils his kingdom. Through a complex system of tubes, he listens to every sound. One
day, he hears a woman singing and is struck by the song's discrete, vocal absence. He becomes aware of its flow from this individual's body, through a pair of lungs, a throat, and a mouth. Together, these organs pushed air, moved sound waves, and produced the embodiment of the voice, signifying presence and separation. The king, desiring to be heard by her in turn, sang back. But as soon as he vocalized, the entire kingdom heard him, and his crown fell. This story resonated with me and my recent works, which utilize what I call my second voice, or my voice box.

In an early performance, I placed a transducer on my throat, and employed a delay pedal as a means of translation. This could be perceived as a political act in the context of Deaf culture, since society places so much value on vocalization, the Deaf community often (and justifiably) emphasizes the social legitimacy of non-vocal language. Through this performance and other experiences like it, I've granted myself permission to study my own vocalization. ASL can be very external and spatial, and it is nice to feel my voice internally. Only my body can produce sounds fully accessible to me.
My dad inspired me to work with sound. When I was six, he gave me a real-to-real tape recorder and a microphone. After recording my childish voice at high speed, I slowed it down, discovering how it could be transformed into what sounded to me like the voice of a giant monster. Later he gave me a portable tape recorder, which I used to record my friends. I continued from there. I'm particularly interested in the sounds from the insides of things. A few years ago, I went to the desert in Oman to record Singing Sand. One night I lay on my back on the roof, watching the stars in the dark night. I had never before experienced such silence. But then I heard the most beautiful sound. As if it were some distant chant from high, smooth, bright bells to my left. But I was surrounded by large dunes; we were completely alone. I discovered that the sound came from within my own ear. It could have been a faintness that I hadn't heard before, or an inner ear emission. An imagination or a memory. Something with its own sonic life was living inside me.

As soon as I hear, I listen. Perhaps only when I am unconscious do I experience silence.

But when unconscious, I don't listen. And the invisible is not silence either. It is just sound that we don't hear. My general interest is to create works that investigate exactly this—expanding our perception of the immediately inaudible, to go beyond ourselves and the sounds that surround us.

I'm often surprised by how little attention has been paid to sound and acoustics in public places. One of the reasons might be that sound is more abstract, and less manageable than the visual. I can see where you look, but I cannot perceive where you listen. My eyes can secretly listen to something else while I look at you. This makes our hearing very intimate and private. At the same time, we're not in control of our hearing the same way we are of our sight. We cannot close our ears like we can our eyes. Sound enters us from everywhere; it vibrates through our bodily. We're often helpless in preventing sonic experience.
As an undergraduate, I was interested in the physics of sound and made works that were diagrammatic representations of acoustic space. Later, while studying design, I tried to create autonomous or self-governing systems using everyday objects. At some point, I introduced amplifiers and speakers into this repertoire, which produced sound as part of the system. In this case, sound appeared in my work as more of a by-product. My material can range from found, acquired, to offered up by someone else. For me, there is no clear hierarchy. I might place equal value on a piece of wood found in a skip and an artwork that I have purchased. More than any other kind of valuation, I'm interested in what the material can do, diverging from its intended use-value. I'm interested in what I can discover from a material and its inherent possibilities.
It seems we are no longer part of such a strictly ocular or visual culture. The Internet and new media are changing our behavioral patterns, and more emphasis is being placed on acoustic space. It's nowhere near the same kind of attention as is given to visual space, but it seems to be steadily growing.

I would assume that social space is more sonic than visual. Communication is more precise acoustically than just visually. I reckon speaking is better than miming; it is also clearer than texting.
I am interested in how we perceive sound on all levels. For me, sound is a remarkable medium that cleaves together two key elements: time and space. As an artist, I find great freedom in working with these abstract topics, and with the abstraction of nature. Of course, one cannot totally isolate sound from other phenomena — like light and movement — so, modes of connection, the building of bridges between these elements, has become important to me, too. Dealing with sound means dealing with a physical phenomenon that can simultaneously encompass philosophical and emotional metaphors and experience.

One of the first steps for me is to define an idea or area of interest. As I develop a work, I think constantly and very carefully about the medium and materials. Each carries a lot of information; so this choice has immense importance to the final work, its connotations, and interpretation. I have done a lot of research in sound, and the questions that have arisen from this study inform my practice: What is sound and how do we perceive it? Which frequencies are audible? Are frequencies all we can experience, or are there non-audible ways to perceive what is allegedly inaudible?

My own experiments have primarily dealt with very high frequencies. I am especially curious to continue exploring the question of whether or not that which is inaudible might still affect us psychologically, or on some other level. For me, silence is possibly the most important element of sound. I conceive of silence as a space with absolutely no sound. But this, as we know, does not exist. Even if we enter spaces which claim to provide absolute silence, our human presence negates it. Our body produces sound, our body is sound.
I've long had an active relationship with music, but some of my early works that utilized sound as such were motivated by an interest in the physical and psychological relationships between sound and the body. These works played on embedded contradictions: sound you could feel and see, but not hear (Dewdroom, 2000); or sound experiences that could be felt as both pleasurable and disturbing (Notes from the Underground, 2000). This began an exploration not only into the psychoacoustic, but also into sound as a cultural, social, and historical signifier. Much of my current work falls within a research project I call "Cultural Psychoacoustics." I'm investigating the relationship between sonic realities and sociocultural phenomena, particularly through instances of tension, irony, and contradiction.

I am inspired by the histories of listening that are part of our social experiences. In Dewdroom, speakers pump out low, inaudible frequencies. The listening occurs in the physical experience of moving air. For three minutes and thirty-three seconds, the average duration of a pop song, the speakers pulse. They stop briefly, altering the physical experience of the non-sound, and then start again. Listening becomes a negotiation between the body and the environment, with the non-hearing also pointing to the increasing number of dead listening spaces in contemporary society, such as public spaces where classical music blares to keep away vagrants. The music functions as both noise and an acceptable addition to the background. A similar phenomenon occurs in Swing Low, a work that explores the cultural histories of song and the politics of listening. The song referenced in the piece is a slave spiritual that ironically became both England's rugby anthem and one of the most recorded songs around the world. To some degree, the song underwent a type of silencing, in my piece, it is stripped down to two whistled notes that a ceiling mounted speaker, sweeping back and forth across the space like a search light, projects hauntingly through the air.
Engulfing noise can be an active silence, like a flutter so fast it appears still—think of the white noise of a waterfall, or a wide frequency spectrum algorithm (white noise, pink noise, etc.). Each is experienced both as noise and as a type of steady silence. Certainly, they are both silencing.

In much of my work, there is a merging of the formal and the political in ear. We live in environments filled with designed sounds that approach the act of listening in unfamiliar ways. I am interested in opening up what listening can be in terms of the experience of one's body, subjectivity, or place.
At a young age I learned to play the piano. The physicality of this massive instrument was a reminder that sound is intimately connected to action. Later I began working with 1-bit audio, programming microchips to send on and off pulses of electricity to the electromagnet in an audio speaker.

I came to realize that the physicality of this electronic sound was not altogether different from that of classical instruments. When I work with 1-bit information in composed music or visual art, the core component is the microprocessor, which is a basic computer chip stripped of any input and output device. Any interaction with the chip must be explicitly coded and physically wired to it. Unlike the abstraction of computation, microprocessors reveal the physicality of code.

There is something about witnessing the actual creation of sound, the audible vibrations of a bow moving against a violin string, say, that is lost in recording. My first circuit album, 1-bit Music, is partly a response to this. Packaged inside a CD jewel case, it includes a small battery and headphone jack. Each time it’s turned on, the microchip at its center synthesizes my composition—like a live ensemble performing a score.

The music is the album, bypassing any recording process. On my most recent circuit album, 1-bit Symphony, the last track settles into a final chord that plays until the listener switches it off or the battery dies. This open-endedness defies the limitations of a finite audio format, reminding us that recordings are archives of something past.

1-bit waveforms are composed of just two binary values: 1 and 0. Since no other possibilities exist in between, a 1-bit sound jumps back and forth. 1-bit signals can’t be played perfectly through a speaker, because physics can’t accommodate the instantaneous transition from one state to another. So, 1-bit sound can only be a crude approximation of the physically impossible, something that is almost entirely silent except for infintesimal bursts of infinite energy.

Microtonal Wall’s speakers break up the frequency spectrum of sound across a twenty-five-foot space, turning it into a dense continuum of pitch. Each listener’s exploration of that aural space shapes what they hear, from the totality of white noise (from a distance), to the single frequency of each speaker (up close). The piece functions
according to the inverse square law in physics: the volume of a sound drops off over distance from its source. Since the speakers are arrayed across a flat surface, there is no location from which listeners can hear all pitches equally. Listeners will always be closer to some speakers than to others, and those frequencies will sound louder than the rest. I like to think that this opens the scope of the piece to the entire universe, since only from an infinite distance would we be equidistant to each speaker, though in that case they would have zero volume, and we would be very far from home.
I came to sound from a traditional set of sculptural concerns. As my work developed I began to explore the architectural and the psychological aspects of sound. I found that it was the best vehicle for me to deal with the central themes of memory, architecture, and absence. Sound is materially invisible but very visceral and emotive. It can define a space at the same time that it triggers a memory, in terms of cultural memory, a lot of movies, books, and songs have imprinted their way into my works. Films such as John Huston’s The Dead, Nicolas Roeg’s Don’t Look Now, The Innocents, by Jack Clayton, and Robbie Hardy’s The Wicker Man have all inspired works of mine. I like to take a known sound and displace it. For example, a Radiohead song sung unaccompanied might be mistaken for a folk song that you think you know vaguely. When I presented that over the PA system of a Tesco supermarket (Kibber, 1998), people felt unsettled by the intimacy of the voice in such a vicariously public place.

I prefer to think about absences rather than silence. I think the absence of sound is much more active—compelling a listener to fill in the gaps. Physically and metaphorically it creates a space that allows for a multiplicity of projections. When I recorded the Zippp Stardust album a cappella, I kept as true to the original rhythm as possible by humming the instrumental parts in my head and leaving those parts silent. For Surround Me: A Song Cycle for the City of London (2010), I was inspired by the absence of people and traffic during London weekend. Absence can create a silence more unsettling than contemplative. In Study for Strings (2012) I recorded only the cellos and viola parts of a composition for an entire string orchestra. Many members of the Terenin String Orchestra, who performed the piece in the Nazi propaganda film Tassadeltafel, were murdered in Auschwitz immediately after filming was completed. By isolating the cello and viola parts, deconstructing them, and recording them note by note, the piece sounds fragmented and incomplete. There are dissonant pauses suggestive of absent performers.

I present a lot of my works in public spaces, and usually my ideas begin with the places in question. Each of these spaces presents all sorts of challenges and rewards. For example, when I installed Loewowitz (2010) beneath the bridges in Glasgow, the sounds of the trains trundling overhead provided...
an intermittent bass rumble that connected the viewer to the space. In contrast, when I installed Study for Strings in Kassel Hauptbahnhof, people were encouraged to walk to the end of the platform and to experience a real separation from the rest of the sounds at the station. At this remove, the

sound of the work accompanied the view of the tracks and trains, but the distance quieted their sounds.

1 The process went as follows: each musician identified the first note—A, let's say—or his or her part of the score and then placed that note in time to come up across the entire composition, keeping pace but leaving

recorded silence between notes. She then moved to the next note, C-sharp for example, and repeated the process until all the notes on the chromatic scale had been laid down on twelve separate channels. The same process is repeated at the wide-speaking in theory. If the tones should be heard in the right order, which is easy, then the

channels are replaced simultaneously. Study for Strings is presented on eight channels at MoMA.
I trained as a composer and wrote instrumental music into my twenties. At a certain point, my interests moved from typical compositional concerns to questions about hearing and the physicality of sound. I dove into electronic music, researching acoustics, the physiology of the ear, and the ways in which sound can affect the brain. I became interested, via Maryanne Amacher and Bob Bielecki, in psychoacoustics—particularly in phenomena that arise due to combination tones. I noticed that the more I experimented with these things, the more clearly I heard them—simply because I had grown to listen in a certain way. This led me to think about how people learn (or don’t learn) to listen. Jean-Luc Nancy wrote a really interesting book called Listening (2007) in which he considers the difference between listening and hearing. He describes the linguistic implications of each word: to listen is to ‘stretch the
ear,” while to hear is to “understand.” I started making work that dealt not only with the physics and psychophysics of hearing, but also with the ways in which people form listening habits, and the ways in which listening functions in our lives. Certain technologies have obviously affected how people interact with music. We have collectively molded an aural culture in which we can listen to almost anything we want, whenever we want. But the ubiquity of music and the openness of platforms gives an illusion of difference and of freedom. I don’t pointlessly make work about this, but it is of course a part of my thinking. For instance, I am interested in transforming various mundane objects into speakers. Listening to sound through a cardboard box is very different from listening through a chair, which is very different from listening through computer speakers. In these works, I am attempting to expand sonic dimensions by orchestrating flexible listening situations, which draw attention to the materiality and variation of sound as filtered through these objects.

I can hear more in silence. That is, when I am trying to be silent, it brings into focus all the sound I had been subconsciously blocking out. Working with sound installation, you have to deal with the fact that sound travels and permeates space. Rather than try to negate this, I often incorporate the given context into my work. For instance, I recently did an installation in Casa Modernista, a historic house in São Paulo, which is surrounded by a large tropical garden. After making a site visit, I decided I wanted to make an installation that let in the sounds from the outside. The garden’s sounds—woodpeckers, parrots, chainsaws, dogs—were all such a part of being inside that house anyway, so it felt natural to let them seep through the walls and embed the recordings in the furniture. This concept of letting sounds be is not new, but it remains important, especially as sound is increasingly brought into institutional settings, where the notion of a completely neutral, silent space frequently remains the ideal.
Stephen Vitiello, A Bell for Every Flight, 2010
Field photograph for five-channel sound installation with aluminum sound map, Commissioned by Creative Time.
Friends of the High Line and the City of New York Department of Parks and Recreation.

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counter, the turkey sandwich is ready for table four.
I think I’ve been conditioned out of the ability to relax in quiet spaces. For the purposes of field recording, relative quiet is often desirable, but I’ve found that I can no longer sleep without the white noise of my air purifier, or a fan, or the waves outside the residency where I am writing this.
In my work, however, I like to play with subtle or inaudible frequencies. I made a series of pieces some years ago with sounds below the threshold of human hearing. The sounds moved the surfaces of the speakers, suggesting a sonic presence, even though hearing was stifled. Similarly, in A Bell for Every Minute, there is a very quiet track that plays between each bell. Not everyone consciously hears it, but some have said it’s worth listening for. It takes more concentration to listen to quiet, and that can be rewarding.
My interest in sound stemmed from my experience as a foreigner in New York City, constantly confronting the inadequacy and inaccessibility of language. My inability to properly express myself in English frustrated my desire to communicate. This prompted me to be very conscious of any sonic information I could glean. Listening became my primary form of agency versus my daily experience. I was able to speculate freely about the chaos and confusion around me. Since then, listening—as an organizing principle—has been a focal point in my research.

Sound is a tool that allows me to ask questions and conceive of situations that examine and reflect the act of listening. I’m most interested in finding ways to develop these possibilities or situations. It’s important to me that the speculative and organizational process is shared and social. Sound and social space cannot live without each other; it’s a love affair.

It seems to me that the sonic realities of contemporary culture replicate the economics of our contemporary life. I am concerned with the conditions and processes through which sounds are generated. The end product of sound is often regarded as more valuable or relevant than how it is produced. This valorization dictates how listening spaces—private and public alike—are constructed, as well as how we tend to listen within them. For me, navigating the politics of listening is an attempt to better understand the social process that shapes how and to what we listen. Acquiring this understanding is a political process. It helps develop a consciousness that ideally gives us the means to conceive of change.

In November 2017, I went to a Q&A session in Manhattan (though I am not a religious person). I found myself sitting among a group of people, in silence, for half an hour. After that, thoughts and reflections were shared amongst us, one after another. For me, that half hour of silence was one of the most beautiful social interactions.
The sensory impression of sound is very physical. Depending on the materials around you, you can feel it in your bones, or as a sensation in your nostrils, or vibrating under your feet. Despite this physically, the technical data and materials I use do not take up much space or require much storage. I made a decision in 1992 to stop making physical objects and instead to work with immaterial material. Like sound—circuit tools and playback methods as much as possible. (My studio is just thirty-three feet square, or ten square meters). I studied for four years to become a marine biologist before shifting to art. My work now is more like storytelling than scientific investigation.

I am more inclined to ask questions and make suggestions than I am to try to prove something. I make sketches when working with compositions, but these are more like drawings than liner scores. The pieces develop by listening again and again and slowly, slowly collaging things together—more like sculpting than writing.

Silence, understood as no sound, cannot be experienced as long as you are alive, since the body itself is quite a noisy place. I once spent a short time in an anechoic chamber and felt extreme claustrophobia. The sounds did not have anywhere to go; when you spoke, the sound had nothing to reflect off of, no space around it. The realm of inaudibility—areas where living creatures are operating but which are inaccessible to the naked human ear—is very interesting. I am thinking of the frequency range above ours, in the ultrasound range above 20kHz, and the infrasound range below the area we can perceive, less than 20kHz. Many species of bats echolocate in the range around 45kHz up to over 100kHz. In the ambisonic installation Ultrafield for MoMA, I am working with sounds above our hearing capacity, in the range over 20kHz (humans can hear from 20kHz to a maximum of 20kHz), where many mammals, insects, and birds operate. I am pitching these sounds down to a level where we can hear them—slowing down time so that we can comprehend.
Fish, underwater insects, crustaceans, and sea mammals communicate and orient themselves with sound, and the noise pollution we add to the underwater environment is devastating for many of these species. For instance, beluga whales off the coast of Canada are struggling to communicate because shipping traffic is creating a sound wall that their calls cannot penetrate. Consequently, they cannot find mates, and their habitats dwindle. Like all of the rubbish that is thrown into the sea (out of sight, out of mind), so with noise (out of earshot).