We do not listen through our ears alone. Bass can penetrate our abdomen and pulse into our legs; thunder forces our bodies to recoil; uncanny noises arrest our breathing; tinnitus produces cacophony inside our skulls; even the silent scream of Edvard Munch makes us shudder. At the same time the ear is a funnel through which the logic of a narrative or an order takes hold of us. The sounds we hear unavoidably focus our attention on their source. Philosophers and theologians speak of an inner ear that hears the voice of God, the heart, or the conscience. Even if we turn a deaf ear to the world, we can never shut ourselves off from the babble of consciousness's stream.

How is hearing organized between shrill and soothing tones? What turns an acoustic signal into a message and a phonetic sequence into language? How does hearing guide us through the everyday? How does music carry us, noise irritate us, a scream affect us? And what do we hear when we hear silence?

Cover design: Design+Information Margret Schmitt, Berlin

Participants and Talks

Aleida Assmann, Konstanz

The Double Wall of Silence

Dan Bar On's dictum concerning "the double wall of silence" will be my starting point for an inquiry into the interaction of psychological, social and political silences. The main focus of my paper will be on the theme of silence in the discourse of African-American writers in the second half of the 20th century. This discourse addresses the claims of black historical memory in a white culture of amnesia.

Aleida Assmann studied English and Egyptology at the universities of Heidelberg and Tübingen and obtained her PhD in both disciplines in 1977. In 1993, Assmann became a professor of English and general literature studies at the University of Konstanz. She has travelled abroad frequently for guest professorships, for example at Rice University, Princeton, Yale, and the University of Chicago in the United States, and the University of Vienna in Austria.

Assmann has published hundreds of essays, books, and collections of articles on English literature, cultural memory, and remembrance. She is a member of the Academies of Science in Berlin-Brandenburg, Göttingen, and Austria, and has received an honorary doctorate from the Faculty of Theology at the University of Oslo in 2008. In 2009, the Alexander von Humboldt-Foundation and the Max Planck Society presented Assmann

with a Max Planck Research Award. In 2011, she received the Ernst Robert Curtius Prize for essay writing from the Universitätsgesellschaft Bonn**.** She is a member of the Einstein Forum's Advisory Board.

Hans-Joachim Braun, Hamburg

On Footbonauts, Sound Soccer, and Battle Songs:
Sound Studies and Football

The lecture looks at the relationship between body and sound using the example of soccer. It begins with the "footbonaut," a training device developed by the musicologist Christian Güttler to improve players' reaction times and ball-handling skills. "Sound soccer" works on a similar principle: an acoustic rhythmic system created by sports scientists, psychologists, musicians, and engineers for synchronizing and sharpening movement. Finally I consider the cheers of fans at home matches. Do battle songs really boost team performance, serving as a veritable twelfth man?

Hans-Joachim Braun is a professor emeritus of modern social, economic, and technological history at the Helmut Schmidt University in Hamburg, and also teaches at TU Hamburg-Harburg and the HafenCity University Hamburg. His research has focused on technology transfer, innovation failures, soccer strategy, and the relationship between technology and music in the 20th century. He is editor or editorial board member of six journals, a member of the Académie internationale d'histoire des sciences, and a fellow of the Royal Society of Arts. He chairs the advisory

board of the Georg Agricola Gesellschaft as well as the Hans Schimank-Gedächtnis-Stiftung. Between 1993 and 2009 he served as the president of the International Committee for the History of Technology. In his spare time, Braun plays jazz and classical trumpet.

Flute player accompanies pentathletes as they train in a gymnasium, ancient Greek vase motif

Lydia Denworth, New York

A Hearing Parent and a Deaf Child: One Mother's View of the Science, the Emotion, and the Choices

My youngest son, Alex, was the first deaf child I had ever known. In that, I was not unusual. More than 90% of deaf and hard of hearing children are born to hearing parents. In understanding the choices I faced—starting with the angry debate between supporters of American Sign Language and the controversial but revolutionary cochlear implant—I found that every decision carried scientific, social, and even political implications. Some argued it was unethical to give a child a cochlear implant; others believed it was unethical not to. Helping Alex meant grappling with complex collisions between emerging knowledge about brain plasticity, the possibilities of modern technology, and the changing culture of the Deaf community. I was not just shaping my son's brain development, but also his future identity. My interviews with experts on language development, inventors of groundbreaking technology, Deaf leaders, and neuroscientists gave me a new appreciation of the exquisite relationship between sound, language, and learning.

Lydia Denworth is a New York-based science journalist and the author of *I Can Hear You Whisper: An Intimate Journey through the Science of Sound and Language*. She writes the Brain Waves blog for *Psychology Today* and is a contributor to *Scientific American Mind.* Her work has also appeared in *The Wall Street Journal*, *The New York Times*, *Time.com*, *Newsweek*, and many other publications.

Barbara Flückiger, Zurich, and Michael Wedel, Potsdam

Gespräch über Technik und Ästhetik des Filmsounddesigns

Since the 1970s sound design has been a crucial part of cinematic esthetics. We discuss the sensory richness provided by sound in film experience, given the secondary role played by hearing in our visually dominated culture. We consider examples illustrating a variety of creative strategies, with a focus on the interaction between technology and esthetics.

Barbara Flückiger worked as a sound engineer in the film industry before entering academia. In 1995 she finished a degree program in German literature, film studies, and communication science at the University of Zurich, and in 2001 she completed a PhD. She has taught at various universities and film schools in Germany and Switzerland. In 2007 she began to work as a visiting professor in film studies at the University of Zurich; in January 2014 she was made full professor. She has devoted much study to the interaction of technology and esthetics, particularly in the digital domain. She spent the fall of 2011 and the summer of 2012 at Harvard University investigating the history of color film. From her research, she developed the digital project Timeline of Historical Film Colors (http://zauberklang.ch/filmcolors/). Since 2013 she has led DIASTOR, a collaborative project that aims to support the analog film industry in the face of today's digital dominance (http://www.diastor.ch).

Michael Wedel studied German literature, history, and philosophy at the Free University of Berlin and film and television science at the University of Amsterdam. After completing a dissertation on the history of musical

film in Germany, he was an assistant professor of the history and theory of media and culture at the University of Amsterdam. In 2009 he was made Professor of Media History in the Digital Age at the Film University Babelsberg. From 2011 to 2014 he was the research director of the Filmmuseum Potsdam. His publications include *Der deutsche Musikfilm: Archäologie eines Genres 1914–1945* (2007), *Filmgeschichte als Krisengeschichte: Schnitte und Spuren durch den deutschen Film* (2011), *Kollision im Kino: Mime Misu und der Untergang der "Titanic"* (2012), and *Körper, Tod und Technik: Metamorphosen des Kriegsfilms* (with Thomas Elsaesser; 2015).

Edvard Munch: *The Scream*

Tom Fritz, Leipzig

Unlocking the Therapeutic Power of Music

Music in autochthonous societies often plays a role in evoking ecstatic experience and trance. This is often achieved through a combination of intense exertion and musical expression such as dance and music-making. My research group has recreated this experience for experimental examination, combining exhausting gym workouts and music jams ("jymmin"). Our findings show that this is a highly effective method for evoking the experience of euphoria, one with a variety of therapeutic applications.

Tom Fritz leads the research group Music Evoked Brain Plasticity at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig. After receiving a degree in neuropsychology from the Max Planck Institute, he worked briefly at the Harvard Medical School on the neuroscience of music. Returning to Germany, Fritz started to study fine arts at the Academy of Arts, Berlin, while pursuing a PhD in music and emotion at the Max Planck Institute for Human Cognitive and Brain Sciences. In addition to music and brain plasticity, Fritz investigates the universals and cultural specifics of music perception and the application of music therapy in clinical environments.

Sieglinde Geisel, Berlin

Lärm entsteht im Kopf

Lärm, or noise, always consists of two components—a sound, and a conscious mind that apprehends it. Seneca knew this, which is why he, a Stoic, believed that noise need not rob him of his inner peace. In this, he could not have been more different from Schopenhauer, who thought that sensitivity to noise bespoke special mental powers, and developed a model for cultivating it. What makes a person perceive a particular sound as noise? What is crucial is not only the state of mind of the person who hears noise, but also, surprisingly, the social status of the one causing it. Another important factor is whether the sound in question can be avoided or, if need be, escaped.

Sieglinde Geisel is a journalist who works primarily for *Neue Zürcher Zeitung* and *Deutschlandradio*. Her writing has also appeared in *Die Zeit*, *Lettre International*, and *Sinn und Form*. In 2010 Galiani Berlin published her book *Nur im Weltall ist es wirklich still. Vom Lärm und der Sehnsucht nach Stille*, on noise and our yearning for quiet. In addition to writing, Geisel works as a freelance editor and teaches literary criticism at the Free University of Berlin.

Device for locating enemy airplanes, circa 1935

PROGRAM

Thursday, Jan. 29

6:00 pm, Einstein Forum
Greeting

6:15 pm
Hillel Schwartz
Whistling for the Hell of It

8:00 pm, Foyer Nikolaisaal Potsdam, Wilhem-Staab-Str. 11
Hören Sie das?!
Concert with the KAPmodern Ensemble, Potsdam

Children believe that they can hear the sea in a shell. Adults know better, but they are not quite ready to give up the belief. John Cage's *Inlets* revives this seemingly lost magic, eliciting unexpected sounds from the interiors of large conches. In addition to seashells, this concert features thunder sheets and megaphones, which challenge the sounds typically associated with classical music. In this eclectic lineup, *Moto perpetuo* for solo timpani would seem almost pedestrian—were it not written by a composer as exceptional as Elliott Carter.

Concert Program:
Simon Steen-Andersen (*1976): *On and Off and To and Fro*
Abel Paúl (*1984): *Wrong Answers to Robert B's Wrong Questions*
John Cage (1912–1992): *Inlets*
Steve Reich (*1936): *Clapping Music*
Kaija Saariaho (*1952): *Couleurs du vent*
Elliott Carter (1908–2012): *Moto perpetuo*
Steve Reich (*1936): *Clapping Music*

Performers:
Bettina Lange: flute, megaphone 1
Theo Nabicht: saxophone
Christoph Hampe: megaphone 2
Friedemann Werzlau: timpani, thunder sheet, vibraphone
Tobias Lampelzammer: double bass
Susanne Zapf: conductor
Robert Niemeyer: video, megaphone

Friday, Jan. 30

10:00 am
Thomas Görne
Vom Schall zum Klang

11:15 am
Tom Fritz
Unlocking the Therapeutic Power of Music

12:30 pm
Morag J. Grant
Listening to Torture

3:00 pm
Sieglinde Geisel
Lärm entsteht im Kopf

4:15 pm
Aleida Assmann
The Double Wall of Silence

5:30 pm
Helmut Kopetzky
Hören ist Erinnern. Über die Ambivalenz des Sound

Saturday, Jan. 31

10:00 am
Hans-Joachim Braun
On Footbonauts, Sound Soccer, and Battle Songs: Sound Studies and Football

11:15 am
Georg Spehr
Auditives Design: Auf dem Weg zu einer erweiterten Klang-Gestaltung

12:30 pm
Julia Kursell
Measured Musical Talent. Experiments with the Phonograph and the Wire Recorder

3:00 pm
Barbara Flückiger and Michael Wedel
Technik und Ästhetik des Filmsounddesigns

4:15 pm
Lydia Denworth
A Hearing Parent and a Deaf Child: One Mother's View of the Science, the Emotion, and the Choices

5:30 pm
Hein Schoer
The Sounding Museum: An Auditory Journey to the Kwakwaka'wakw of Alert Bay

Thomas Görne, Hamburg

Vom Schall zum Klang

Questions such as “What is pitch?” or “What do we perceive as harmonious?” are deceptively simple. Do timpani have a tone? How do we hear space? Some of what we hear can be explained by the physical properties of acoustic signals, others by the physiology of the acoustic organ, still others by cognitive processes. We are still far from really understanding how hearing works.
This talk aims to build a bridge between the physical world and perception. It will address topics such as pitch and tone color, cross-model metaphors, primary and secondary noise, space perception, the objectivity of sound, and acoustic illusion.

Thomas Görne is a professor of audio design and audio systems and the director of the Sound Lab at the Hamburg University of Applied Sciences. He has a degree in electrical engineering and acoustics from the TU Berlin and has worked as a sound engineer in the film and music industries. He is the author of *Mikrofone in Theorie und Praxis* (1994), *Tontechnik* (2006), and *Sounddesign* (forthcoming).

Morag J. Grant, Bonn

Listening to Torture

That what we hear, and cannot hear—whether this be absolute silence, or speech, or music, or noise—can be used against us as a method of torture and ill-treatment, has been known for a long time, though most public knowledge of this topic dates to revelations regarding torture techniques used by US security forces in the "war on terror." No later than the 1970s, many statements from survivors of torture document the systematic use of noise and music as effective tools of psychological but also physical torture. The historical roots of these connections lie much further back still, however, even though they have only very recently become a subject of research.

In this talk I focus on the role of music during torture, and will do so under three general headings: Forced listening, on the history and impacts of some methods of acoustic and particularly musical torture; Only listening, where I argue that exposing people to sounding music is only one of many methods of music torture; and Not listening, on why even today and in spite of all we have learned, musical forms of torture are very rarely taken seriously.

Morag Josephine Grant was born in Lanarkshire, Scotland, and studied music and musicology at the University of Glasgow, at King's College London, and at the Humboldt University of Berlin. Her research focuses on the sociology and historical anthropology of music, group song and singing, the theory and esthetics of new and experimental music, music and violence, music and human rights, and music in Scotland. She re-

ceived her PhD from King's College London in 1999, for a dissertation later published in revised form by Cambridge University Press as *Serial Music, Serial Aesthetics: Compositional Theory in Post-war Europe* (2001). Her second monograph, *Auld Lang Syne: A Song and Its Culture* is currently under review. In 2014 she completed a six-year term as a junior professor of musicology at the University of Göttingen, where she founded and led the research group "Music, Conflict, and the State". The group's work focused on the use of music to promote, prolong, and facilitate violent responses to conflict. Publications stemming from the group's work include *The Soundtrack of Conflict: The Role of Music in Radio Broadcasting in Wartime and in Conflict Situations*, ed. by M. J. Grant & Férdia J. Stone-Davis (2013), and special issues of *the world of music (new series)* and *Torture: Journal on Rehabilitation of Torture Victims and Prevention of Torture*, both guest-edited by M. J. Grant and Anna Papaeti. From November 2014 to September 2015, Grant is a fellow of the Käte Hamburger Centre for Advanced Study "Law as Culture" at the University of Bonn. She is currently working on a third monograph with the working title *The Social Musicology of War*.

Helmut Kopetzky, Fulda

Hören ist Erinnern: Über die Ambivalenz des Sound

This talk presents some notes and observations from a radio professional. I consider the ambivalence of sound; examine how, through hearing, we recall and compare; discuss how acoustic reality is reconstructed in the studio; and parse differences in how we perceive optical and acoustic media. I conclude with some thoughts on writing with sounds.

Helmut Kopetzky has worked for radio since the 1970s, producing over 100 features and series. He has written television shows for children and adolescents, and he has created many programs for the ZDF series *Das kleine Fernsehspiel.* He also worked for four and a half years in the features department of Sender Freies Berlin. He is the author of *Objektive Lügen—Subjektive Wahrheiten / Radio in der Ersten Person* (2013).

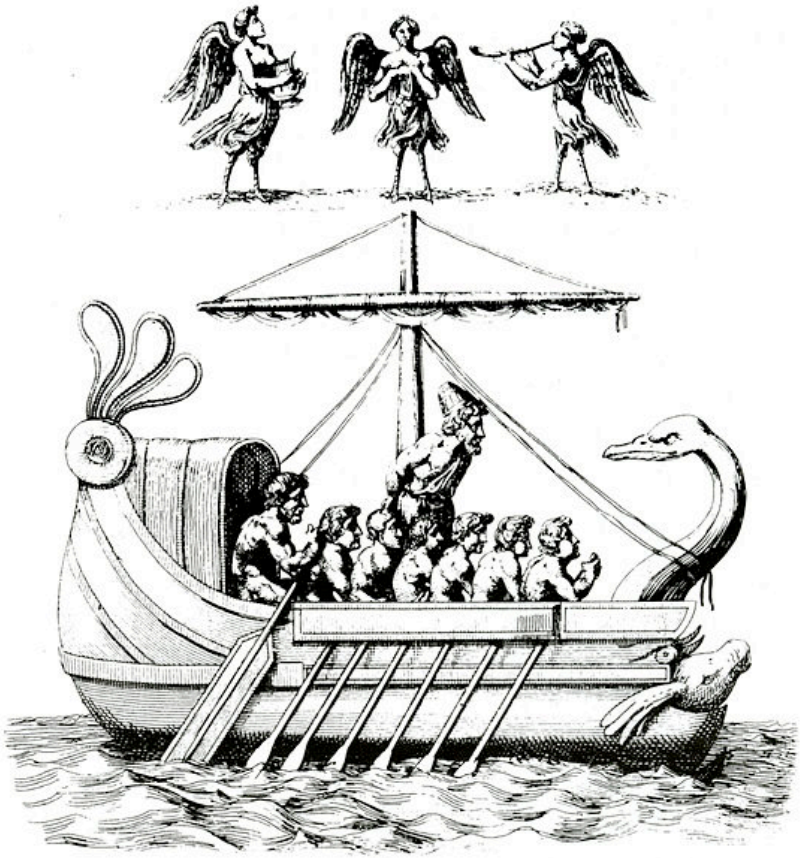
Julia Kursell, Berlin

Measured Musical Talent: Experiments with the Phonograph and the Wire Recorder

My presentation discusses how recording technologies have opened new perspectives on musical talent. More specifically, it will address two recording devices: the phonograph and the wire recorder. Between 1900 and 1920, Berlin-based psychologist Otto Abraham recorded singing individuals on wax cylinders and discovered that subjectively correct interpretations of the pitches in the same melody vary greatly among individuals. Using a specific manipulation of wire recording, Nikolai Garbuzov from the State Institute for Musical Science in Moscow later specified that for each note a zone of correct interpretations could be identified, even for individuals who have absolute pitch. I will trace these differences between "felt" and "measured" musicality (*Musikalität*, *muzykal'nost'*) and relate them to the technology in use.

Julia Kursell is a professor of musicology at the University of Amsterdam. Before coming to Amsterdam, she worked at Bauhaus University,

Weimar, and as a research fellow at the Max Planck Institute for the History of Science, Berlin. Her research interests include the history of the physiology and psychology of hearing, as well as the relation between music, media, and technology in Western composition after 1945. She has published widely in these areas in journals such as *Configurations*, *Grey Room*, and *OASE*. Most recently, the volume *Music, Sound, and the Laboratory*, co-edited with A. E. Hui and M. W. Jackson, appeared with the University of Chicago Press.



Johann Heinrich Wilhelm Tischbein: *Odysseus listens to the Sirens* (ca. 1805; Oldenburger Landesmuseum für Kunst- und Kulturgeschichte)

Hein Schoer, Wiesbaden

The Sounding Museum: An Auditory Journey to the Kwakwaka'wakw of Alert Bay

The Sounding Museum is an atmospheric introduction to the world of the Kwakwaka'wakw of British Columbia. Created from field recordings made on location and in collaboration with its protagonists, it represents an example of auditory anthropology that bridges sonic realms, providing dialogical access to foreign systems of thought and perception.

Hein Schoer is a musician and soundscape artist with a background in audio engineering and the recording arts. *The Sounding Museum* grew out of a PhD at the University of Maastricht. His research focuses on applied auditory anthropology and immaterial cultural heritage, aural education for professional schools, sound and identity, soundscape composition, intercultural communication, and the design of environments conducive for learning.


KEEP
CALM
AND
STOP
WHISTLING

Hillel Schwartz, San Diego

Whistling for the Hell of It

In the mature disciplines of physics and philosophy, as also now in the younger fields of biology and sociology, no phenomenon is deemed so slight as to be unworthy of investigation. What if we took sound studies as seriously as experimental musicians take every sort of sound? Is sound studies now mature enough to consider any sound, however slight, equally worthy of attention? Indeed, what would be the consequences of investigating a sound that is intently and agreeably meaningless?

Hillel Schwartz is an independent scholar with a PhD from Yale University. As co-founder of Sage Case Management (San Diego), he helps those confronted with urgent, complex medical issues. Also a poet, he has collaborated in translations of five books by the eminent Korean poets Ko Un and Kim Nam-jo. His own scholarly work includes *The Culture of the Copy: Striking Likenesses, Unreasonable Facsimiles* (1996) and *Making Noise: From Babel to the Big Bang and Beyond* (2011). His current research examines how notions of "emergency" have changed since the late 18th century. In the fall of 2014 he was the Holtzbrinck Fellow at the American Academy in Berlin.

Georg Spehr, Berlin

Auditives Design: Auf dem Weg zu einer erweiterten Klang-Gestaltung

In all areas of everyday life we encounter sounds that are deliberately designed—to supply us with information, to grab our attention, to give us orientation, to convey esthetic and emotional qualities, to provide narrative and spatial depth. But we have yet to exhaust sound's potential as a factor in design.

In this talk I will consider a comprehensive approach I call auditory design. It is not merely about the design of sound environments. It is the acoustic orchestration of space, time, and objects, and the elaboration of rules for how sound is presented to listeners and how listeners can influence sound. Auditory design has many design applications for products, interactive services, media, interior design, exhibits, architecture, brand communication, and data evaluation.

Georg Spehr is a freelance sound director and sound designer. He has worked as a studio technician in the sound industry and has created design for cross-media and Internet platforms. He is an instructor in the sound studies program at the Berlin University of the Arts and has also taught design at the Potsdam University of Applied Sciences. He is editor of *Funktionale Klänge: Hörbare Daten, klingende Geräte und gestaltete Hörerfahrungen* (2009) and the book series *Sound Studies*.

Michael Wedel, Potsdam

see Barbara Flückiger

In the sound studio

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