An aerial photograph of a dry, cracked landscape. The ground is light brown and covered in a network of dark, irregular cracks. In the foreground, there is a large, dark, irregularly shaped object, possibly a piece of debris or a shadow. The overall scene is desolate and arid.

Field Notes

Third Issue ♦ **Traces**

In Memoriam
Tom Lawrence

*dedicated
to his family*

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Tom Lawrence

THE WATER BEETLES
OF POLLARDSTOWN FEN



Source: tom-lawrence.net (2011)

Dr. Tom Lawrence (1966–2011) was a composer, radio artist and acoustic ecologist. He lectured at Dublin City University. He is published by Gruenrekorder, Touch Music [MCPS] and EarthEar.

“All of the sound we hear is only a fraction of all the vibrating going on in our universe.” – David Dunn

It was no accident that the poet Gerard Manley Hopkins spent many occasions during 1887 walking through the bogs of Kildare, Ireland. Describing the surface as *“soft under foot,”* he must have been aware of the 12 meters of perfectly preserved chronological pollen records that lie beneath his feet. Indeed perhaps it was the effects of that same pollen he was referring too when he wrote *“I should have felt better for the delicious bog air.”*

Pollardstown, the Curragh, County Kildare (Irish grid reference: N 765 160^[1]) is a calcium-rich spring-fed post-glacial valley fen and one of the last few remaining fens of its type in Western Europe. Preserved by the constant flow of water from over 40 springs, the Fen has a unique ecology of rare species; flora and fauna, that are based around an alkaline marsh. A petri-dish of distinguishable habitats, its lake, drains, marshes, swamps and wetlands provide breeding grounds for a multitude of water and

1 Respectively: 53° 18' Latitude, -6° 85' Longitude.

air-breathing creatures, from invertebrates and amphibians, to winter fowl and mammals.



Pollardstown Fen (Source: Google Earth/Maps)



Pollardstown Fen – East to Seven Springs; Daybreak (21 October 2010; 8:21 am)

For any poet, artist, photographer or indeed sound enthusiast, Pollardstown Fen has that rare ability to effortlessly transport you back 10,000 years in time. Like traveling in a time capsule, through a window into pre-history, we gaze at an ancient landscape, frozen in time and plumbed directly into the earth's core. 550 acres of sights and sounds that fill the senses with the triumphant cacophony of natural selection. Each

year from spring to winter the great inhalation and exhalation of nature envelops the fen, the dominance of each species rising and falling in a tidal wave of acoustic communication, momentarily acknowledged then disappearing, only to be reborn again in the following spring. A natural acoustic order that is shattered only by the uninvited dissonance of man made sounds permeating from the surrounding towns and countryside. Sounds of explosions, racing cars, motorways and aircraft, fast trains and chainsaws, gunshots, combines, cappuccino cups and butterfly nets. A prolonged intrusive ambient pollution that interrupts the Hopkinsian inspired inner-sanctuary, and acts as a stark reminder of the fen's troubled recent history.

On the fen it's easy to forget Ireland's current economic woes, here the only reference to billions is found in the almost limitless blankets of sun-kissed frog spawn or in the multitude of caddisfly larvae. Rare black slugs and corixids appear in their droves, while a multitude of dragonfly and pond skaters dance to the rhythms of great diving beetles. However, in more recent times Pollardstown Fen has provided more than a fair-share of extractable bounty. Waves of human incursions into the fen have resulted in dredging, burning, cutting,



Pollardstown Fen – The Point of Gibraltar; Daybreak (10 October 2010; 8:15 am)

reafforestation, toxic dumping, deep culvert conversion and agricultural mismanagement. A testament to an era of supposed progress, intensive farming, industrialization and common agricultural directives.

In the 1790s the Dublin Grand Canal Company – in an effort to provide a regular water supply for three local mills in the area – cut two deep drains into



North to the Hill of Allen; Sunset (28th April 2011; 9:03 pm)

Pollardstown Fen which converge at the Point of Gibraltar. These two drains (North and East) supply the Canal Feeder which runs through Milltown, and becomes the true source of the Grand Canal in Dublin (and was once the main water supply for the Guinness Brewery). During the great emergency of 1939–1945 turf cut on the North-Eastern area of the fen was transported by barge into Phoenix Park, Dublin where it

served to heat the homes of the city. During 1964 a huge drainage culvert was built under the fen in an attempt to drain the area for agriculture. Annually, the flora was burnt and the drains dredged of their deposits. A disastrous reforestation scheme which was concentrated in the North-Eastern area was attempted in 1967 but abandoned due to the close proximity to the surface of a layer of marl. Toxic chemical waste was dumped in the South-East, while a railway line was cut through the south. Despite constant lobbying by the friends of Pollardstown Fen, a motorway was built in close proximity. Suffice to say the fen is now less than one-quarter of its former size. The once strategically important Hill of Allen to the North (*Cnoc Alúine*), with its towering monument built by Lord Aylmer looks sadly down; the once great seat of Fionn mac Cumhaill and the Fianna now decimated by years of limestone quarrying.

Since 1986 the Irish state has been buying up areas of the fen in an attempt to salvage what little remains. The culvert was blocked and the lake re-flooded. The balance of nature while severely diminished has slowly been allowed to recover. Fortunately, Pollardstown is now recognised by the EU and is designated as a Statutory Nature Reserve, Natural Heritage Area, Special Area of

Conservation, Ramsar Site and Biogenetic Reserve. But while the threat to the very existence of Pollardstown Fen has momentarily paused a new potentially far more severe predator stands poised on the economic horizon ready to pounce: the eco-tourist. Armed with their cappuccino in one hand and butterfly net in the other they pay little attention to the antics of their pit-bull terrier as it bounds freely through the grasslands, joyfully salivating at the thoughts of young snipe or teal. At least the poachers who flush game from the fen keep their dogs under more control! Indeed plans are currently underway to create long pathways into the fen with little or no thought for the precious fauna and recovering ecosystems that will be again disturbed. Areas of last remaining intact fen will soon be opened-up via walkways and major developments to Irish waterways will result in far more traffic deep into the fen.

From August of 2010, I set out to capture a moment in time, a phonographic reference based on the concept of “A Year on the Fen.” An attempt through sound to document, frame and archive the flora and fauna of Pollardstown Fen. The resulting recordings would be used in a series of broadcasts, CD releases and installations. Summer, Autumn, Winter and Spring; the twelve-

month bio-acoustic lifecycle. Both sonic and infrasonic; that within our range of hearing and beyond; the macro and the micro; bog-pulses, calcium springs, subterranean movement, photosynthesis and underwater-life, the real and the surreal, the savage and the profound. During late summer and autumn my concern was with underwater sounds from the lake, drains, marshes and swamps of the Fen. This is the focus of the remainder of this article which details the recordings of the bugs and water beetles of Pollardstown Fen.^[2] The equipment used included a hydrophone Type 8101, Brüel & Kjær, Sound Devices 702, Nagra Ares M, and an SQN 111a mixer. Additional recordings were made using the Aquarian H2a-XLR hydrophone and a DolphinEar Professional Hydrophone. Phonographic recordings of the underwater environments were captured between August and late October 2010, at a varying depth of between 40 cm and 1.5 cm. Air temperature during the period ranged between 16° and 27° Celsius. Generally samples were recorded in 8–24 hours blocks resulting in hundreds of hours of recorded material which were broken down into pulse trains and analyzed using spectrograms (please see diagrams *fig. 1* and *fig. 2* below).

2 CD *The Water Beetles of Pollardstown Fen* (Gruen 087; 2011).

What I experienced in these recordings was a hitherto unheard aural environment that breaks with all our pre-conceived notions of what underwater life should sound like. All our traditional conceptions and inherent cultural conditioning, overwritten, deemed void and deleted. Sonically, underwater life presents a world of alarming sophisticated communication; a myriad of signal generation, perpetuated by a plethora of intelligent species. While every attempt at comparative analysis, spectral analysis and species identification from the known

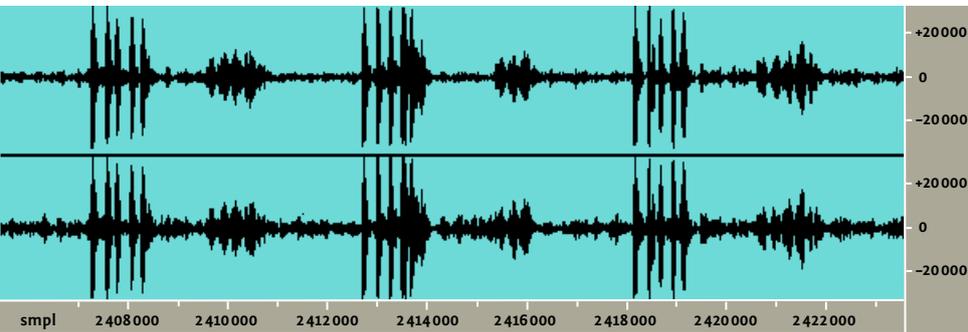


Fig. 1: Pulses in Stridulation (Waterboatman)

literature have been made, a certain interpretive license has been used in suggesting the meaning of the sounds recorded. Without doubt, further detailed investigations are necessary to be convinced with scientific certainty

the meaning and context of each communication. Another consideration is that no mechanical devices were operating on the Fen during the period that these recordings were made. The recordings are not contaminated by any electrical interference. Other than an occasional overhead aircraft, no other sounds from above the water are present in the recordings.

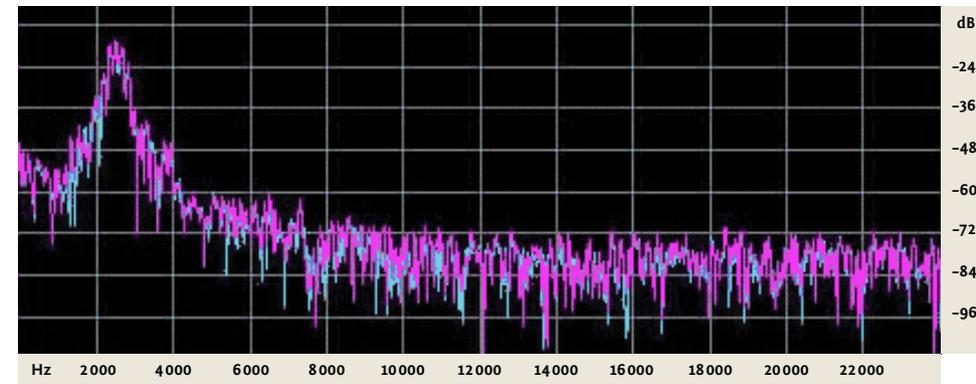


Fig. 2: Pulse Train of a Single Stridulation (Waterboatman)

According to extant research, amongst the plethora of stridulating invertebrates that exist in the aquatic ecosystems of Pollardstown Fen, are the following water beetles and water bugs: Water Scorpion (*Nepa cinerea*), Greater Waterboatman (*Notonecta spp.*), Lesser Waterboatman (*Corixa spp.*, *Sigara spp.*, *Hesperocorixa spp.*, *Cal-*



Waterscaterer at Dusk

licorixa spp.), Water Beetle (*Acilius sulcatus*), Great Diving Beetle (*Dytiscus marginalis*), Whirligig Beetle (*Gyrinus substriatus*). Each of these water insects are known to produce sound through a process called *stridulation*.

Stridulation occurs in insects when one part of the body – usually sharp-edged – is grated against another part of the body – usually file-like. The number of teeth in the file and speed of the strokes determines the song type and pitch (*fig. 3*). Sound production in water bugs and

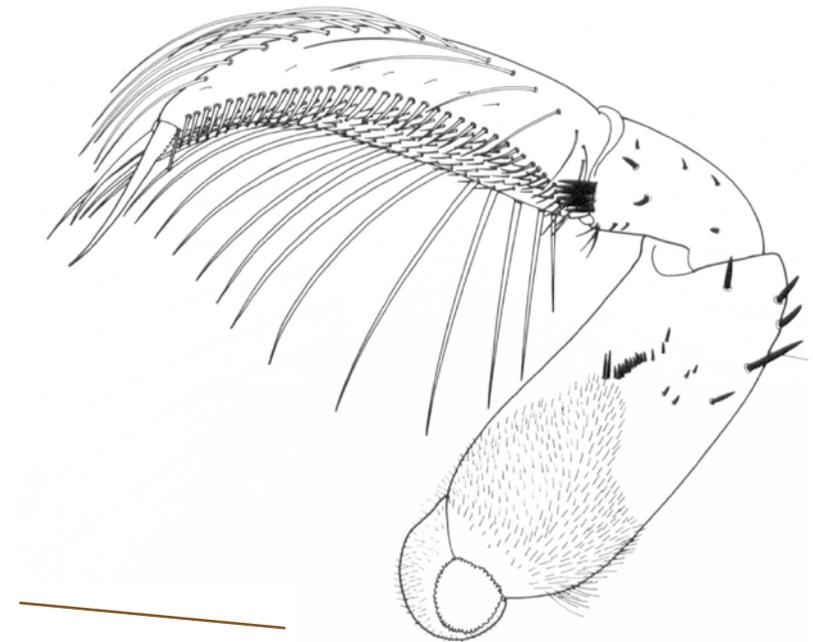


Fig. 3: *Corixidae* Foreleg (bar equals 1mm)

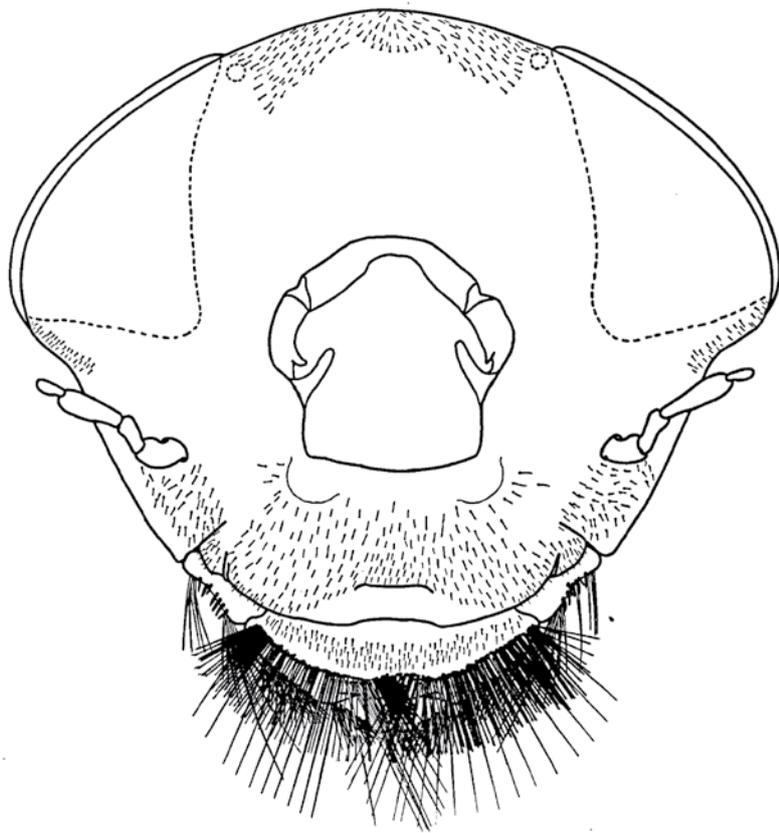


Fig. 4: *Corixidae* Head

beetles is the result of the rubbing of the pars stridens or stridulatory pegs over a plectrum on the side of the head (fig. 4). Each pass of the pars stridens over the plectrum causes a pulse which can increase in intensity.



Corixid (Waterboatman)

Insects can use up to three additional pegs to scrape over the plectrum causing the sound and pulse of each train to vary in pitch, intensity, and rhythm.

However, sound production can also be created in water beetles by rubbing a variety of body parts together including the head, elytra, etc. While the mechanisms of insect stridulation have been investigated, in general, very little is known about the communications of water beetles and bugs, their cause and consequences

and entomologists unanimously agree that it remains a greatly under-investigated area of the literature.

In the literature that does occur on the subject it is generally understood that sound emissions and radiation by stridulating water beetles and water bugs serves primarily to attract a mate however, research has also uncovered that it can also be used as a tool of antagonistic communication; during cleaning; swimming; ventilatory motions; feeding and to create sympathetic vibrations in other insects sensitive to the same frequencies. In fact so sophisticated is the language of water beetles and bugs that it can be possibly compared to the acoustic communication of bees. For example, listening organs are thought to exist which are frequency specific so that species such that insects such as *Corixa punctata* are sensitive to other insects stridulating within the 2 kHz range (*fig. 1 & fig. 2*).

Oxygen has shown to be extremely important in the sound production of water beetles and bugs. The process of stridulation interacts with the oxygen stored in the bodies of insects. These air bubbles act as natural oscillators creating frequencies that are proportional to their diameter. Therefore, as stridulation occurs, sine-

waves are radiated that vary according to the diameter of the air bubble. As the oxygen supply is depleted through stridulation the oscillations change and thus songs are produced. According to Joachim Theiss et al., a stridulatory emission created by one insect will induce resonant oscillations in the oxygen bubbles that exist in similar nearby species. Also during mating the oxygen supplies of both creatures becomes combined so that the stridulating male's song will cause a sympathetic resonance in its partner. Insects can easily change the focus and intensity of the stridulation to create scalic patterns representative of arpeggiated oscillations. As these stridulations slow down (sometimes over a period of eight hours) the intensity of the oscillations too become lower causing the interval range to drop in pitch. It is this radiation of sound oscillation that the hydrophone is particularly good at receiving.

TL

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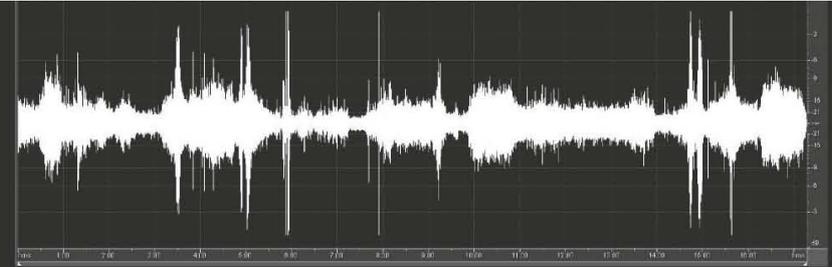
Picture Credits

- Waterskater* (p. 10) & *Corixid Waterboatman* (p. 11) with kind permission of Darren Smith.
- Corixidae Foreleg* (p. 10) & *Corixidae Head* (p. 11) with kind permission of Nicholas Martin.
- North to the Hill of Allen* (p. 7), *The Point of Gibraltar* (p. 6) & *East to Seven Springs* (p. 5) by Tom Lawrence.
- Pollardstown Fen* (p. 5) courtesy of Google Earth/Maps.

Elevation change total: 51 feet

Total distance of walk: 1.32 miles

Terrain description: Urban streets with sidewalks, museum lobbies



Urban Street 0:0 - 0:24



Scott Sherk

PHONOGRAPHY: ART
OR DOCUMENTATION?



Photo: Pat Badt

Scott Sherk is a sculptor who often works with sound. A Professor of Art at Muhlenberg College his work has been exhibited widely including recent sound installations at the Katonah Museum of Art and The Lab: Gallery in New York City. His sound work *Trains...* was released on the CD *Overheard and Rendered 2* in 2011 by and/OAR. Scott's work is cataloged at [The Third Barn](#).

Among phonographers and sound-hunters I have often detected an anxiety concerning the nature of our enterprise. Do field recordings belong within the documentary world, or do they qualify as art? I have come to understand that this distinction is a false one – the boundary between art and documentation has collapsed. Other than intention, there is no difference between art and documentation. To illustrate this point, it may be instructive to examine the history of photography and its parallels to the developing world of phonography. An important nexus exists around the work of Hilla and

Bernd Becher and anticipates many issues that surround contemporary field recording and phonography.

Art

In its earliest days, photography assumed two distinct and separate roles: art and documentation. To qualify as an art form, photography looked to painting. Art photography consciously imitated painting. Compositions were constructed and framed following notions of classical pictorial beauty. An imitation of the textures of painting

with a soft focus and reduced details characterize this work known as Pictorialism. Painting, threatened by the emergence of photography, quickly redefined itself in opposition. Painting was promoted as an idealized invention – handmade, subjective and significant. Photography was represented as merely reproducing the world in a mindless, mechanical manner without regard to order, distinctions of form, style or pictorial logic. Photography took the world as it is, with all of its imperfections. Painting, was refined, ideal, and a creation of beauty.

Pictorialism emerged as an attempt to create photographic images that reflected the subjective hand and eye of the artist/photographer. The look was painterly, handmade, and beautiful in a manner familiar to a public used to viewing paintings, drawings, and prints. Pictorialism was art.

In a way similar to early photography and painting, music dominates as the prevailing archetype for organizing sound. Melodic and harmonic development within a compositional structure help define music from non-music, sound, and noise. One approaches a field recording as music when it reflects some form of musical value, a melodic stream, for instance. One also is more likely to consider a manipulated

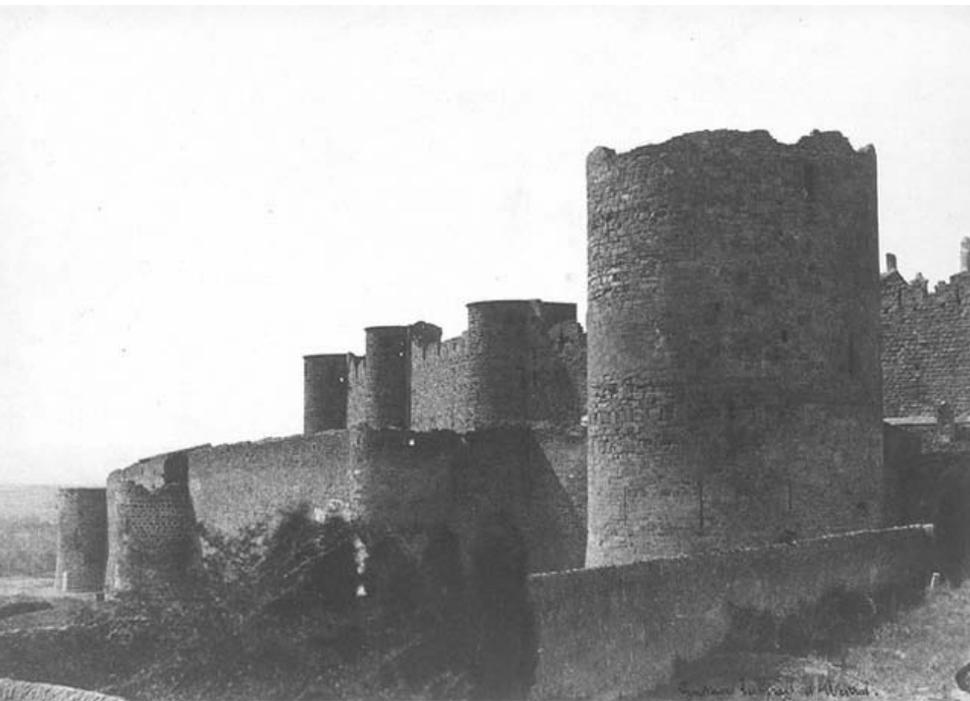


Touques Valley (circa 1905) by Robert Demachy

field recording as musical in that it reflects the “hand” of the artist and is not just a mechanical copy of the world. Consequently, Musique concrète, soundscape composition, and electro-acoustic music using field recordings exist within the structures of music in a way similar to early photography’s relationship to painting.

Preservation

In 1851 the French government recruited five photographers to document a changing world. The *Mission héliographique* was formed to document historical architecture throughout France before it disappeared. In contrast to the soft focus and reduction of detail in



Mission Héliographique: The Ramparts of Carcassonne (1851)
by Gustave Le Gray and Auguste Mestral



Rue de Constantine, Paris (1865) by Charles Marville

Pictorialist images, this work was focused, clear and detailed. Its intention was equally clear: document and create an archive that preserves a record of something soon to be lost.

In 1865 Charles Marville was commissioned to document parts of Paris about to be demolished as part of

Hausmann's urban renewal project. Marville followed the proposed path of the new boulevards documenting all that would soon be destroyed – a curious document of a vector of decimation through Paris. Although people occasionally populate Marville's photos, these are primarily photographs of space. They clearly record the space and architecture slated for imminent destruction.

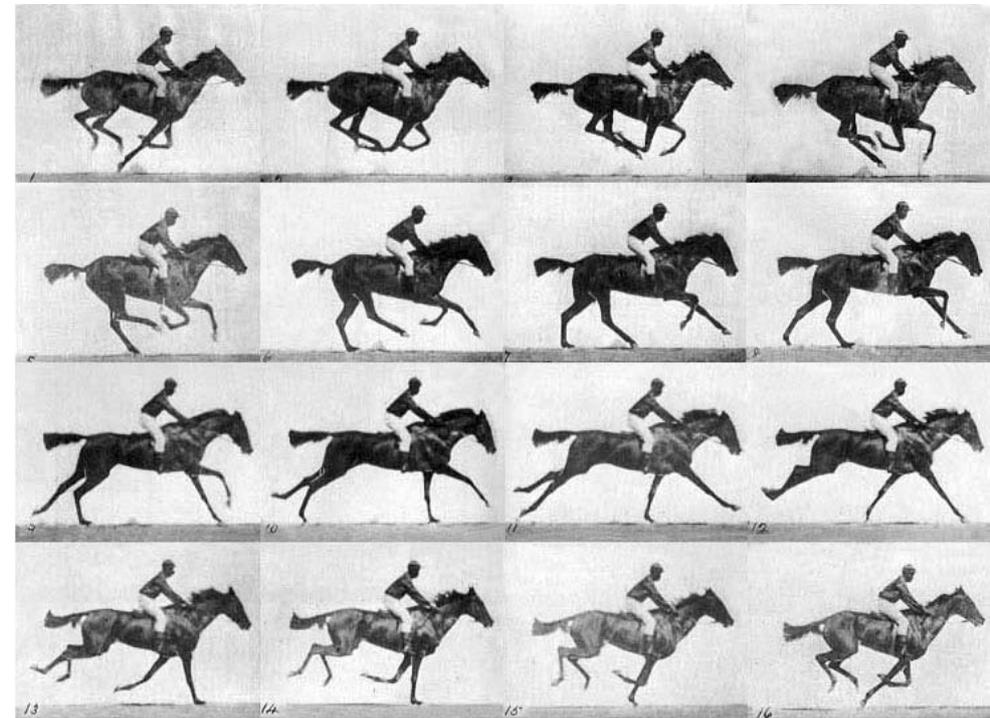
Marville's documents of Paris and the work of the *Mission héliographique* were attempts to preserve an artifact of a rapidly disappearing old world.

I recognize the same intent in much phonographic work associated with the acoustic ecology movement. R. Murray Schafer's World Soundscape Project, Peter Cusack's Favorite London Sounds, or The Vancouver Soundscape Project are each part of an audio archive cataloging the sounds of a changing world.

Revelation

Another important documentary project was concerned with settling the question of whether or not a trotting horse can have all four feet off the ground. California millionaire, Leland Stanford, enlisted photographer

Eadweard Muybridge to address this problem. By 1878 Muybridge had developed a technique for recording motion using twenty-four cameras. Using this apparatus he photographed and studied the motion of people, animals, and objects. His books of motion studies were used by many painters as references including Edgar Degas and Thomas Eakins.



Annie G. Galloping (1878) by Eadweard Muybridge

Muybridge's work was a revelation as he made the invisible, visible. The world in motion before us – people walking, running, sitting down – was suddenly possible to understand and see. His photographs were made with a concern for clarity, rather than pictorial composition. It was important that each image was centered and clearly represented. Importantly, the images were presented within a grid. In this way meaning was found in the small differences between one image and the next.

Working in a similarly revelatory manner was a drawing instructor at the Institute of Royal Arts and Crafts Museum in Berlin. Karl Blossfeldt collected plants which he systematically photographed using magnifying lenses. The photographs were intended as models for his drawing classes.

Blossfeldt's work revealed hidden secrets of nature. Through magnification the simple world was revealed to be filled with order, beauty and design. The straightforward documentary style – frontal, symmetrical, even – was neither an attempt towards composition nor to aestheticism. His intent was to simply and clearly

Garlic (1928)
by Karl Blossfeldt





Colonne Moris, Place Saint-Sulpice, Paris (1910/11) by Eugène Atget

record and reveal the hidden world of nature. Like Muybridge, Blossfeldt was presenting images as clearly and unadorned as possible. Together they were revealing the previously unknown.

The act of revealing the unknown has many parallels within phonography. The use of contact microphones to record pine beetles inside trees or water insects by David Dunn, Bernie Krauss' recordings of the sounds of ants, or John Grzinich, Patrick McGinley and Yannich Dauby's contact mic recordings are all ways of revealing the inaudible to the audible world. Similarly, Jacob Kirkegaard's work investigating the geophysical sounds of the earth, Felix Hess' recordings of air pressure fluctuations, or Thomas Ashcroft's recordings of the sun exist as revealing documents and more.

Collection - Archive - Everyday

Equally curious and revealing is the work of Eugene Atget. From the late 1890s until his death in 1927, Atget created a vast archive of over 10,000 photographs of Paris and its surroundings. His work was sold to artists to be used as source material for their paintings. Atget photographed and archived his work in a carefully organized, elaborate system. In spite of Atget's refusal to

recognize his own work as art, after his death his work became highly collectible and received a major exhibition in 1967 at the Museum of Modern Art in New York.

Atget photographed nearly everything. He gave individual work clarity by positioning it within his archive. (He used a complex cataloging system that appears to have organized by subject.) Importantly, Atget recorded aspects of the world that would not have been noticed as important. He paid great attention to the everyday and the overlooked and approached the visual world without prejudice. Although financially at the service of painting, Atget was able to uncover images of the everyday that were not a part of the painterly vocabulary. It is important to note that a painting takes a lot of time to make – it is an investment in time and materials. Photography is a faster and less expensive medium in relation to painting. This may have freed a photographer like Atget from the need to pick “significant” subject matter and begin to look to the everyday and the overlooked.

Atget’s perfunctory, itinerate pictures offer a unique vision of the world. They are documents of the incidental and the insignificant. Originating as props for paint-

ers, the archive creates a world of its own. Importantly, this is a world of the vernacular.

I have become more interested in the 40-disc BBC Sound Effects Library. Like Atget’s work, these sounds were produced as aural props for film and radio. It is interesting to listen to them as independent sound works. CD #003 Household begins with ¼ hour, ½ hour, and ¾ hour clock chimes and moves elegantly through the hours to doorbells, telephones and refrigerators. Listening to these pristine recordings is a surreal and beautiful experience. Those of us who compulsively record the world – the garbage truck at the corner, leaves blowing across the street, the ambience of a winter day – should take heart. We might also learn from Atget’s cataloging skills. However, one cannot record everything. The selecting and framing of images or sounds along with the organizing and cataloging becomes an intentional act that denotes significance.

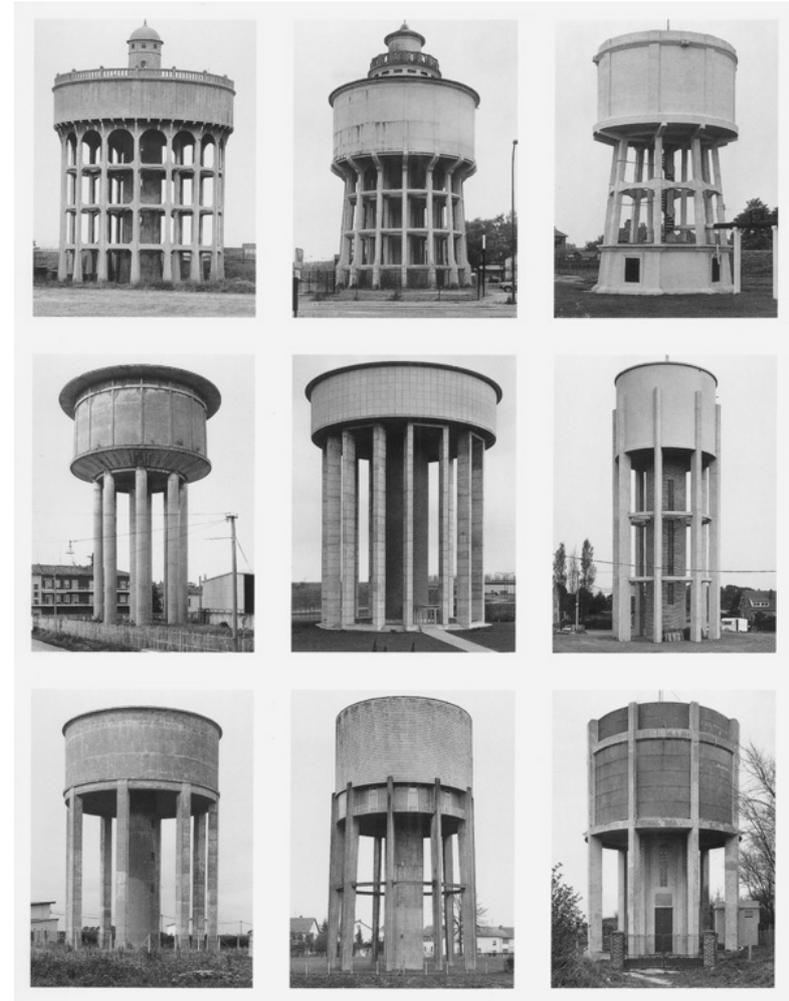
Documentation – Art

Many of these photographic intentions – to select, frame and clearly document something that is vanishing, to reveal similarities and differences, to preserve, collect, organize and archive, and to reveal the overlooked or

unknown – exist within the work of photographers Hilla and Bernd Becher. The Bechers began working together in the late 1950s and gained widespread recognition in the 1970s. They shared an interest in the disappearing industrial constructions of post-war Germany. They photographed hundreds of industrial sites including winding towers, water tanks, cooling towers, blast furnaces, etc. Begun as an act of preservation and memory, this project became a study of typologies. Rather than exhibit the photographs singularly, they grouped them into similar categories arranged on a grid – similar to Muybridge.

The images are standardized: the viewpoint of the camera is always above human height – elevated to allow for a flat, undistorted image. The composition is always frontal, singular, and straightforward. There are no people.

Their camera positioning suggests to me the importance of microphone placement in any recording. The use of parabolic mics to capture individual species' calls or the use of Mid/Side mics to capture spatial ambience are two conventions of nature recording discussed often on the Yahoo! Group Naturerecordists.



Water Towers, 1966–1986 (2003) by Bernd & Hilla Becher

It is with the work of the Bechers that the distinction between documentation and art noticeably collapses onto itself. The conventions of documentation including clearly defined subject matter, centered, straightforward composition, lack of artifice – these conventions become a style itself – the style of the documentary. The Bechers use this style to present genuinely interesting objects (“*Select the right object... and they tell their own story,*” says Bernd Becher). Additionally, they introduce the elements of the concept – the limits of their material, the selection process, the standard viewpoint, the frontal composition, the people-less landscape, the gray skies – as a subject matter in their work. They make clear that the “documentary” look of their work is something that they painfully constructed. Simultaneously, remarkable similarities and differences between industrial objects are revealed to us in their works. The presentation of 9 water towers becomes a visual choreography of difference. And it is absurd and funny, too. The work of Hilla and Bernd Becher is documentary, and it is not. They have constructed their style and presentation from the conventions of documentation. They have added to this a self-conscious awareness of the style of documentation and its tropes. With this awareness they have made something else. It is a documentation of doc-

umentation. The act of identifying, selecting, preserving, documenting, cataloging, archiving, and framing are revealed to be meaningful, creative acts. The organizing of the visual world is central to the act of vision and central to the creation of art.

Phonography

Similarly, the organizing of the aural work is central to the act of listening and the creation of art. The organizing of sound takes many forms: recording the palimpsest of a fast disappearing world, revealing the hidden world of sound, selecting/identifying/collecting/archiving an overlooked aural world, framing/comparing/contrasting typologies of sound. These forms originate in documentary processes, adopt many of the conventions of documentation, but exist outside the intentions and limitations of documentation.

I see this collapse of distinction between documentary and art happening through much of the phonography world. Some of the work that has captured my interest includes the recording and cataloging of interior spaces by Marc Behrens as part of his *Architectural Commentaries*. Eric La Casa has recorded elevators and heat vents,

and his *Air.ratio* is a wonderful collection of 30 recordings of ventilation ducts. Robert Carlberg's recording of buses entering and exiting a terminal is another example as are Rob Danielson's marathon 24/7 nature recordings that are meticulously recorded, labeled and cataloged. This work collects and frames in systematic ways the remarkable and the banal and undistinguished sounds of our culture. This work is absurd, obsessive, revealing and wonderful.

Documentation has become just another style of art. Similarly, art can assume the role of documentation. Acts of preservation, revelation, organization, and framing are both art and documentation. We need no longer worry about the distinctions between art and documentation: we need to concentrate on the inherent challenges of our revealing/selecting/identifying/collecting/archiving and how to make these endeavors most successful.

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Jim Cummings

MY EARS WILL NEVER BE THE SAME

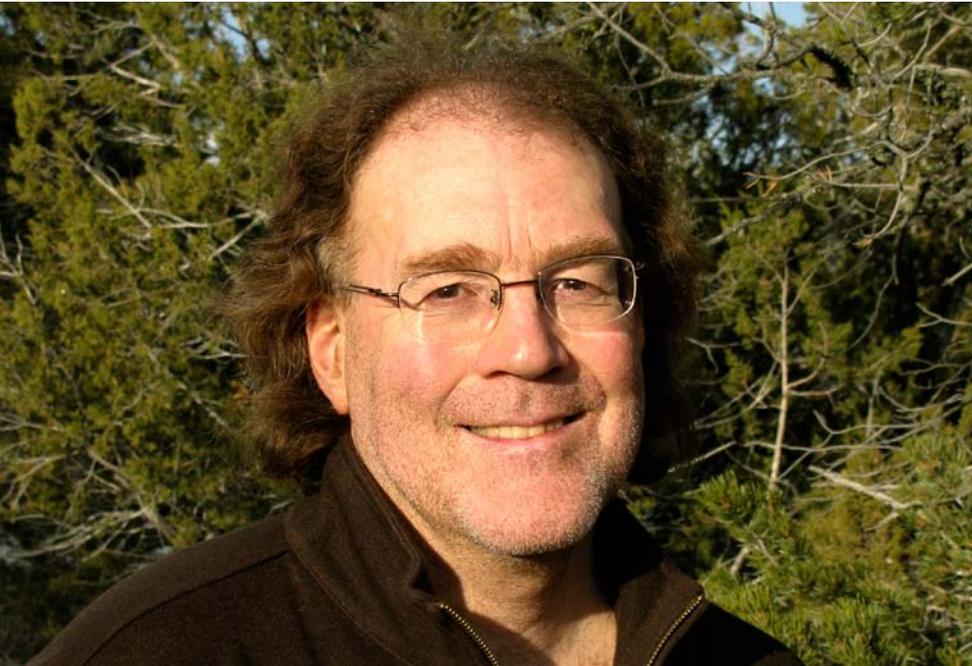


Photo: Barbara Booth

Jim Cummings, M.A. is a writer, editor, and father. After twenty years of freelance writing, in 1999 he founded EarthEar, a record label and online catalog of environmental sound art. From the start, EarthEar was meant not as escapism into recorded fantasies of nature, but as a means toward deeper listening to the living world around us. This focus expanded, eventually spawning the Acoustic Ecology Institute in 2004. Since then, AEI has become a leading source of clear, unbiased information on a full array of sound-related environmental issues.

It began, as it always does, in the distant mists of childhood: on those dusky spring evenings, my father pulling the car over beside the Cole Road farm pond where peeper-pulses danced in crazy counter-rhythms for a few astounding weeks... and in adolescent cousin-escapades to The Big Brook, an anomalously tiny streamlet in a hollow behind the old ancestral farmhouse in the Berkshires where I had my first tentative adventures beyond the shelter of parental wings, and discovered the delicate ringing of trickling water in the sheltered hush of the woods after we dropped out of the field and

beyond earshot of the guffaws, exclamations, and other assorted outbursts of familial reunion on the expansive back porch.

In early adulthood, a sporadic series of moments caught my ear: an hour spent as close as I could get to a tiny geyser in Yellowstone's Norris Basin, entranced by the progression from tiny hiccups way down out of sight, to gurgling burps near the surface, to the startling exhalation that sent water fifteen feet into the air... leaving my seat at a Solstice concert at the Cathedral of St. John

the Divine in New York, wandering and reveling in the vast acoustic space of the Cathedral once away from the confines of the speaker-field near the stage... the subterranean Babel of Carlsbad Caverns, a giant cave, immersed in jumbled, incomprehensible voices, tumbling hundreds of meters up through the chambers back in the days when folks murmured their wonder to nearby companions rather than each listening quietly to electronic tour guides... laying back in a mountain hot spring, dropping my ears into the water and finding there the shockingly amplified sound of my own breath.

Like many others with a taste for nature and nascent audiophile tendencies, I picked up a couple of Irv Teibel's *Environments* LPs in the early '70s; fifteen years later, a few of Gordon Hempton and Bernie Krause's nature sounds cassettes joined my collection. But in the early '90s, at a local Audubon center David Dunn blew my aural mind with his recordings of underwater insects. THIS was field recording of an entirely different kind: sounds unheard by "the rest of us" who don't travel with microphones and headphones in hand, and more than that, also crafted into layered, dynamic compositions. Shortly thereafter, spurred by an article assigned by my editor, I slipped through the rabbit hole of

sound art based on field recordings: David and a couple other early discoveries each pointed me to other recordists and composers, who in turn led to others, until, by 1999, I had founded EarthEar in an effort to turn my own editorial voice toward an exploration and celebration of this remarkable field. My writing had always been oriented toward speaking for the planet; here was a global community of careful listeners and studio wizards who were letting the planet speak for itself, through them. In the work of Hildegard Westerkamp, Doug Quin, Francisco Lopez, Walter Tilgner, Hans-Ulrich Werner, and many others, my ears found startling inspiration. EarthEar's motto, while directed out to the elusive "listening audience," was in fact a reflection of my own experience: *Your ears will never be the same....*

Following the Path of Sound

Buoyed by the enthusiastic support of Dunn and Steve Feld, who both live nearby my home in the southern Rockies, along with the equally important encouragement of Quin, Westerkamp, and Jason Reinier, I forged ahead with the goal of bringing environmental sound art to wider audience. The recent "moderate mass-market" success of *Deep Forest*, and of Feld's *Voices of the*

Rainforest served as elusive markers I hoped to match (while also spurring some regrettable delusions of grandeur, in which I fancied playing a Steiglitz-like role for phonography). In addition to our own CD releases, I launched an online catalog featuring the work of independent artists and small labels worldwide. While EarthEar played a valiant commercial-success game, the early years of the new millennium were not kind to those of us on the end of the CD wave, with distributors hesitant to add new labels while sales collapsed. So instead of triggering a global market for sound art that would allow the artists to actually make a living following this muse, EarthEar settled into its longterm role as one of many labels serving the small, niche market of adventurous listeners.

One of the key themes at EarthEar was that these CDs are not meant to bring exotic locales into our living rooms, or even to simulate the experience we'd have if we were in the place where they were recorded. Rather, they open our ears in new ways, bringing us into a new appreciation of the auditory experiences we encounter in our everyday lives, wherever we live. From the start, in addition to offering extensive primers on the various creative approaches being pursued by this diverse com-

munity of artists, EarthEar also offered news coverage about the state of our actual, living soundscapes – and yes, and we also sold CDs, though perhaps we forgot to prioritize that part!

EarthEar's split personality – CD sales and aural awareness raising – soon enough led to a fork in the road, with the label and catalog winding down its overly ambitious first phase while spawning a newly vibrant non-profit project dubbed the Acoustic Ecology Institute (AEI). EarthEar was obviously rooted in the arts side of classic acoustic ecology as reflected in the World Soundscape Project (WSP) and World Forum for Acoustic Ecology (WFAE), but the new project took on a somewhat neglected niche, focusing on sound-related environmental issues. More than most other folks in WFAE circles, AEI zeroed in on science and policy. Building on my past experience as a writer and editor, I shifted most of my energy to this new work in 2004, and since then AEI has developed a reputation as a clear, honest broker of information on issues ranging from ocean noise to wind farm noise. Research scientists, agency staff, and nonprofit organizations worldwide make use of a unique collection of resources at AEI's two websites, including news coverage, lay summaries of new research, and topical

Special Reports on key issues. It's been quite the unexpected ride for me, a "mere" editor/writer who loves listening to our singing planet, to find myself speaking at scientific conferences and being part of federal expert committees. Just another chapter in the winding road of a liberal arts career!

Acoustic Ecology Among the Scientists

The phrase "acoustic ecology" increasingly pops up in scientific journals and press reports, though its meaning has become more ambiguous over the years. Today's practitioners of acoustic ecology – and the many scientists, agency staff, and artists who reference the idea – are a far more diverse lot than the original WSP crew, and indeed likely are talking about very different things than either the WFAE or each other – yet this multifaceted idea sheds light on several key aspects of our 21st century challenges.

One of the most concrete – and paradoxically, the most uncertain – realms in which acoustic ecology is playing an increasingly important role is science and public policy. Ocean noise has become the poster child for concerns about the impact of human noise on wildlife,

thanks to a series of high-profile legal challenges to naval active sonar training. In North America, Europe, and Australia, government agencies, the scientific community, and environmental activists have all responded vigorously to the questions raised by a few stranding events that occurred during or after sonar training missions. While dead whales are dramatically concrete, they are also representative of the vast uncertainty at play in ocean acoustics. Why, among all the hundreds, if not thousands, of times the US and other Navies use mid-frequency active sonar each year (in training and more widespread routine use at sea), did whales end up on the beach once or twice a year? More chilling is a question often raised by environmentalists: how many whales may be injured or die and simply sink into the depths, unseen?

Meanwhile, the emerging consensus among scientists, regulators, and environmentalists is that behavioral disruptions in the face of chronic, moderate noise is likely a more significant threat to ocean creatures than the occasional exposure to loud noise. Shipping and oil and gas exploration have both received increased scrutiny in this new millennium, and MPA^[1] managers have begun

1 Marine Protected Areas.

considering ways to monitor (and perhaps eventually limit) noise in some areas, and to begin to consider the impact of decreased communication space caused by noise from shipping or energy construction projects.

Here, once again, our attempts to quantify and analyze such responses in concrete ways leads only to vast uncertainties, since marine creatures – much like humans – do not respond consistently to a given level of sound, or necessarily react more strongly as sound levels increase (in scientific terms, there is no linear “dose-response” function), but rather, range from highly sensitive to fairly tolerant of noise, depending on what they are doing and the nature of the sound. Add to the mix the difficulties inherent in observing creatures who remain out of sight (under the waves) almost all the time, and the scientific hurdles are clear.

As scientists and government agencies keep asking questions, the classic quandary arises: the more we learn, the more we realize we don’t know. The public policy choices boil down to deciding how much precaution (and thus how much regulation of industry or Navy practices) is warranted, based on the level of current understanding and uncertainty about impacts.

One of the most exciting new developments in the “scientific acoustic ecology” realm is research that the U.S. National Park Service (NPS) is doing. This research looks at noise impacts on terrestrial animals, centering on the ways that moderate increases in background ambient noise reduces animals’ “listening area” or “communication space.” Even small increases in background noise greatly reduces the distance over which an animal can listen, or be heard (remember that for many animals, the most important things to hear are at the distant edges of audibility). This innovative perspective considers the prolonged energetic costs of increased vigilance that prey animals must adopt when their habitats get noisier due to roads or airplane overflights, along with the lost opportunities of predators who may not hear the soft shuffling of their prey so effectively. The lead researcher at the NPS is a former marine biologist, and similar work is ongoing within the marine bioacoustics community as well, with a major emphasis on the impact of shipping noise on communication among a wide array of ocean species, from large whales trying to hear distant companions to fish larvae listening for their home reef. Fascinating stuff, and a crucial step in human awareness of the subtle yet far-reaching impacts of our activities.

Another theme that AEI has explored is the role that artists can play within the scientific community. Again, David Dunn and Steve Feld have played key roles in this element of AEI's work, as they came at it from opposite directions. Dunn is an artist who has become adept at reading and speaking the language of hard science; among other projects, he has worked for years exploring sonification of complexity theory with leading-edge mathematician Jim Crutchfield, and in recent years discovered that bark beetles (which are ravaging forests worldwide, thanks to climate change) utilize a vast repertoire of acoustic signals, previously unrecognized by entomologists, who were focused on chemical communication. Feld, by contrast, is a trained anthropologist who has pushed his field to make more substantial use of recordings and deep listening; after being inspired by Murray Schafer, his very first ethnographic LP included an unprecedented 12-minute composed piece, in addition to the standard out-of-context auditory examples of song types. More recently, Smithsonian Folkways released *Bosavi*, his 3-CD and 90-page booklet collection of songs and reflections charting the evolution of a Papua New Guinea society's songs, and their relation to the natural soundscape of the surrounding forest, over the past three generations.

For more on this question of how artists can use sound to actually participate in science (rather than simply illustrate it for the wider public), see <http://acousticecology.org/presentation/>.

It All Comes Back to Listening

Still, while it may be interesting to keep up with current science, or inspiring to listen to well-realized environmental sound art, the real pleasure – and adventure – comes in the personal exploration of listening. As with all ways of getting to know our world, listening can bear fruits of two very different kinds: the rich and deepening connection to the voice of one's home region through the seasons and years, and the startling, exciting discovery of new sounds that are encountered far from home. I really can't say which I prefer, and my experience of life would feel stunted without either.

But it is clear to me every single day that my work with EarthEar and AEI has changed my ears forever. New discoveries always await. My home is in a foothills canyon at the southern tip of the Rocky Mountains. Just last year, after spending half my life in this thunderstorm-ridden landscape of steep hills and dryland piñon-juniper forest, I noticed something I'd never put together: the

sound of thunder rumbling for ten or twenty or thirty seconds – the familiar “god playing ten-pins” soft, cascading, deep waves of sound, punctuated by sharper peaks and gradual fades, returning again, and finally settling to stillness – this primal sound is the shape of the landscape, is nothing but the extended echo of a single sudden point of sound, a lightning bolt shattering the air somewhere a mile or three away, its sound then spreading in all directions, echoing off each hill and rolling across each valley, bouncing from a hundred different places back toward where I stand, now hearing the sustained voice of the landscape itself, resounding in response to the initial flash and its moment of ear-shattering auralosity.

Such extended moments are but one tiny fragment in the song of our lovely planet. At any moment – in this moment – this song is simultaneously a jungle awakening at dawn with raucous primate screams and bird calls vivid in all directions, cart wheels crumbling up a gravel pass far above a seemingly silent valley below, the stillness of a deep night as the landscape pauses between breaths, ventilation systems murmuring in a dozen tones over city streets that never sleep, and the breeze outside your window right here, right now.

The song is indeed global, and never really ceases in any of our home places. Yet the steady diurnal and seasonal cycles of each place receive a profound infusion each morning and evening: as the ground beneath us spins ever eastward, we pass twice daily through the twilight band that wraps its stationary embrace around the globe. We spend an hour or so moving within this longitudinal ring where the voice of the planet is most alive: insistent birds and patient frogs, rumbling rush-hour traffic, howling gibbons and gently rising winds, responding each in their own ways – and with their own purposes – to the arrival or the fading of a day. (For a few weeks each year, earth’s tilt allows each of the polar regions to revel in this twilight pulse for a few glorious unbroken weeks, crowning the turning planet with teeming activity!) Right now, the sounds around you are the local expression of a planetary conversation, and right now, as at all times, through all time, this conversation is, in some subtle yet exuberant way, united by the planet-spanning dawn and dusk choruses forever ringing the globe.

I give thanks to the many sound artists who have helped open my ears, both via their recordings and times spent wandering the land and our cities with them. I also

am grateful for the work being done by scientists, government agencies, and non-governmental organizations, to understand and minimize the effects of our human sounds on habitats and other species. It's been a pleasure to participate in both of these communities, and I feel honored to have played some small part in the contributions they each make toward bringing more awareness to the aural expressions of this precious planet.

JC

Jim is the author of many freelance magazine articles, including *"Listen Up! Opening Our Ears to Acoustic Ecology"* (Zoogoer, 2002), edited the books *Why do Whales and Children Sing?* (1999) and *Investing With Your Values* (2000), and is executive producer of eleven EarthEar CDs.



selected by
Marcus Kürten

'SOMETHING WHICH LASTS PASSES BY'
A COLLECTION OF HEARING MEMORIES
Translations by Marcus Kürten

Marcus Kürten (poet, field recordist) born 1974 in the Agger Valley, Rhineland.

Photo: Anja Brunsfeld (2009)



“The spirit of a language manifests itself most clearly in its untranslatable words.” – Marie von Ebner-Eschenbach

BJ Nilsen (SE, Swedish) · I grew up close to a railroad, sawmill and brick factory in rural Sweden. I was listening to these faraway sounds when I went to bed often serving as an industrial lullaby. Back then, the trains were louder and tracks were still split into sections. So you’d get the old

Kla-Donk Kla-Dank.

Next to the railroad was the Sawmill. It’s now defunct since many years, but that in itself were a symphony with the rhythm of the water sprinklers moistening the wood

Tssst tssst tssst

before cutting it

Krrrrriiiiiaaaaaang, Krrrrriiiiiaaaaaang.

The brick factory had, and still has, a random characteristic sound of a 5-second motorised hum – followed by a metallic squeak

Ooooooooooooo Tjiiiiiiing

– returning every 30 minutes or so. BJN

Glenn Ryszko (NL, Dutch) • The first time I heard waves on the seashore, trying to swallow the beach inch by inch, is something that is still very clear in my memory. At that time I was about five years old.

I grew up quite far away from the seashore, but once in a while we drove for a couple of hours to spend some time there and nowadays I still love the noise of the waves and the wind. I live really close to the same beach we used to go when I was a child now, and I often go there just to listen to this sound. When I leave the beach and go home, this sound will stick in my ears for hours.

*shhhfffffoehhhh... kshhhh... shhhfffffoehhhh... kshhhh...
shhhfffffoehhhh... kshhhh... GR*

Marcel Türkowsky (DE, German)

*piioooooooooo piioooooooooo piioooooooooo
piioooooooooo piioooooooooo piioooooooooo
piioooooooooo*

As a child I was often at the circus. My father always thought it was a wonderful journey into timelessness. It was one of the rare rituals to escape grey East-Berlin for him. For me it was an infinite journey into the world of magic. On a hard winter day in 1985, I was six years old, we were at one of these magical revues. This time it was my turn. It was the first time on a stage for me. The magician stretched out his hand and invited me to come up in the circle of creaking floorboards.

I remember that he formed seven large circles with his mouth into the air and synchronously made this noise I will never forget. When it was finished, the magician drew seven paper figures from his mouth. MT

Jeremiah Moore (US, English) • *pak... pak p Tak unk tap
tk tap tap tap tk Pak unk Pak Pak tak (Blllliiing!) tak tak,
chu-tscheee-Cunk. Tak pak pak unk pak*

Every morning when I was a child, my father would be sitting at the typewriter, writing. The sound would filter upstairs to my room. I thought of it as what my father did: he sat at the typewriter. JM

Heribert Friedl (AT, German) • When I was approximately 4 years old, I could not use my legs from one day to another. So I had to stay in hospital for eight weeks and was confined to bed about six weeks.

The most distinctive memory was the sound of rattling radiators. This sound often accompanied me through sleepless nights. On the one hand very annoying and on the other hand meditative and tranquilizing.

*... ndidth ndidth ndidth ndidth ndidth nnnnnndidth nnnnndidth
nnnnndidth nnnndidth nndidth ndidth ndidth ndidth ndidth ndidth
ndidth ndidth ndidth ndidth ndidth nnnnnndidth nnnnndidth
nnnnndidth nnnndidth nndidth ndidth ...* HF

Edu Comelles Allué (ES, Spain) • In my hometown (a small town close to Tarragona, Spain) when it's really hot in summer you can hear around, in the countryside, this rhythmical sound produced by insects. It is quite

close to crickets, but not exactly. You can hear them in the afternoon, when the sun is at its higher point.

zik zik zik zik zik zik zik zik ECA

Christopher DeLaurenti (US, English) • Growing up in France as a small child, I remember giant church bells clanging and clashing every Sunday morning. Our small town had two churches, one on each side of the river, so every

ba-ding ba-dong, ba-ding ba-dong

echoed across the river and through the sky. CDL

Budhaditya Chattopadhyay (India, Bengali) • *asté asté* (= *slowly*, Bengali)

When a child walks, the slow and unsteady rhythm of his walk is probably the source of this word. But it's wider usage transcends the source, generally meaning to do anything in a slow pace. BC

and I played piano on his long and thick fingers with a small sound:

tiptipitiptaptip taptep... MB

Eisuke Yanagisawa (JP, Japanese) · When I was a child, a vender with a two-wheeled cart came to sell tofu and fried bean curd in our neighborhood. He played a simple brass trumpet to inform his customers of his coming.

tooo fuuuuuu tooo fuuuuuu EY

Marc Yeats (UK, English) · *ugleeflowah*

When I was a child I was afraid of natural sponges used for washing (or especially afraid of the foam artificial sponges that were coloured pink or blue – you may remember them?) – My mother threatened to chase me with one if I was bad!!! Quite what horrors awaited me if I was caught by a sponge I don’t know, but the fear was real enough and remained long enough to emblazon upon my memory. I think the word “*ugleeflowah*” (ugly flower) is probably some sort of corruption of cauli-



Overhead Line Mast; Subbelrather Street, Cologne-Ehrenfeld

flower, the surface of which, looks, in some respects, a little like a sponge (well, it must have done when I was very young)! To this day I have no explanation as to why I had this fear or where it came from. MY

Sunwei (CN, Chinese) · One day, I have broken the thermos bottle on the desk carelessly. My mother, an industrious and very frail and perceiving person, didn't blame me, she bought a new thermos bottle at the shop. And told me that it made "a funny noise when you listen to it." I am so curious why such a noise housed in the thermos. And it did emit a continuous low droning sound like that of the speech sound (*weng*) when it's prolonged. In fact, I was exhilarated. I was deeply attracted by its interesting

Weennnnngggg.

The sound made me feel comfortable and warm. Time passed, and now, I still feel delighted whenever I recall these memories. sw

Lasse-Marc Riek (DE, German)

phrrrrhd tschscht

On 24th December, 1998 I hurled around caused by a bicycle/car accident and my body thud the asphalt. LMR

Katherine Krause (US, English)

Pooooosche. Poosh, pooosch, pooosch, pooosch, pooosch. Poosch! pBooshooooo-Psh. (pause) Pooooosche. Poosh, pooosch, pooosch, pooosch, pooosch. Poosch! pBooshooooo-Psh. (pause) Pooooosche. Poosh, pooosch, pooosch, pooosch, pooosch. Poosch! pBooshooooo-Psh

On long-ago summer nights, outside of the basement bedroom window of my childhood home, the lawn was watered weekly by a rotating, pulsating garden sprinkler which would spray my window screen as it traveled around the yard, and seemed even then to mimic the sounds of the evening crickets, which were more usually heard every bedtime. kk

Lucia H. Chung (TW, Mandarin Chinese)

& **Martin J. Thompson** (UK, English) · We both sat on the hillside, one unaware of the other, both listening. The bay of Swanage held many memories for both of us, but none so prevalent than that which came with the sound of the whistle. Amidst its song old memories stirred and new memories were shared. We sat together on the hillside, both listening.

kkkkkkkkoioooooioioioioioioioioioihkkkkkkkk

"Its whistle can be heard across the whole town." LHC/MJT

Anthony Baron aka Anton Mobin (FR, French) · Up to the age of 16 years, I lived with my parents in the countryside in the centre of France, in a small village called Huisseau-sur-Mauves. My parents had built a wooden house, typical of the Canadian houses. Our house was in the middle of nowhere; in the fields, near a wood and close to the river *Les Mauves*.

My room and that of my parents had a party wall, and it is from this partition that these small sounds resulted.

I paid a great deal of attention to these strange and very precise sounds a few centimeters away from my bed.

They rocked me.

It is the mice who nibble at the wall composed of wood and patches in plaster.

To dissipate them my father knocked with the fist on the wall. When I did not hear any knocking anymore, it means my parents had fallen asleep...

*fffit ffiitt ffffiittt cccrrra cccrra bom ffitt cccrr pam ffiit
fffiitt boam* AB

Thom Carter aka Son Clair (UK, English)

*Hhttzzing, Hhttzzing, Hhttzz, Hhttzz, Hhttzzing,
Hhttzzing—aaahhh—zing...Szip, Szip, Szip, Szip, Szip,
Szip, Szing* – Shearing Sheep by Hand

I grew up on a farm and each year my dad would shear a number of the sheep by hand with traditional shears. This poem is an onomatopoeic recollection of the sounds the cutting blades of the shears make when they first find their way into the heavy fleece of the sheep, and then proceed to cut more rapidly against the shape of the animal's body. TC

James Wyness (UK, English) · Hampden Park, Glasgow, 29 April 1967. On this particular day Aberdeen and Celtic were to slog it out for the Scottish Cup. As Celtic began to dominate the game and came close to scoring there might have been one or several waves of sound, true waves, with a physical waveform as the crowd lunged forward like a striking undulating monster snake (no seating in those days). Massive, deafening, terrifying, exhilarating, all the joy and pain of tens of thousands

of working men (no women in those days) collectively celebrating in joy and anger. It went like this, rising from a guttural growl to a threatening bass to a hysterical tenor to a bloodcurdling howl:

mmmmmmmmwwwwwwwohhhhhhhjawaiyyafukye! JW

Dallas Simpson (UK, English)

*...Thrr r rr rRRrRrRRRRRRRRRRRRRRRRRRRRrRrRrRrrah Chic
Glung tink tink TINK tink tink tink tin tin tink Guk tink
tink Chgt r r rRRRrrrRRRRRRRRRRRRRRrrrrrrrrrrrrrrrr r r r r r
Tch Cht Cht Cht tink tink tink tGin tin tin tin tglN T tin tin...*

As a child I used to wake early in the morning and hear the electric milk float and the milkman doing the morning milk round, you could hear the whirr of the electric motor, then the rattle of all the bottles in the float as the milkman started and stopped, the tink of the bottles in the hand-held crate as he delivered the milk and returned the empties, and occasionally his footsteps, the sounds repeating the cycle until the milk float was out of earshot. DS

Peter Caeldries (BE, Dutch)

*fwiet fwiet fwiet fwiet fwiet fwiet fwiet fwiet fwiet fwiet
twuut twuut twuut twuut tit tit tit*

I grew up in the quiet surroundings of the country side. All year round I was surrounded by a soundscape that varied with the seasons. As from March and all through summer all manner of birds, such as swifts, cuckoos, blackbirds, thrushes, owls at night, made for an impressive and ever changing sound environment. This obviously also included man-made sounds such as the huge combines and corn harvesting machines and various farm animal sounds. PC

Olivia Block (US, English) · When I was around nine or so, my best friend Annie and I used to type long trains of letters on an old typewriter and tell her father to read the text out loud. He read the text with a very monotone delivery, and we would howl with laughter.

*tk tk tk tktktk tktk tk tktk tktk tktk tktk ...
sceprwiuntpgionetgwegokmvsafuvntopwrotkvmlsdp OB*

In a Trice

*Aimlessly the tireless birds fly around.
I hear stones nearby, towering from the water. A weir.
How everything meanders and unifies
and vanishes in the end.*

Marcus Kürten, translation by Marc Yeats.



Hein Schoer

THE SOUNDING MUSEUM

BETWEEN ART AND SCIENCE:

CULTURAL SOUNDSCAPES IN MUSEUM PEDAGOGY



Photo: Kevin Lohmeis

Hein Schoer works as a PhD researcher at Fontys School for the Arts in Tilburg, NL, as a member of its research group *Arts in Society*.

The foci of his research are acoustic ecology, representation of the Other, museum and hearing pedagogy, surround field recording, interdisciplinary art practice, and multisensual exhibition design, all of which he also teaches at various places, such as Fontys School for the Arts, Maastricht University, Hochschule Darmstadt, Hochschule Offenburg, and Halle University.



In his research project *The Sounding Museum* Schoer investigates the academic, artistic, and pedagogical implications of cultural soundscape production and implementation in anthropological museums. He works in collaboration with Maastricht University, the U'mista Cultural Society, and the NONAM (North America Native Museum, Zürich, CH), where he is also responsible for the *Sound Chamber*, that he helped to build a few years ago and which he keeps operational and up-to-date since then.

In the past four or five decades the idea of our acoustic environment as a complex communication device has been discussed by a never-tiring, yet rather small group of researchers and artists. The soundscape, as proposed by R. Murray Schafer, has been investigated from numerous angles. There is, of course, Schafer's own classic milestone, *The Tuning of the World*, where an ecological approach to the soundscape is proposed with a heavy focus on aesthetic issues. Barry Truax establishes the soundscape as a means of information exchange throughout his *Acoustic Communication*. In recent years,

the interest in sound history is growing, with Alain Corbin's *Village Bells* and many other works that listen into our sounding past. Schafer's early attempts to introduce the soundscape into education can be found in his *The Rhinoceros in the Classroom*. And then there is Gernot Böhme, along with – although to a somewhat less convincing end due to the esoteric slant in his works *The Third Ear* and *Nada Brahma* – J. E. Behrendt, who put the soundscape into the broader context of aesthetic reflection and philosophy of nature, as has been convincingly summarised by Böhme in *Acoustic Atmospheres*.

But, as indicated earlier, Schafer's dream of raising sonologic awareness in the general public seems as far from our grasp as ever. Despite the ear-cleaning ("clearaudi-ence") exercises Schafer developed and still uses in workshops he conducts throughout the world – with a small group of disciples who follow his steps – and contradicting the opportunities we should expect from modern multimedia technology – except for a mindless sensual overkill that Schafer would, with good reason, scornfully name *schizophonic* – not much of the insights of the soundscaper community drips down to the people that are to be the end beneficiaries of all the efforts made.

This article wants to present a strategy to make some improvements on the impact side of soundscape research.

In a small museum in Zurich, Switzerland, a new approach to sound education is being tested. The NONAM (North America Native Museum) is dedicated to indigenous Indian and Inuit cultures of North America. A few years ago, the Sound Chamber was added to the regular, visual exhibition spaces. In this place, undisturbed by any visual distractions, the visitor has the opportunity to experience the living cultures of indigenous North America on the sonic plane by means of soundscape compositions created from recordings taken on-location in collaboration with members of the respective presented cultural units.

Being the only museum in the municipality of Zurich that is not part of the Cultural Department, but under the jurisdiction of the School and Sports Department, the ties to the municipal schools are strong and so is the access to teachers and pupils. A workshop concept developed around the Sound Chamber takes the sounds of contemporary Indian and Inuit societies into the classroom, thereby offering a chance for cultural com-

parison and exchange on a quite sophisticated level of attention and digestion on the pupils' side.

The Swiss Commission for UNESCO has approved the Sound Chamber and its enclosing research body, the Sounding Museum, as a contribution to the 2010 International Year for the Rapprochement of Cultures. This includes not only the workshops making use of the installation at the museum, but the whole process that starts with an idea of what to record, commences with a field trip to make the actual recordings and then, before being finally taken to and used at the museum, leads into a long, dark tunnel of sorting out how to condense all the rich live material into a composition that is required to meet documentary, educative and aesthetic needs to serve the ends of the commissioning institutions: A university, an art school, and a museum.

How these in part contradicting demands have been met (and might to some extent be included in a listing of best practices for the purpose at hand) will be exemplified by using the case study of the soundscape composition *Two Weeks in Alert Bay*,^[1] that tries to reconcile the afore-

 1 CD *Two Weeks in Alert Bay* (Gruen 082; 2010).

mentioned claims. It is now in use at the museum for children's cultural and hearing education, as part of an art installation, but also as a tool for academic research and teaching.



I will embed this example in a discussion on authenticity, artistic freedom and an ethics of representing the Other to point out whether there is a use or even a need for such work, and also if the museum might indeed be the place to put it into force.

In October 2009 I went to Alert Bay, a small community on the coast of northern Vancouver Island, British Columbia. For two and a half weeks I was a guest of the U'mista Cultural Centre operated by members of the Namgis First Nation, one of the Kwakwaka'wakw speaking indigenous peoples (Kwakwaka'wakw) of the Pacific Northwest Coast. Equipped with a flight case full of microphones and mobile recorders I could take home 35 hours of natural, cultural and everyday sounds, half of which had been recorded in surround sound. These,



as I already knew, had to be cut down to a 20-minute composition that would then be on display at the Sound Chamber. Working with a museum of course brings in demands different from a purely musical approach on field recording material. Authenticity and representational qualities are of major importance, along with an entertainment factor, which, however, is not to interfere with the aforementioned attributes.

Now how could I meet these demands, or more precisely, can I find a compromise that leaves all stakeholders, including me, with a minimum of dissatisfaction?



The plan was easy, and so was its implementation, or so it seemed for quite a while. Before had I left for the New World I had done a lot of research on the area, its history, its people, and its natural environment, so I had a couple of sounds in mind that would be neat to have

on tape, sounds of nature and culture typical to the area and cultural unit to be collected for the prospective piece, such as wind, water, birds, bears, carving sounds, traditional song, language and the like, the usual suspects for a production that is to introduce the listener into a culture he is not yet familiar with. When I arrived at the Bay I was quickly surrounded by a whole gathering of wonderful individuals (to whom I owe a great deal of gratitude) who helped me collecting the required material, which turned out to be by far richer than I had imagined (although bears were scarce, as Alert Bay is situated on Cormorant Island, and none of them have bothered to swim there so far; however, in terms of entertainment value I was compensated with a rock occupied by some 80 prancing sea lions, whose voices prominently dominate the touristy interlude between the fourth movement and the reprise of the piece). I was invited to join numerous culturally specific, but also the every-day kind of activities, the sounds of which I could then use in the composition process. Following a pre-imagined score taking its cue from the four world concept of Kwakwaka'wakw mythology I could easily (well, it took about five month in total, but the course was always clear) assemble a bricolage of the Alert Bay contemporary soundscape, I simply had to decide which



passages of which takes had to follow each other to make the whole thing work.

But wait – I said simply, which doesn't quite match the tensions I experienced in the final stages of the building process. As long as I kept confined within my studio environment it all seemed relatively simple; I had to answer to no one but myself for the decisions I made. But I knew, from the moment I would leave the studio

to negotiate my results with others, things were to become tricky.

The first acid test was already the hardest: I went back to Alert Bay to present my work to the people I had set out to portray. I was lucky, the reception was very positive. I had promised not to make anything public they wouldn't approve, and to that I had meant to hold. So if the reactions would have been negative I would have

had a major problem: The invitations for the vernissage at the museum had already been dispatched. But, yes, the members of the Namgis First Nation present that rainy day in May at the U'mista Cultural Centre did indeed approve my work. Wa (William Wasden jr.) said, he'd travelled to the places we'd been together while listening, Vera Newman was taken back to childhood memories, and they all agreed that it was a fair representation of their contemporary cultural and everyday life.

So, with that first challenge successfully met, I went on to the NONAM to hear what museum people might have say about my creation. The first reactions here were also fairly positive. But then I ran into difficulties from an unexpected side: As an honest person, and not completely free from vanity I had wanted my voice to be heard in the finished composition to leave no doubt about the fact that the listener is dealing with impressions of an outsider, not a representation of a cultural unit by its very own members. The museum wanted me to edit such passages from the piece for their purposes, as they believed that in order to keep neutrality and authenticity, a documentary may not incorporate traces of its maker. From a scientific as well as from an artistic point of view this may be discussed at length, which we



shall refrain from at this point. Maybe only this quick note: In terms of authenticity (we might also address the concept of objectivity here) a scientist always has to question himself if he wants to create the illusion of representing the “real thing” by deleting himself from the end product or if he wants his recipients to understand that his work is always inevitably coloured by his personal decisions of what to present and what to leave out, which he can try to pinpoint by making his presence in the making obvious. From the artistic point of view it may be an unwanted intrusion when trying to create a composition that can be digested as something detached from his person, then again, if it is meant to be a personal statement, the diary-like character can be highlighted by the same technique. But I also saw my artistic freedom at stake here. In the end I deleted all spoken words and left only one or two uh-huh’s and the clicking of my camera (in between exalted grunts and snorts of a bunch of agitated sea lions); a rather modest way of keeping present, but enough to disturb the illusion now and then, if only on an unconscious level.

The last group to be appeased was, as is well known, also the most merciless one: The audience. A museum visitor who doesn’t know me owes me nothing, so his



judgment will be honest, which of course sometimes can be cruel. I have to admit that the reception was mixed, ranging from “*Pink Floyd did quad sound already in the seventies*” over complaints about the length of the piece (whereas “*too long*” was heard equally often as “*too short*”) to outright enthusiasm. Those who took the time to really listen were all pretty happy with it.

So it seemed that I had managed the balancing act to convince all three major interest groups, the Natives, the museum's staff, and its visitors. But what about myself?

I remember asking Gabriele Proy about the beautiful piece *Kimochi* dealing with Japan that she presented at the WFAE^[2] conference in Koli in 2010, whether she wasn't worried that her audience might mistake her individual impressions on Japan for a representative work and thus get a blurred impression on Japanese culture. She reacted the only way appropriate in her position by stating she was an artist and her work as an expression of her artistic activity does neither strive for scientific accuracy nor does it have the obligation to do so.

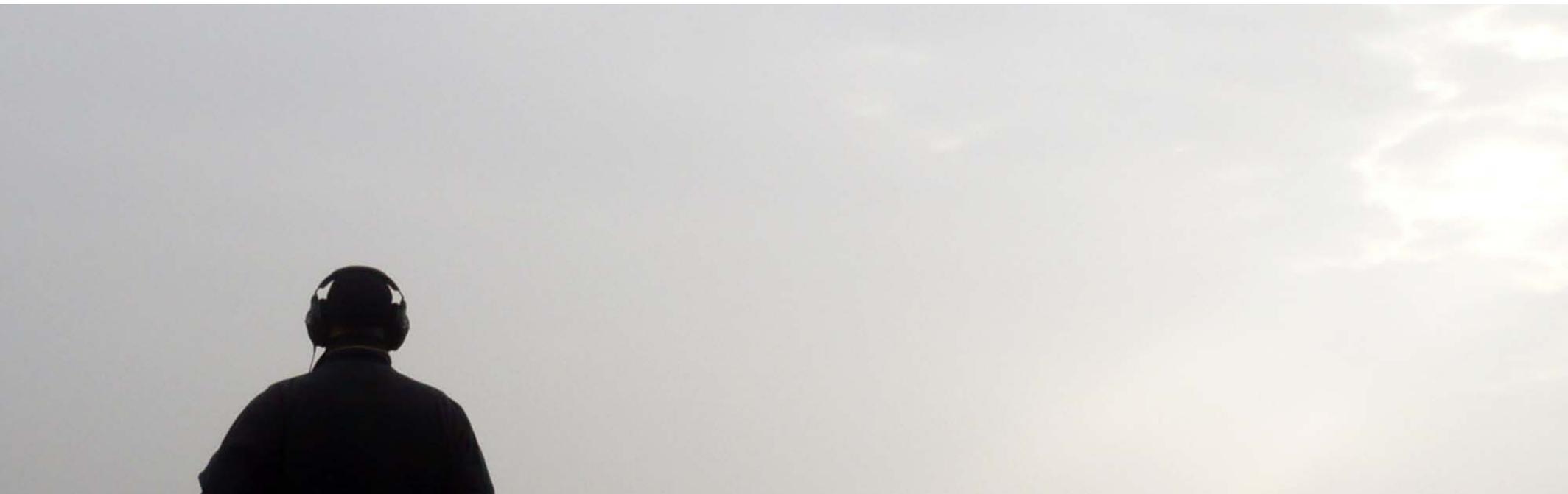
In my case the situation of course was quite different. As explained above, I indeed had to meet scientific demands. But I also wanted my work to meet my own demands in terms of aesthetic value and compositional complexity beyond that of pure representation. It should be possible to listen to *"Two Weeks"* to learn about Kwakwaka'wakw culture, to enjoy the narrative and compositional structure, and also to just lean back

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and go on a meditative voyage to one's own centre at the same time (or maybe at different times, depending on what one aims for at the time of listening). Following Böhme's claim that the first impact that a sensual input has on one's mind always is an affective one (Gernot Böhme in *"Aisthetik"*) I dare to argue that it was the right decision to throw my aesthetic judgement in the pot while working on a museum-pedagogical device. Only if I can trigger my audience on the affective (e.g. emotional) level, they will be ready to further busy themselves with the subject. And with reference to the comments by the Native community of Alert Bay, they may then learn about their culture; not too much factual knowledge, as could be found in books, but, by listening to the sounds, to a depth that leads to an understanding the way it can only be achieved by the affective power of the great composition of the soundscape of the world.

HS





Budhadya Chattopadhyay

SOUNDHUNTING IN A CITY
CHRONICLES OF AN URBAN
FIELD RECORDING EXPEDITION



Photo: Indrajit Chatterjee

Budhaditya Chattopadhyay is an art practitioner, primarily engaged with the audio media. He incorporates field recording, visual image and spatial practice generating a diverse range of sound-based artworks for installation and performance. He is also involved with practice-based research in perception and cognition of sound.

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1st Month: *Knowing, Listening, Locating*

The first sound that I hear when the plane just lands in Bangalore domestic airport is the cry of a baby; amidst increasing air pressure that is clouding auditory canals, the cry sounds like coming from afar. The same perception of distance I feel, even when I cross the newly built terminal of the airport, with large panels of soundproof glass and metal all around me, leaving no space for sonic discomfort and imagination. The city from where I am currently coming bears a high volume

of sound in the streets. In Bangalore even a nearby traffic horn can faintly intrude into the airport lounge. So, Bangalore seems to me quite silent and uninterestingly sober from an auditory perspective.

A close look at the urban landscape by the way how a cab window allows peeping out instigates me to look at the highway with large hoardings of housing projects that are quietly standing out with a predictable and unprovocative air so to say; nothing much to hear other than the car engine while my curious face is pressed on

the glass; downtown appears, and I open the window; a multitude of sounds enters the closed space of the car, one being very prominent: the sound of metal bells from the handy revolving machine to produce roadside candy juice; they are at every corner of the city street and can be easily located.

Evening extends itself towards temple-bells in handmade loops that reverberate within small alleys of the city where I arrive to stay. It's a locality of middle-class people; houses have been engaging in a design of semi-urban spaces with mixed land-use, multi-functional use of urban elements and community as identifying factor. Right across my 1st floor window there is a series of low-cost houses that can harshly be called "slums." Most of the rickshaw pullers, housemaids and cleaning people of this part of the city perhaps come from these housings. In the immediate audibility I hear the apparently silent room-tone of my empty apartment, having presence of a deep and diverse broadband frequency spectrum and numerous sound elements on the fringe of hearing. I keep my stuff, recording gears and a large Rycote windshield at the corner of the room slanting and retired, while I lie down on the floor and engage my ears.

While listening to a location, first thing that strikes a listener, is the juxtaposition of sound elements within an elusive silence. If the place is crowded with people, he hears certain voices that stand out; if it's in a rural setting, he hears a bird call beside a distant car horn; in a typical Indian urban environment he hears traffic with the sound from a muddy loudspeaker dispersing speeches merged with it (Gupta, 1977). It's a matter of an unmediated hearing that puts the ears into the mode of listening to a location where infinite numbers of sound events (Rick Altman, 1992) are taking place.

During the first three weeks of my stay, I spend my entire day by mostly lying on the bed, just listening to the place. From morning onwards the everyday environment of the location offers quite an overwhelming amount of sound elements. What I observe is that morning sounds are clear, distinct and with a finite beginning and end; like an emerging sun, the sound events reflect over people and spaces without keeping any residue. As the day progresses, sounds begin to elongate themselves, as if an event is stretching into the midday when people lose their enthusiasm, indolence takes its toll and the lazy-hazy afternoon begins to enter the windowpane; the sun goes on top and makes

things conscious of its presence. The afternoon *Raga* of the traffic inclines towards minor chords; a horn of a lone auto-rickshaw, bells of a busy bicycle, a repetition of an impatient door chime, a traversing crow and an unwanted male cat, all seem to emit minor chords in the peak hour of the working day.

Late afternoon calls for a siesta when housewives switch off the television and lie down on a creaking double bed alone without their husbands. It's time for the black crows to appear on the terrace while the homely parrots get excited about the coming evening. A few unemployed youths get together at street corners and their motorbikes wait with engines on. Exactly at this time, a street hawker passes by selling his hand-made soap with melodious business chants. This is the transition when the much awaited evening will be anticipated; the evening when most people come back to their respective homes, and prepare themselves for another day. As evening falls over the city like dispersing smoke, the absence of the sun is heard in the drones of traffic, sounds are time-stretched, merging over one into another, the whole city emits industrial music which intercepts with loops of temple-bell; from my bed I can hear the indistinct sound of homecoming people on the

main street moaning fatiguedly from their day spent in business; in a metallic chorus all the car horns seem to melt into halogen light, and the insignificant residue drifts towards darker corners of the city, window panes, and finally to the underground basements.

Evening merges with night by the way television sets are engaged with shouts and claps from reality shows; alleys become emptier, windows and doors are shut, stray dogs move around and fight with each other over the possession of food, drunks intend to find their doorbell and involuntarily falter; as the sound events get thicker, the broadband frequencies can be located, and an emergence of a large-scale urban drone is performed by a collective of electrical machines and devices, which were so far hiding within predominantly manmade sounds. In this late-night drone, subtle sounds are posited, as if they pop up here and there; a mosquito moves around, a drop of water falls on the empty bucket in my bathroom, the creak of the window becomes distinct and overly clear; this is the time when I become conscious of my own body, there is no "other" as such, I am "me" and my breathing becomes audible to the point when its heaviness comes to the verge of an ultra-existential consciousness.

2nd Month: Experiencing, Sampling, Re-Viewing

Any human auditory interaction with a citizen's everyday urban environment initiates a dynamic mediation of the auditory space as a sonic construct. According to communication theory, this interaction is medially locative and grounded on an audio-sensory perspective (Truax, 2001); that's how the interaction can be studied by an auditory approach to represent the environment in terms of its locative audio content. According to theories of sound media, an urban environment consists of an infinite number of sound events; a citizen/listener concentrates on certain events, and information extracted is essentially a partial image of the environment (Altman, 1992); the cognitive process of selection and elimination largely depends on the locative urban context of the listener; as a result, sonic interaction with urban environment cannot limit itself in receiving aural information, but responds with composing the information into a sonic construct as an auditory perception of the city.

From the very first day I go out with my recording gear to explore the city, my auditory senses become dominated by the imagery of growth in terms of urban development; the enormous metro construction is ceaselessly striking on large parts of the metropolis, like a whip

affecting not only its natural landscapes, but also the auditory legacy of the city, in terms of its very own archaic voices, is intruded by a constant sound of infrastructural development. A simple question can be raised here: what is the use of the metro? Just to save a few minutes of time? But Bangalore seems to belong to the group of cities that believe in slowness.

In a conversation with a veteran city-based visual artist I try to understand the sonic territory and people's association with it. I learn, as evolving urbanism of Bangalore from its colonial past, the city offers a number of zones where the auditory sensorium is frozen from a historical perspective; these zones offer sounds that belong to a distant past, unchanged, un-ravaged and untouched in its purity from the very hand of development. The zones lie in some unchartered corners of the city, unattended by citizens in euphoria over better urban living; these discreet zones allow to construct a quintessential sound environment of the city by means of preserving sounds that are no more sounding objects, but rather a historical simulation of the past; the distinct event of temple bells, archaic voices and momentary happenings of murmur that ring flashes of memory experienced by earlier generation of city-dwellers.

The conversation leads me to explore *Sunday market* on the busiest street, selling used and thrown out reel-to-reel spools and audiotapes by roadside. Starting from very early in the morning, the sale continues to fade out with the rising sun, as if an event in the twilight of a semi-darkened corner of urban subconscious was disappearing into remembrance. In a state of *trance*, I start to collect a large amount of spools and tapes from blurry faces of vendors who seem to come from nowhere. These chosen spools are visibly mysterious in terms of hazy handwritten scriptures on them, letting the user know a mediated history of personal recording expeditions. By playing back these spools, I find samples of home recording, radio broadcast, speech, fragmented music and half-erased tracks of sundry room tone, overdubs and clichéd silences.

Earlier, in search of a playback machine for reel-to-reel spools, I visit the lone curio shop in the older part of the city that has an audio section; the section is a museum in itself focusing on the heydays of analogue audio revolution; the likes of Akai, Philips and Grundig semi-professional home-audio equipments, ranging from secondhand reel-to-reel players, turn tables, disc-changers to used stereo tape decks and home speaker

systems. It's evidently an alienated environment from an overwhelmingly growing city, largely dominated by the silence of auditory visibility and nostalgia, as if the equipments are waiting for an eternal return of the sounding objects.

As an extension to the visit to the curio shop whose owner proudly proclaims that he sells audio heritage showing racks of LPs behind all the gargantuan analogue playing machines, I finally land up to the sole radio repair store in a dark alley to renovate a newly bought spool player; the store houses junk radios, valves and transistor parts from 1st World War in organized racks. Just beside the rambling traffic, the constant cluttering of cell phone ring-tones and the everyday sound of the city, the junk radios provide a stark relief, an urban refuge for indolent reflection rather than indulging in the invitation to action, engaging in its own way to a metaphor of auditory blindness. All my initiation to record on the soundfield of the city comes to a standstill in front of these once-active talking machines, now silent in their very own visibility enhancing their sonic objecthood as auditory legacy of the city.

Rudolph Arnheim understood radio perception as a kind of blindness, an aesthetics of the audible with the visual component subtracted. For Hadley Cantril and other radio researchers, radio represented a unique psychological phenomenon, where listening became synecdochic for all activities audiencing. These primarily developmental accounts posit the existence of a history of listening and at the same time close it down – radio, film, and sound recording become the agents of acoustic (urbanity) modernity (Jonathan Sterne, 2006).

There is a day of strike in the city of Bangalore in the last week of the 2nd month of my stay; the day I spend walking in the alleys of the neighborhood; it is a total strike of the traffic system and all related activities of transport. I realize, within the absence of obvious and usual city sound of cars, busses, trains and auto-rickshaws, that I haven't record any single sound event yet. This realization brings me to the threshold of awareness and of hearing to the nothingness of happening in an empty city where the immediate sensorium is in a standstill within an almost silence, which can be read as an infertile auditory space of no-sound, like in the underground basement, because the minimal sounding object – the close and distant electrical hum from

neighborhood distribution systems and electric poles – hides itself in the omnipresence of it, while sound events remain unchanged over their stasis. City spaces that don't offer any active sound field are difficult to record, as an eager microphone picks up its self-noise, the audible sound being of lower pressure level. Riding on these excuses my recording gear remains unused; the typical indolence surrounding me becomes all-pervasive.

3rd Month: Recording

In the beginning of the 3rd month, I meet an old dog on the street; he looks at me, and I see straight in his obscure eyes. This momentary contact suddenly motivates me to unwrap the surface of immediate actuality; that's how I encounter the flux of intrinsic transience in the essentially indolent urban character of Bangalore that directs me to examine the hyperactive landscapes of metro construction sites on the outer territory of the city.

Meanwhile I meet a bunch of young activists and filmmakers who are documenting lives of migrant construction workers at the metro projects, questioning validity of development and growth at the expense of natural

habitation and dislocation. The activities of the group and the invitation to join them with my tools and strategies of field recording inspires me to gear up my Sound Devices 702 and MKH60/30 combination of MS rig sheltered within a secondhand Rycote windshield; equipped with a pair of *urban trek* boots from *Woodland* shoes I finally set out to hunt down the sound of the city that I am trying to figure out so far.

As a straightforward approach, the first thing that prompts me to record is the industrial drone within the repetitive rhythm of machines at one of the busiest metro construction sites. There is no more obscure listening, no more indulging in a thought process of procrastination, no more philosophizing the auditory faculty; the immediate actuality is of urgent need to enter into the recording medium and gets signaled down as wave scriptures; the inspired and erected microphone stands up to the occasion; the recording machine opens up its very mouth, and sounds pour in.

The act of recording sound becomes an immersive activity; one event merges into another, keeping residue of the natural crossfades entangled with each other; it becomes difficult to take a conscious pause in the inten-

sifying process of field recording as the act gets more instinctive in its execution, and the microphone increasingly becomes an extension of man (*McLuhan, 2003*); with total and unquestioned involvement of translating, listening to the location into recorded audio files by self-indulgent choices of angle, directionality, perspective and movement, the field recording at the construction sites of the city opens up possibilities of rereading urban locations in terms of auditory artifacts.

Once started, the process of field recording continues to evolve toward saturation; a location doesn't offer multiple layers of sound events at a given time anymore; rather sounding becomes repetitive and psychedelic; the recording transcends mere effort of documentation to develop into impressions, reflections and musings of a field recordist. The city of Bangalore turns into a character, or the antagonist, who appears in many faces in the layers of impromptu recordings in terms of daily traffic, mobile devices, rumbles and vibrations. The night city, particularly the periphery of construction sites, offers exclusive sounds of cricket, wind's reflection on tin sheets, and fleeting siren with train whistles in perspective.

One recording session ends and another begins; the same spaces are exposed again and again on recording media; the subtle changes between sounds of days become unrecognizable; the incredibly identical audio files overflow compact flash cards; repetition attains the status of a virtue rather than a discursive hypothesis in field recording; nevertheless, the city continues to unfold its repository of sound events with each day passed on the field recording expedition.

Thus the city repeats its life, identical, shifting up and down on its empty chessboard. The inhabitants repeat the same scenes, with changing actors; they repeat the same speeches with variously combined accents; they open alternate mouths in identical yawns (Italo Calvino, 1997).

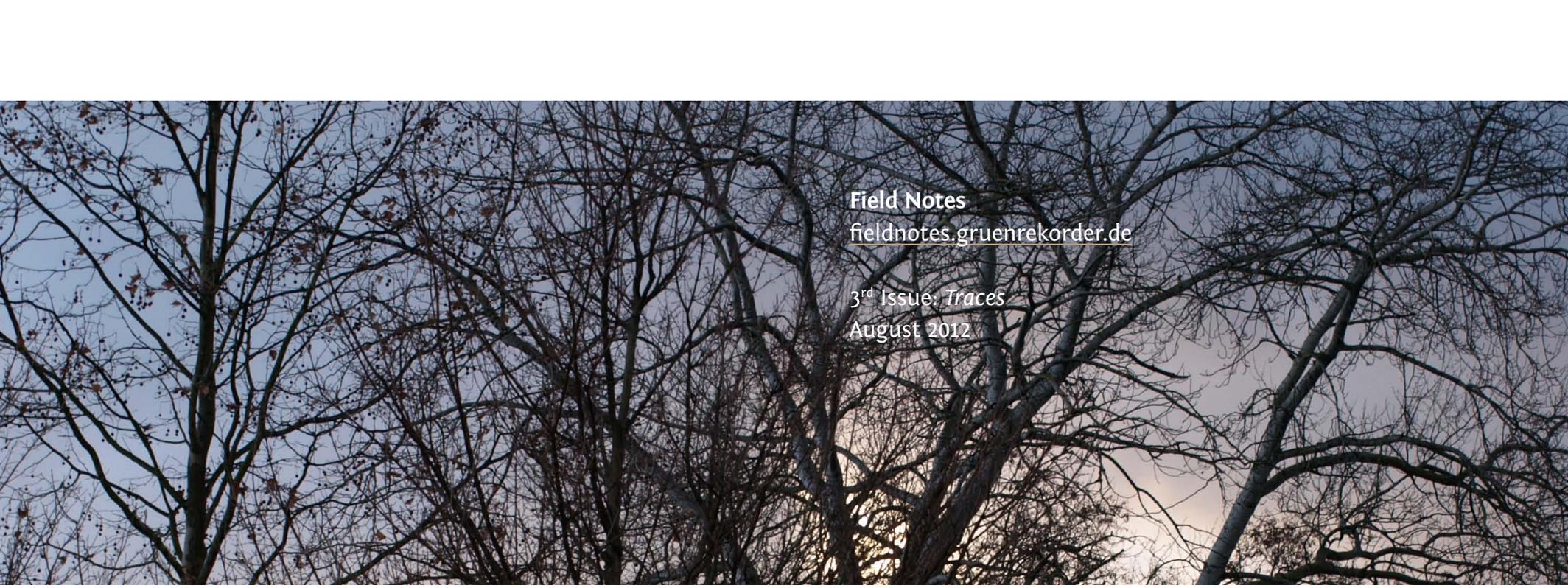
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Discography (Gruenrekorder)

- 2006 CD *Gruenrekorder AudioArt Compilation 03*
- 2008 CD-R *Landscape in Metamorphoses*
- forthcoming:
- 2012 CD *Eye Contact with the City*



Field Notes

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