The Live Audio Archive

SoundCamp, 54 Cambria Road, London SE5 9AS.
Email: <contact@soundtent.org>.

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Abstract

The Live Audio Archive is the shifting pool of real-time audio available online. Each year on International Dawn Chorus Day, SoundCamp draws on these materials for Reveil: a 24-hour broadcast of live sounds of daybreak that loops the earth with the Grey Line of twilight. Reveil brings remote ecological and acoustic projects together in a tour of this emerging field. Technical resources developed for the project are applicable to both ecoacoustics and musical composition. Affordable and simple, they have potential to create an extended and diversified open microphone network as a resource for researchers, artists and activists.

This paper brings together perspectives on live streaming sound [1]. It describes projects linked to soundcamp/Reveil and discusses their collective potential for engaging with End of the World ecologies [2,3].

Reveil

Reveil is a 24-hour radio broadcast of live daybreak sounds, produced annually on International Dawn Chorus Day by by a global network of streamers, webcams, hydrophone observatories and other channels. Starting near the Greenwich Meridian, Reveil travels West from microphone to microphone following the Grey Line of twilight [4].

Soundcamp

Reveil links to a series of outdoor camping and listening events: 'soundcamps.' The distinctive 'technology' is the soundtent: a sonically porous listening shelter which merges the sound of remote streams with the changing local soundscape. Soundcamps stream to Reveil sequentially as daybreak reaches them. This clock-like mechanic links remote ecological and acoustic practices. Daily tasks—cooking, sleeping, brushing teeth—take place to a wider planetary rhythm.

Locus Sonus

Since 1995 Locus Sonus have developed an online sound map hosting live audio streams [5]. They have built and collaborated on a succession of streamboxes in addition to the mobile apps Locuscast and Liveshout. Their open microphone network has supported a range of artists' projects including Ragnar Helgi Ólafsson's 'daybreak [forever]' [6] and Grégoire Lauvin's Echo-In, which brought sounds from a belltower, a cave, and a goat shed in the hills around Aix into the city [7].

Pond Station—Zach Poff

Pond Station [8] is a floating sculpture monitoring the hidden activity of a pond in Upstate New York. It was developed through a residency at Wave Farm and debuted on Reveil 2015. The off-grid station, equipped with solar panels, hydrophones and batteries, transmits sounds through a short radio link to a streambox delivering a live 24 hour webstream.

'You hear the individual activity of thousands of little creatures, invertebrates, insects, the bubbling of oxygen as it comes off some of the underwater plants and the low frequency rumble of nearby road traffic that leaks in. There is a tremendous amount of variation through the day and the seasons. I wanted to put my head under the water in a place that I was not allowed to be... These sounds would almost instantly stop if we tried to enter the pond.'

Cyberforest

Cyberforest [9] is a transdisciplinary research programme at the University of Tokyo, which has been streaming and archiving live sounds and other data from rural locations in Japan since its founding by Kaoru Saito and colleagues in 1995. These streams formed the basis for a variety of scientific, artistic and educational projects with a focus on seasonality and change, and how this can be experienced via a mix of traditional field studies skills and innovative digital media. These range from flute recitals evoking sounds of different winds and breezes, to a project that recruited seabirds to provide live mobile weather data to the Japan Meteorological Office [10].

Soundcamp Estonia—John Grzinich

After moving to Estonia in 2003, John perceived changes in his environment more intensely, as real-time events that change constantly throughout the year. He felt a deeper connection to particular places as well as the rich and diverse ecological systems in Estonia. 'Around the time of Reveil in spring the first thing you hear is the first migrations of birds coming in. It is the sound of life: a system coming back to life.' To stream the dawn chorus from the Alam-pedja nature reserve to Reveil in 2015 was to share this intense moment of change in real time and to listen closely to 'an impressive array of wildlife waking up' [11]. Ornithologist Veljo Runnel identified 50 species of birds.

Bivvy Broadcasts—Dawn Scarfe

Excerpt from score: 'go to an unknown forest; sleep out; leave no trace' [12].

Despite the lack of dangerous wildlife in England, Dawn found that sleeping in the woods brought an intensity and urgency to her listening. This was perhaps to do with unfamiliar surroundings, a feeling of exposure having only a waterproof sleeping bag for shelter, and the darkness she felt more acutely in remote locations. She attended to the tiniest of sounds as if her life depended on it, a way of listening described by Alvin Lucier in his fantasy of being a Canadian fur trapper as a 'high level of attentiveness' and a way of cataloguing sounds while sleeping. From her bivvy, she had the impulse to send out a signal, hoping that other people would would pick it up in 'safer' domestic surroundings. She began live streaming the sound from her (undisclosed) location in a series of nocturnal broadcasts between 2013–14 that fed into Reveil. She hoped others might tune in and out of the long form broadcasts as they slept.

Weather Report—Jiyeon Kim and Gangil Yi

'The appeal of the Locus Sonus soundmap and Reveil is that sounds are not fixed to a place. We are reminded that sound is happening now: it is moving and always changing like air, whereas field recordings often have the illusion of fixing sound to a particular place.' In 2015 Jiyeon and Gangil moved from Seoul to Jeju Island. They were inspired by the changing environment, with strong winds, rain showers and seasonal shifts in the sounds of birds and insects. They began streaming live sounds weekly in their 'Weather Report' broadcasts [13], inviting feedback from listeners (often in Seoul) who found the streams meditative, and tended to listen before sleeping or while working. Jiyeon experiences live sound as a kind of 'tuning into the world', and 'life unfolding.' This continues to inspire new ways of working, including 'Transparent Music,' which uses live sounds of weather and remote environments as materials for improvisation.

A Certain Geography—Maria Papadomanolaki

Maria uses the Locuscast app with a mobile phone toolkit to stream live from within urban environments, to create hybrid soundwalks [14], and to open and close each Reveil broadcast. Passing through different sites and auditory spaces, the sound acquires a particular materiality, weaving together the remote and the local, internal and external soundscapes. This assemblage encourages a more experiential way of listening that is embodied and transient. Incorporating everyday movements, a form of temporary geography is gradually constructed through multiple fragmented perspectives as they occur in real-time. Maria uses her voice, embedded within the environment, to be in conversation with her listeners. The multiple perspectives opened by the live-streaming induce a particular sense of presence in which memory is experienced as actively under construction. These temporal, social, personal, collective layers of interactions form what she calls a sonic perceptual ecology.

Discussion

Reveil recalls the 'Environmental' or 'Wilderness Radio' imagined by Bruce Davis, with 'microphones installed in wilderness areas from which would be transmitted nothing more or less than the natural soundscape, bringing city-dwellers direct relays from the wilds [15].

Reveil shares a sense that remote listening can shift our sense of perspective. But it does not prefer 'hi-fi' rural to 'lo-fi' urban sounds as in early Acoustic Ecology. Reveil is interested in the variety and quality of sounds, but these are typically from inhabited places unresolved between built and natural. Reveil specifically attends to the local projects that operate the microphones, rather than an abstract delivery system. The soundcamp blueprint [16] blurs the divide between artists and audiences, as the role of streamers blurs the distinction between broadcasters and listeners, towards a swapping back and forth of sounds.

By introducing a pause in the human speech and music that fills almost all radio airtime, Reveil reflects both a wider decentering in ecological thinking and the development of increasingly nuanced accounts of non humans as actors in their own rights, communicating among themselves. The emblematic Romantic posture of listening to a singing bird is different from overhearing two birds singing to each other [17]. 'The Tropical boubou' heard on a stream from the slopes of Mount Meru in May 2016, was likely two birds singing a composite call; while Arrow-marked babblers in the same garden improvise in groups of six or more. Reveil resonates with a radical expansion in our understanding of non human creativity [18].

Listening to live streams is different from listening to recordings. We listen to a local stream via a remote link, and hear the sounds with delay. Real-time is about an active relation, a real process linking A and B; not about instantaneity [19]. Technical affordances involve gains and losses—of clarity, veracity, responsibility—in an unstable mix. Far from the immersive experiences offered by many representations of The Environment, the streams set up direct links among specific places that we know in principle, but less in experience, are already there. Listeners say the links feel fragile. They hesitate to pause, for example, sounds of shrimps, cetaceans and moving water relayed from below the Antarctic ice, as if they might be the only witness to an important event [20].

Sitting in a tent in a field near Dartington, England in the rain, listening to sparse pops with occasional slurps and rumbles, it feels like we could be listening equally to the End of the World, or the sound of new life forms emerging from the sludge just below where Zach Poff has hung his homemade hydrophones. The Live Audio Archive turns out to be an apt device for tuning in to this zone of indeterminacy where, as Zach says, we can't normally go.

References and Notes

1. This paper is based on a presentation at Balance Unbalance in Phoenix, Arizona in April 2015, which described the Reveil broadcast, and a panel of local and remote participants in Manizales, Colombia in May 2016, which included the practitioners whose work is outlined here. Our thanks to Ricardo dal Farra at BunB, Leah Barclay at Biosphere Soundscapes and Eric Leonardson at WLP for the panel, and to all the contributors.

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