

Mapping the Sound Ecology of the Swiss Alps

Philip Samartzis¹

¹RMIT University, Melbourne, Australia

philip.samartzis@rmit.edu.au

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1. Project description

This project documents the sound ecology of the Bernese Alps to demonstrate the transformative effects of climate change upon high-altitude wilderness regions. The project is divided into two distinct phases.

During the first four weeks Dr Philip Samartzis undertook fieldwork at the High Altitude Research Station at Jungfrauoch where he made sound recordings of environmental, anthropogenic and geophysical phenomena. Dr Samartzis also made recordings around the Eigergletscher and valley below Klein Scheidegg to map the differences between high and middle altitude environmental conditions and acoustics. Dr Samartzis deployed a range of specialist microphones to register different environmental forces focusing particularly on their unique acoustic and spatial characteristics.

Dr Samartzis then spent three weeks at the Institute of Computer Music and Sound Technology at the Zurich University of the Arts composing a new ambisonic work for multichannel playback. During this time Dr Samartzis edited and arranged sequences of sounds to create a highly detailed and immersive soundscape to reflect some of the key sonic signifiers and eco-acoustic characteristics informing the Jungfrau region. At the end of the residency Dr Samartzis presented a final 50-minute 25-Loudspeaker sound composition to staff and students of the ZHdK, followed by a question and answer session.

The composition is designed to provide new knowledge and encounters of an endangered alpine wilderness to audiences unlikely to experience this rarefied ecology first-hand.

2. Outcomes

The project is significant for its attempt to articulate the aural changes occurring in high altitude ecologies through climate change and increased anthropogenic sound. The final composition titled Atmospheres and Disturbances captures the velocity of wind and its attendant stress on structure, the erosion of the landscape through rising temperatures and the loss of permafrost, and the increasing noise generated by mass tourism, construction, and transport services. The composition reveals a landscape ecology under siege through a confluence of factors that are dramatically reshaping the acoustic and spatial characteristics of the natural alpine environment.

3. Outputs

Presentations:

Zurich University of the Arts, ICST Kompositionstudio, November 1, 2019.

Guest lecture by Dr. Philip Samartzis within Prof. Germán Toro Pérez' regular seminar "Analysis of Electroacoustic Music" for composition students, opened in this occasion to ICST staff and eternal guests. Dr. Samartzis contextualized and presented «Atmospheres and Disturbances», a 50' ambisonics composition realized at ICST during his visit and answered questions by the audience.

Upcoming Exhibition:

Sampling the Future: The National Gallery of Victoria, Melbourne, Australia, August 1, 2020 to March 1, 2021

Current Exhibitions:

The Shenzhen Bi-City Biennale of Urbanism / Architecture, Shenzhen, China, December 21, 2019 to March 30, 2020

0 Degrees Celsius: InterCommunication Centre, Tokyo, Japan, December 13, 2019 to March 1, 2020

Symposium:

Ambiance Symposium, RMIT University, Melbourne, Australia, March 25, 2020

Media:

"This is what the changing Alps sound like", SWI, swissinfo.ch, December 20, 2019. https://www.swissinfo.ch/eng/studying-switzerland_this-is-what-the-changing-alps-sound-like/45440370

4.1 Added value for the ICST

The ICST has gained international reputation for its work in the field of 3-dimensional sound projection using ambisonics. Several tools and publications have been released in the last 15 years. The exchange with and the feedback of recognized artists and researchers, able to use these tools in-depth are essential for further developments. The work realized by Dr. Samartzis in the ICST Studios based on high-quality field recordings done at the Jungfrauoch High Altitude Research Station and surroundings documents the capabilities of the actual system to convey a strong sense of being at the sites and to make their aural features be experienced. The new «ICST ambisonics plugins» (released October 2019) were used for the first time in a large-scale external project.

Moreover, research in the field of acoustic ecology has become urgent in the last years. The ICST has been active in this field since 2012. Dr. Samartzis' visit fostered the reflection among researchers and students on questions, methods, potentials and challenges for artists doing research in this field. The realized piece and the subsequent exhibitions using materials generated during his stay will help us to further understand the potentials for aural communication of complex environmental issues to large audiences. Besides this, these venues represent an important showcase for ICST and HFSJG in the Asia-Pacific region. The link to HFSJG made the ICST aware of the potentials available in Switzerland for related projects.

Finally, two young composers linked to ICST, Rahel Zimmermann (Master degree in composition 2019) and David Inauen (Bachelor student in composition), currently working on a related project at Klein Matterhorn, were able to visit Dr Samartzis at the HFSJG and learn from his field recording techniques and compositional approach.

4.2 Further collaboration

After Dr Samartzis's visit to the ICST the following potential collaborations were discussed:

Short term:

Advanced field recording workshop in high altitude regions for ZHdK Students

Middle term:

Exploration of possibilities for a joint research project on the sound ecology of the Swiss Alps with focus on sensory cartography and the exploration of AR und VR capabilities for ecological based sound mappings.



Address

School of Art
College of Design and Social Context
124 La Trobe Street
Melbourne, Australia

Contacts

Associate Professor Dr. Philip Samartzis
Tel.: +61 (0)467 517 778
e-mail: philip.samartzis@rmit.edu.au