

**Project leader: Prof. Dr. Britta Sweers**

## **SOUND, DENSITY, AND THE ENVIRONMENT: CASE STUDIES FROM THE BERNESE ALPES, BRAZIL'S MINAS GERAIS, AND HONG KONG'S SAI YING PUN QUARTER**

### **1 SUMMARY OF THE RESEARCH PLAN**

This project explores different contemporary soundscapes (Schafer 1977) from a global comparative perspective to analyze their sonic dimensions, predominant influence lines, and the related impact on the human interaction with the surrounding environment. Although soundscape studies date back to the 1970s, research started to move beyond prevailing pastoral perspectives only recently, hereby also adopting a more specific vocabulary. Focusing increasingly on the interrelation of sound and environmental sustainability, this field has thus been moving towards the concept of acoustic ecology. Set within this framework, this project encourages not only a critical reflection on the actual dichotomies of urban, rural, and natural soundscapes; it particularly investigates the actual lines of influence of environmental sounds, technological soundscapes, human culture, music making, and performance. While based in ethnomusicology, this transdisciplinary project integrates perspectives and methods from anthropology, soundscape research, urban studies, and architecture. It likewise proposes the reintegration of musical material and affect studies (Goodman 2010, Kanngieser 2012) into the research perspective. Reanalyzing factors such as density and reflecting on perceptive processes, such as immersion and transduction (Helmreich 2010), the project *Sound, Density, and the Environment* particularly focuses on the following specific dimensions of intersection:

- the impact of human-generated sound on a natural environment;
- the impact of environmental sound on human cultural and social life;
- strategies of reappropriation of an artificial urban context through sound and reflected in sound.

The three subprojects refer to the following respective soundscapes: a) the high Alpine region of the Swiss Bernese Oberland as a tourist hot spot and dense interaction point of human-generated and environmental sound spheres; b) the extremely remote Geraís, a rural environment in central Brazil, as a tight impact point of natural sounds onto human cultural and social life; and c) Sai Ying Pun, a quarter in Hong Kong, as a highly dense urban zone with sparse natural/vegetative context. The project's central goal is to analyze the dominant influence lines within these extremely diverse soundscapes, as well as their broader ecological impact, hereby also intending to develop solution strategies for the different interest groups. Accordingly, the project will conduct a cluster of methods:

- 1) Fieldwork based on ethnographic and geographic data and sound topographies of the respective environments, combined with cartographic approaches
- 2) Detailed qualitative investigation of sonic perceptions of respectively relevant actors (e.g. interviews with local populations, tourists' groups, policy makers).
- 3) Analysis of musical elements within or derived from the actual sonic environments; mainly field recordings, transcription and computer based spectrogram analysis of recorded sounds.
- 4) Analysis of case-related political environmental debates and touristic graphic material.

Although each of the subprojects will be individually conducted (subprojects B and C are undertaken as Ph.D. dissertations), the approach includes a researcher triangulation that will be particularly explored in the context of subproject A, but also with regard to the reanalysis of the outcomes of projects B and C. This project also provides the young researchers of subprojects B and C with opportunities of international exchange, e.g. with the SCOPES Project *City Sonic Ecology: Urban Soundscapes of Bern, Ljubljana, and Belgrade* and other soundscape projects.

## 2 RESEARCH PLAN

Sound is a significant marker of the human interaction with the surrounding environment (Schafer 1969, 1970, 1973; Feld 1994), be it with regard to the human expansion into natural and (human-shaped) rural environments, be it with regard to the actual dense human environments and landscapes. The analysis of human interaction with sound provides a deep insight into environmental issues that are often not apparent at first. Recent debates (e.g. Ingold 2007; Helmreich 2010) have questioned Schafer's pastoral perspective, as well as the idea of soundscape as an objective concept. Not only might sound be compared to weather and air (ibid.), but further factors, such as density (e.g. Kang 2010) and the temporal change of soundscapes (e.g. De Coensel 2007) likewise need to be taken into consideration. Furthermore, Helmreich (2010) points to aspects such as immersion and, beyond that, transduction, which also refers to the transformation of sound (experience) in a specific environment. Taking up these factors for closer investigation, yet also questioning the established dichotomy between rural and urban contexts, this project aims to explore, on one hand, different dimensions of the human interaction with the surrounding environment through sound. On the other hand, it investigates the impact of the environment on human cultural expression, as well as human creations and recreations of soundscapes in a contemporary context.

Focusing on three different environments: a) the European Alpine Bernese Oberland, b) the central Brazilian Gerais, a vast and sparsely populated rural landscape, and c) Sai Ying Pun, a densely populated neighborhood in China's autonomous region of Hong Kong, the project *Sound, Density, and the Environment* will trace some of these interactive lines by addressing questions such as:

- How can the relation between humans and their specific environment be linked to the surrounding soundscape?
- Is "density" a valid conceptual connector between sonic textures and population dynamics? Could densely and scarcely populated areas respectively demonstrate a dense and a scarce soundscape, and vice-versa? Is density a valid analytic category within sound analysis and soundscape theory?
- What are the cultural and social answers presented by people in response to the world they listen?
- What is the relation between environmental sound and local music production?
- What is the place of the soundscape experience in environmental debates? How far does it have an impact on politics and policymaking?

The project's goal is to provide a first map of the different keynote sounds of each environment (Schafer 1977), and, going beyond the established soundscape research, to analyze the human interaction with the local soundscapes on a qualitative basis. It hereby also explores interactive lines that could serve as bases for further applied social and political environmental action. The main goal of this project is to establish, on the ground of a final comparison, a wider basis for political environmental action, inasmuch as the soundscape experience could be a significant factor and indicator of environmental damage. In turn, such damage has an often unrecognized impact on human living conditions, physical and psychological health, cultural identity and social dynamics.

Despite relating to different geographic regions, the three subprojects are closely interrelated. Subproject A focuses on a tourist hot spot in the Bernese Oberland. Shaped by a vertical sound distribution, that area is not only an extreme example of the impact of human-generated sound on a natural environment, presenting clearly detectable human and sonic density spots; it is also exemplary for the exploration of the affective dimensions of subjectivity of environmental and human sound associations (Goodman 2010) in an extreme natural environment. Subproject B, focusing on the Geraizeiro people from the central Brazilian countryside, explores the symbolic and epistemological dimensions of sonic interactions between society and nature. Its main goal is to comprehend in which ways cultural and social life – including economy dynamics – are based on systematized auditory knowledge and fine acoustic perception,

hereby adding a new approach to those of subprojects A and C. Similar to subproject A, environmental issues are also here significant, since it is presumable that recent transformations in nature, land use and resources' exploitation have led to severe soundscape changes, respectively related to profound sociocultural impacts. Finally, subproject C investigates the relations between sound, architecture, and human life in the dense and clustered living space of Sai Ying Pun, a one-square-kilometre small district of Hong Kong, with about 90,000 inhabitants. It highlights, similarly to subproject A, a vertical perspective. Focusing on the analysis of everyday sound perception in Hong Kong, subproject C explores the impact of factors such as weather, traffic, time, occasion, yet also space (that will be analyzed from architectural, functional, and sociocultural perspectives) in order to understand the human appropriation of a dense urban soundsphere.

## 2.1 CURRENT STATE OF RESEARCH IN THE FIELD

Throughout the 20th century, *stricto sensu* sound remained a marginal topic for cultural and musical disciplines. Academic tradition preferred to draw its attention to the study of music, conceived as “the humanly organized sound” (Blacking 1973), as central object of symbolic or cultural elaboration. Other sonic phenomena, whether directly or indirectly produced by man or issued by environmental sources, were recurrently defined as “noise” (Lévi-Strauss 1964), being conceptually placed in an antagonistic *locus* to that of music. A paradigm shift was initiated with the development of soundscape studies (Schafer 1977). Also known as “acoustic ecology”, this interdisciplinary field of studies concentrates on the issues of sonic relationships between humans and their environment. Although it often appears heterogeneous, certain trends run across this multifaceted discipline, endeavoring to radically change our paradigm of thinking about sound and music. Acoustic ecology usually criticizes discourse- and image-centred trends in the Cultural Studies, arguing for the importance of the sound in the processes of cultural mediation with the environment. It further challenges the concept of ‘art’, even when discussing artistic practices such as soundart, and it questions the border between ‘noise’ and ‘music’ which appears to be artificial in everyday life (cf. Zittoun 2012). Finally, focusing on micro case studies and current social phenomena, acoustic ecology tries to evade grand narratives and to draw conclusions on a local scale, particularly communicating with issues of urbanism.

One of the key proponents of soundscape studies since the 1970s has been R. Murray Schafer (1977; recent publications include Schafer 1993). His work has set the discipline as one which encompasses scholarship as well as artistic projects and documentary works (such as his pioneer *World Soundscape Project*, and also Steven Feld's (1982) studies). This project will particularly refer to specific contemporary trends in acoustic ecology which communicate with other interdisciplinary fields, such as memory and soundart studies, urban geography, and conflict studies. Soundscape studies brought the notion of “ecological reasoning” into sound-related disciplines, investigating sound not primarily as a musical phenomenon, but as a part of a human environment. In this manner, it has been possible to challenge the dichotomy between nature and society, concerning the production of soundscapes, and to question teleological approaches to sound (cf. Oddie 2011). Soundscape research has also increasingly started to include observations gained from the field of hearing psychology, e.g. regarding the question of how sounds can act as mnemonic technology. Concepts such as sonic memory material (Voegelin 2006) and auditory nostalgia (Bijsterveld & van Dijk 2009) try to explain how specific sounds trigger cultural memory, looking into personal choices of music listening, investigating sounds *in situ* – for example, in their specific surrounding.

Meanwhile, acoustic ecology also exerted considerable influence on Social Sciences. From the late 20th century, innovative production in cultural anthropology conceived the idea of sound as a symbolic system (Feld 1982, Weiner 1991, Gell 1995, Rice 2010). This formulation encourages the comprehension of broad-sense acoustic phenomena, other than music, as objects of cultural signification and interpretation. As a consequence, music and

acoustic environment should no more be conceived as opposed, but rather complementary objects of analysis. Furthermore, Feld & Brenneis (2004) advocated that human societies actually decode environmental sound into language and music, indicating a recurrent cultural tendency to understand, control or metaphorize the surrounding acoustic world. Feld & Brenneis (2004) likewise underlined the epistemological features of the sonic environment, by inaugurating the concept of acoustemology, primarily defined as “sonic ways of being and knowing” (ibid.: 463), and later on as “sound as a capacity to know and a habit of knowing” (Feld 2012:xxvii). This concept led to the comprehension of how sonic perceptions evolve toward the constitution of an experience-based truth within a specific society.

Furthermore, the connection of acoustic ecology with affect studies (Goodman 2010, Kanngieser 2012) has become of particular importance as both areas are concerned with transgressing the paradigm of cultural studies, which is centered on discourse, semiotics, and representation in order to explain the production of sonic meaning within society. Acoustic ecology and affect studies have started to explain how people interact with their environment and how they create ecologies of shared affect through non-representational means. Investigating the relation of the actual soundscape with processes of sound sharing likewise provides fundamental source material for these explorations, which also includes issues of political protests (Tremblay 2012; Waitt et al. 2013). This will be important with regard to subprojects A and B. Regarding subproject C, urban geography has nurtured a pronounced interest in the study of sound, not least influenced by the recent translation of Henri Lefebvre’s *Rhythmanalysis* (2004), in which the French sociologist claimed that every city has its own rhythm, an audible mark imprinted into its soundscape (Simpson 2008, Fraser 2008). Recently, Solène Marry (2011) has emphasized the importance of soundscapes and sonic perception in creating mind-maps of urban environments.

Given this growing comprehensive and multi-layered discourse, particularly “classical” approaches, as of Schafer (1977), have been increasingly challenged. For example, while Ingold (2007) questioned the pastoral idea of natural soundscape, Helmreich (2010) suggested an expansion of perception modes, ranging from immersion to transduction, issues that also apply to extreme environments, such as the Bernese Oberland and the urban spaces of Hong Kong. Concerning the study of sound from a sociocultural anthropological perspective, scholarship has also pointed to the inadequacy of several aspects of contemporary theory which directly relate to this project. For example, Feld (2012:xxiv) admitted the insufficiency of mainstream analytical models in his critique of “sung texts” (Merriam 1964), reaffirming the necessity of a new theory which encompasses hybrid expressive forms lying between speech and music. Brabec de Mori & Seeger (2013) reckoned the anachronism of contemporary theory in which refers to the frontiers of humanness in music and sound-related disciplines. Similarly, Keller (2012) recognized the theoretical gaps within this debate, advocating in favor of the institution of what he called “zoomusicology.”

Despite the growing soundscape research, main internationally interconnected research clusters on auditory knowledge and sonic anthropology are still focused at a small number of locations. Leading examples are Steven Feld (University of New Mexico), Nicola Scaldaferrri (University of Milan), and Tom Rice (University of Exeter). In Switzerland, ethnomusicological soundscape research has been predominantly concentrated at the University of Bern (Institute of Musicology and Center for Global Studies) and at the inter-institutional Graduate School of the Arts (University of Bern/ Hochschule der Künste Bern), under supervision of Britta Sweers. This project thus also benefits from the already existent tight network that has been established by Sweers, particularly with regard to her leadership of the international SCOPES project *City Sonic Ecology* (2014-2017) that predominantly focuses on the interrelation of soundscapes with religious, sociocultural, and political aspects. While this project functions as a unit distinct from the SCOPES project, it nevertheless will benefit from the existent exchange with other (predominantly urban) soundscape projects, such as the one undertaken at the University of Limerick and the University of Music and Theatre, Rostock.

## 2.2 CURRENT STATE OF OWN RESEARCH

**Prof. Dr. Britta Sweers (project leader; subproject A)** is the current leader of the SNF SCOPES project *City Sonic Ecology: Urban Soundscapes of Bern, Ljubljana, and Belgrade* (2014-2017), that is conducted together with the Universities of Ljubljana (Slovenia) and Belgrade (Serbia) (project website: <http://citysonicecology.com/>). She has been undertaking soundscape research since 2010, when she taught a seminar entitled “Soundscapes: Wahrnehmung, Komposition und Dokumentation von Klanglandschaften” at the University of Bern. The fieldwork material from this seminar is currently revised for a website presentation. Aspects of this research have echoed in various articles, yet also in music pedagogical articles, radio interviews, and public presentations. Currently (autumn semester 2015), Sweers is conducting an applied seminar with historical musicologist Prof. Dr. Cristina Urchueguía (Bern) and *Bern Tourismus* that not only expands the mapping process undertaken within the framework of the SCOPES project, but will also develop a set of sound walks for the city of Bern. Furthermore, she has been active in the research on music and environmental change that has culminated in a major co-edited publication on *Climate Change, Music, and the North*.

- In press. “Environmental Perception and Activism through Performance: Alpine Songs and Sound Impressions.” In: Sweers, Britta and Annette Kreuziger-Herr (eds.) *Climate Change, Music and the North*. Bloomington, Indiana: Indiana University Press.
- with Theresa Beyer. 2013. “Soundscapes in der Schweiz.“ *Programmheft Festival Alpentöne*.
- with Sarah Ross. 2012. “A Blank Field of Musical Traditions? (Re-)Constructing Ethnomusicology in Contemporary Switzerland. In: Richter, Pál: *Musical Traditions: Discovery, Inquiry, Interpretation, and Application*. Budapest: HAS Research Centre for the Humanities, 116-134.
- 2011. Sweers, Britta. „Wie ein mehrdimensionales, lebendiges Bild...“: Beispiele musikalischer Raum- und Zeitwahrnehmung aus ethnomuskologischer Perspektive“. In: Möller, Hartmut and Martin Schröder (eds.) *Musik – Kultur – Wissenschaft (Rostocker Studien zur Musikwissenschaft und Musikpädagogik)* Vol. 1. Essen: Die Blaue Eule, 107-132.

**Victor Soares (Ph.D. candidate; subproject B)** has always been interested in the properties of sound as a vehicle for cultural expression. Accordingly, he attended lectures on anthropology of music, sociocultural anthropology and sociology at UFMG, Brazil. His first research enterprises on the subject populations of the present study date back to 2004. The highlight of this year-long process was the dialogical spectacle *Amarilis e outros amores*, in which European, African and Native American heritage of the local culture of the Geraizeiros are explored. From his admission as a doctoral candidate at the Institute of Musicology under the advisory of Prof. Britta Sweers, followed by his membership to the Graduate School in the Humanities at the *Walter Benjamin Kolleg* of the University of Bern, he has approached the most recent debates in the fields of aural and sound anthropology, and in acoustic ecology. This knowledge, united to short-term fieldwork incursions in central Brazil (Mar., Sep.-Nov. 2014), offered him theoretical and methodological foundations for the development of the present doctoral project. De Souza Soares has often figured in Brazilian universities as a guest lecturer, talker and masterclass expert in the fields of sound and music performance and interdisciplinary musical studies. His most relevant publications in the field are:

- In press. “Contratenores, ‘castrati’ e seus cantos: uma perspectiva interdisciplinar”, *IV jornada de estudos musicais*. João Pessoa: UFPB.
- 2013. *Music in the Early Jesuit Missions of Portuguese America: Context, Phases and Guidelines*. Basel: Schola Cantorum Basiliensis.
- 2012. *Adoratio: entre terra e céu: program notes*. Belo Horizonte: UFMG.

**Andrin Uetz (Ph.D. candidate; subproject C)** has already undertaken a preliminary study with the title “Soundscape of Business”, that suggested to study Hong Kong as a place where commercial and private space is connected, focusing on programmed music in shopping malls. He has been in contact with Dr. Vincente Neglia from Hong Kong University,

who wrote an invitation to include that project into the Ph.D. curricula of its Department of Music. Andrin Uetz has established connections with Hong Kong's indie music scene. His own art-pop-band *Europa: Neue Leichtigkeit* has played shows in Hong Kong in 2012 and 2014, at which Erwin Lüthi, deputy consul of Switzerland in Hong Kong, invited them to play some shows during Art Basel (Edition 2014). In order to further expand local collaboration possibilities for that project, he has likewise been in touch with Nuria Kramer and Patrick Müller (Zürcher Hochschule der Künste), who run the gallery “Connecting Spaces” in North Point, where urban sciences, architecture and art are publicly discussed. Due to his study background in philosophy and historical musicology, he has recently taken further seminars in Cultural Anthropology of Music at the University of Bern in order to train the necessary skills on fieldwork, interview technique and transcription. With regard to in-depth acoustic analysis, he has been in contact with Prof. Dr. Holger Schulze, founder of the Sound Studies Lab at the University of Copenhagen. As an expert and pioneer in the field of sound studies, Schulze will co-supervise Uetz’s project – which might also provide this project with access to advanced sound technology from Copenhagen’s Sound Studies Lab. Since September 2015 Andrin Uetz has been a doctoral fellow at the Walter Benjamin Kolleg at the University of Bern, which granted him a five-month scholarship for the preparation for his Ph.D. project. His most relevant publications are:

- 2014. “So klingt die Regenschirm-Revolution”. In: *Tageswoche*. Online-Newspaper: [http://www.tageswoche.ch/de/2014\\_43/kultur/671271](http://www.tageswoche.ch/de/2014_43/kultur/671271).
- 2014. “Protest Music in Hong Kong”. In: *Norient: Network for global sounds and media culture*. Online: <http://norient.com/stories/umbrella-hong-kong>.

## 2.3 DETAILED RESEARCH PLAN

This project investigates its main research questions from three different broader perspectives, addressing: a) the impact of human-generated sound on a natural environment; b) the impact of environmental sound on human cultural and social life; and c) strategies of re-appropriation of an artificial urban context through sound and reflected in sound. For this purpose, three highly differentiated extreme environments have been accordingly chosen: A) the high Alpine Bernese Oberland as a tourist hot spot and dense interaction point of human-made and environmental sound; B) the rural environment of the Brazilian Gerais as a tight impact point of natural sounds; C) the quarter of Sai Ying Pun in Hong Kong as a highly dense urban zone with almost no natural/vegetative context.

### 2.3.1 Subproject A – The Violence of Tourism and Interacting Sound Dimensions in a Vertical Landscape (Bernese Oberland)

The Swiss high Alpine region of the *Bernese Oberland* has been a hot spot of international tourism since the start of tourism in the 19th century (Sweers: in press). As evident in the area around the *Lauterbrunnental*, the region’s soundscape – that has not been researched with regard to soundscape and music traditions so far – has been strongly shaped by a tight intersection of natural, rural and modern (strongly tourism-influenced) sound clusters, each representing different layers of density. The interrelation of these elements is, however, highly complex. Regarding geological parameters, the region’s soundscape is shaped by extremes, e.g. the transmission of sound in the very tight and steep *Lauterbrunnental*, a trough valley, besides the glaciers of the nearby massif of *Eiger* (3970 metres), *Mönch* (4107 metres), and *Jungfrau* (4158 metres), with related sounds like glacial avalanches and waterfalls like the *Trümmelbachfälle*. Located inside a nearly closed gorge, the latter has been compared to the sound of factory machines during its ice-melting period, clearly questioning the Schafer (1977)-influenced idea of a high-fi or quiet pastoral nature, yet also asking for other descriptive parameters, such as immersion and transduction (Helmreich 2010). The seasonal sound change caused by altering water volumes of the *Trümmelbachfälle*, yet also the *Lauterbrunnental*’s

height-related shift of sound perception – that likewise includes traffic sounds on the valley ground – point to a stronger awareness of soundscape alterations in the soundscape discourses, which has been studied in detail with regard to traffic flows by de Coensel (2007).

The region's soundscape has been further significantly shaped by the soundscape related to international tourist activities, which will be at a particular focus in this subproject. Being one of Switzerland's major tourism hubs, the *Kleine Scheidegg* (2061 metres) is the starting point not only to many popular hiking tracks, such as the *Eiger Trail*, and also serves as the transit station to the upper section of the *Jungfrau* leading to the *Top of Europe* station at 3454 metres. First fieldwork observations call attention to what Kanngieser's (2012) called the "soundscape of voice" – an area that has been previously neglected in ethnomusicological research: While the tourist environment is dominated by loudspeakers playing alpine yodelling in the train station, the vocal soundscape is a mixture of Japanese, Chinese, and Indian voices, and visitors also listen to their own music devices. Yet, most significantly, the region has been shaped by the technical sound of tourism – apparent in the dominating sound of helicopters, transporting, for instance, base jumpers to the upper mountain regions. The impact is partly so strong that other sounds in that extreme environment, such as glacial ice avalanches (as observed during preliminary fieldwork), could be overshadowed or even mistaken for human sounds. This tension between economic needs of the local population, the tourism industry agenda, and politics, as well as of environmental concerns regarding sound pollution, became particularly apparent in ongoing anti-helicopter campaigns (e.g. 2013) around the *Kleine Scheidegg*. How far does this situation reflect a further side of what Goodman (2013) called the "acoustic violence of vibration"? While Goodman's analysis is focused on the impact of war sounds on the human psyche, it could be argued that similar features are apparent here as well: Tourism seems to have transformed the natural environment of the scenic hot spots into a space of acoustic violence not discernible on pictures. This subproject will thus also contribute to ethnomusicological discourses on music and tourism (e.g. Krüger & Trandafoiu 2014). Based on these preliminary observations, it, by focusing on the *Lauterbrunnental* and the *Kleine Scheidegg* area, will address the following research questions:

- What are the predominant natural keynote sounds of that area, how are they shaped by geological parameters, and how do the different natural sounds interrelate?
- How far have these been interconnected with and overshadowed by human sounds? How are population density points (in this case shaped by tourism) and sound density clusters interrelated?
- How is the sound environment experienced by the local population (of the five central villages of Lauterbrunnen and Stechelberg (in the valley ground), Wengen (the eastern side of the valley, connected to the *Kleine Scheidegg*), Gimmelwald and Mürren (western side of the valley)), and tourists? How does this deviate from or correlate with descriptions in written sources and media material? Which roles do music (active performance, yet also listening activities) play in this context?
- What are the dominating and conflicting groups of interest? How far can a compromising solution be developed?

The subproject will be undertaken in four major steps: 1) A sound cartography, first of the environmental and human sounds or sound layers, followed by an analysis of major intersecting points. This is based on comprehensive fieldwork that collects a combination of a) sound recordings; photographic and video material; b) historical research on the history of the region; c) analysis of geographic data (e.g. on the geology of the region that has a strong impact on the soundscape). 2) A subsequent analysis of the interrelation of environmental problems and the soundscape. 3) A series of qualitative interviews with local communities (e.g. hotel owners; employees in the tourism industry) and visitor groups (here also partly combined with quantitative research; e.g. work with questionnaires). This is also based on a re-analysis of theoretical discussions within the soundscape research and discourses in cultural studies. 4) The development of a

regional sound walk, yet likewise of a set of suggestions for further action – possibly in cooperation with local communities.

### **2.3.2 Subproject B – Dwellings of Sound: Auditory Knowledge and Sonic Symbolism amongst the Geraizeiros of Central Brazil**

The scenery of this investigation is the Central Brazilian Plateau's countryside, also known as Gerais, and its subjects are the Geraizeiros, traditional people who dwells that vast rural region. The subproject's central question is: how is a local soundscape comprehended, symbolized and developed into music in the realm of human culture? Both research object and analytical approach are new to scientific incursions, since world-impact research has not yet contemplated these populations and their sonic and musical culture. Available organized data refers only indirectly to the Geraizeiros' approach to environmental sound, consisting essentially of secluded recordings by established musical groups and individual artists stemming from northern Minas Gerais (e.g. Zé Coco do Riachão, Téo Azevedo). Brazilian universities have produced substantial knowledge on, respectively, music and culture of peoples of neighboring regions (northern Minas Gerais), although publications in Portuguese have a limited reach (cf. Silva 2014, Lemos Júnior & Bortolozzi 2013, Nogueira 2009). In any case, general initiatives in the areas of anthropology of sound and sound studies are still very incipient in that country.

The countryside communities of the Gerais are organized in either small neighboring ranches or tiny villages, and its people have been traditionally devoted to subsistence agriculture, cattle raising, fishing and craft production. However, due to the gradual land concentration that has marked Brazilian history since its colonial times, more and more people from the Gerais have lived and employed their workforce to the service of landlords or companies. Meanwhile, macroeconomic policies have supported the long-term integration of this semi-arid region into expansive monocultural models, as well as logging and beef cattle raising. This agenda has brought about a process of change and disruption of several countryside communities within Central Brazil. Besides hazardous environmental impacts, such initiatives have promoted waves of rural exodus (Santos & Leite, 2010), followed by significant political, socioeconomic and cultural consequences, which endanger the perpetuation of traditional ways of life. One of the most remarkable cultural features among the Geraizeiros is that, besides revealing century-old musical traditions, these people appears to experience their environment, learn about it and relate to its elements by means of a very particular relation to the soundscape. Preliminary fieldwork incursions (2014) led to four main hypothetical formulations, listed below and followed by brief factual grounding:

- The local soundscape is a recurrent motif for cultural elaboration, be in the form of imitation, be it through semantization of acoustic patterns. Sonic properties of several natural phenomena, e.g. animal calls, are recurrently decoded into words, idioms or entire sentences, and performed or alluded to in a way that bares close tonal resemblance to the respective original acoustic pattern. These constructions are often found in context, developed into narrative (short tales), rhymes, musical fables and song.
- Various local sonic phenomena consist of effective instruments towards the systematization of an auditory knowledge (Rice 2013). Acoustic features of natural phenomena and animal calls offer the Geraizeiros precise information about future weather and natural conditions, which determines beginnings and endings of economical cycles of seeding, harvest and cattle migration.
- The repertory of oral tradition of the Geraizeiros depicts humans and non-humans as holders of subjectivity and agency skills. Plants, birds, waters and working tools, among others, are represented in sayings, tales ,and song as holders of both musical and linguistic subjectivity and ethical sense. They communicate with humans and amidst themselves through their sound, or, from an emic perspective, their “singing”. Acting as collocutors to persons or commentators of human acts, sonic elements of the Gerais are represented as sources of mythical and moral wisdom.

- Recent environmental and technological changes have boosted profound structural changes into Geraizeiro sonic aesthetics, epistemologies and normativities. The above-mentioned consolidated knowledge and cultural practices related to sound and listening have been allegedly affected by the advent of electricity and agricultural mechanization.

A central task of this investigation is the comprehension of local broad-sense acoustic phenomena as symbols; in other words, as elements subject to interpretation, metaphorization (Lévi-Strauss 1975) and development into artistic or expressive forms (Feld 2012). Accordingly, the specific objectives of this subproject are:

- 1) to study the portrayal and translation of environmental sound into complex cultural constructions which intertwine different art forms;
- 2) to collect and transcribe the repertory of sayings, sung fables, verses and song which relate to sonic-environmental symbolism;
- 3) to analyze the instrumentality of sonic environmental elements toward the organization and establishment of locally structured knowledge;
- 4) to study the role played by technological and economic innovations in changing the local soundscape, addressing respective sociocultural consequences.

To enable this analysis, an analytical framework was established, based on three main conceptual pillars, accordingly supported by a major interdisciplinary framework, namely: a) sonic symbolism (Feld 2012), in the realm of anthropology of sound, aural anthropology and anthropology of the senses; b) soundscape (Schafer 1977) and acoustemology (Feld & Brenneis 2004), within the field of acoustic ecology; c) non-human agency (Hediger & McFarland 2009), appurtenant to agency theory.

The project converges the formulations of Rice (2010, 2013), Feld (2012) and Feld & Brenneis (2004) pursuant to anthropology of sound. This will be subsidized by constructs on anthropology of the senses, mainly the theory of sensory models by Stoller (2004) and Classen & Howes (2014). The anthropological *corpus* is complemented by cultural sonology, especially by the theories of soundscape (Schafer & Imada 2009; Goodman 2010; Kanngieser 2012) and modernity's listening (Thompson 2004). Finally, given the apparent complexity of sonic cultural phenomena among the Geraizeiros, the analysis will also address the issues of emic subjectivity and non-human agency by utilizing the theory of non-human agency according to Hediger & McFarland (2009). By combining different theories into one main framework, this subproject aims to establish a dialogue between different implications of listening which can bring several answers pursuant to human-nature sonic interactions in rural environments.

This research will be preliminary delimited into four cases-locales along tributaries of the São Francisco River within the Microregion of Januária, State of Minas Gerais: Lajeado, Salobo, Vereda d'Anta, and Serra das Araras. These choices were based on the representativity of those rural communities for the entire Gerais, since their members: a) are mainly devoted to subsistence extractivism, agriculture and cattle raising (Lamarche 1998); b) present narrative and musical practices whose performance and transmission are marked by orality (Fonseca 2009); c) relate to manifold matrixes of ancestry and intense population admixture (Silva *et al.* 2010). The subproject will be developed in four major phases:

- Bibliographical review and expansion, organized in two main axes: a) thesis's conceptual, theoretical and methodological framework; b) literature on sociocultural aspects of Geraizeiro populations.
- Preparation for fieldwork, to be done in Brazil and Switzerland for, respectively, two and two months, consisting in a place-name-mapping (Feld 1994) of following key elements: a) typical feasts and established musical groups in the selected cases-locales; b) available audio and video media, and written registers in local public and private archives; c) further relevant topographic, infrastructural, and sociodemographic data.

- Fieldwork in Brazil (six months), which will successively correspond to the aforementioned case studies;
- Analysis of fieldwork outcomes, to be carried in three sub-phases: a) data selection, audio and video edition, transcription; b) specific analysis; c) completion of dissertation.

### 2.3.3 Subproject C – Soundscape of Density: Architecture, Space and Sound in Sai Ying Pun

Hong Kong is one of the most densely populated cities on earth. With its unique architecture of crowded pencil towers (Christ & Gantenbein 2012), the one square kilometer small district of Sai Ying Pun is inhabited by approximately 90'000 people, and it can thus be described as an extremely dense and heterogeneous spot. Its total area of only one square-kilometer makes the exam of every street, every public space and a big amount of private homes a realistic enterprise. This is possible through vertical expansion, creating new spaces and sound in the third dimension. The reduction of the examination field to a geographically small – but super dense living area of high complexity and diversity – allows multiple perspectives to the question: how does this city sound like?

Hong Kong, as a dense and diverse living space, has been often discussed in the fields of anthropology, urban sciences, and city planning. Hong Kong University, the Chinese University of Hong Kong and the Hong Kong City University undertake research in urban studies. Similarly, the architects Christ & Gantenbein (2012) used Hong Kong as example for their project connected to the Zürich-based ETH on the typology of buildings. The pro-democracy protests of 2014 were partly rooted in academic circles, e.g. by the action of Benny Tai, an associate professor of Law at Hong Kong University. He was the initiator of the movement «Occupy Central with Love and Peace.» Yet, the city's sound has only been marginally examined there, since primacy of visibility over aurality is notable in scientific publications about Hong Kong. Nevertheless, there are some studies related to the sounds in Hong Kong, e.g. a study by the Chinese University of Hong Kong on the soundscape of Hong Kong's countryside,<sup>1</sup> or a study by the Hong Kong University on the sounds at the Cheung Chau Bun festival.<sup>2</sup>

As a perfect example of gentrification with its local dried food stores, garages and family businesses being displaced by hip restaurants, bars and towers with luxurious flats, Sai Ying Pun is an interesting case from a sociological point of view. Besides concepts from the projects general methodology, especially Stephen Feld's acoustemology (Feld & Brenneis 2004), Emily Thompson's (2004) aural history and sound studies (Pinch & Bijsterveld 2004, Schulze 2008) subproject C will also include the theory of programmed background music (Lanza 1994; Sterne 2003b), as well as philosophical concepts, such as Hegel's (1970) concept of music as architecture of time, Kant's (2006) aesthetics of the sublime or Heidegger's (2006, 2009) ontology. This research project has two main goals. First to create a comprehensive catalogue of sounds in Sai Ying Pun with consideration of its vertical building structure. Second to examine these sounds and discuss them with reference to aesthetics, philosophy, musicology, sociology, economics and history. This transdisciplinary approach seems unavoidable, as the object of this examination – the soundscape of Sai Ying Pun – is as heterogeneous as the people living in this small and overcrowded neighborhood.

In more detail, Sai Ying Pun is located in the Western District of Hong Kong Island. It is known for its dried seafood wholesale markets, which are mostly located on busy Des Voeux Road, that connects Kowloon and business districts Central and Admiralty through the Western Harbor Crossing tunnel. The lower parts of Sai Ying Pun, including Sun Yat Sen Memorial Park, a highway and skyscrapers, are built on reclaimed land from the sea. The higher part is built submontanely on the steep granite of the Victoria Peak Hill. This inclination makes the area interesting for promenades, and it allows people to catch a glimpse of sea water from the higher streets. Recently real estate investors

<sup>1</sup> <http://www.grm.cuhk.edu.hk/eng/research/proj/file/proj0065.htm> (Sept. 8th 2015)

<sup>2</sup> <http://www.soh.hku.hk/hksounds/SoundScape/Introduction.html> (Sept. 8th 2015)

got aware of the potential of that area, having bought most of the local businesses and garages that were formerly located in the higher parts. Afterwards, they built towers with luxurious flats for expats and wealthy Chinese who mainly work in the financial centre nearby.

With the newly opened MTR station, Sai Ying Pun becomes definitely one of the most convenient places to live in Hong Kong, as Central becomes reachable within minutes. This gentrification is characterized by a spectacular rise of property prices and a strong gap between, on one hand, local dried food store owners that keep their business running, cheap local food corners and, on the other hand, westernized restaurants and bars. Other than in neighboring Sheung Wan, which has a longer tradition of mingling Western and Chinese culture, in Sai Ying Pun both does not seem to match yet. This can be seen in terms of architecture, restaurants, stores, parks and on the streets, where both sides do not seem to interact much. There is also a huge difference between locals that work and live in that area, therefore spending most of their lives in Sai Ying Pun, and expats that basically only come back to their towers to sleep.

The main questions are: can these differences also be heard? How does gentrification sound like? What are the “traditional” Sai Ying Pun sounds? Can music create private space within crowded public areas? Are wealthy and poor people exposed to the same sounds? What difference does the housing situation make, for example, between an older walk up building and a skyscraper? Are there sound-marks that have a specific meaning in the aural community? Are there functional sounds or commonly used sound signals?

In Hong Kong, architectural visual aspects seem more important than acoustics. Buildings are tall, shiny and should look glamorous. Their hard and flat surfaces often create rather unpleasant echoes. Most public spaces seem to be constructed without consideration of sound. An auditory examination is challenging this primacy of the visual in questions related to the city's development (Wrightson 2000). Yet, a simple antagonism of city-noise as a nuisance to the sensitive ear and peaceful sounds of nature as a lost paradise could not satisfy the intention of this project. The seemingly lo-fi soundscape (Schafer 1977) of Sai Ying Pun is more complex and distinguishable in its aural details, if the vertical building structure is included in the study. With the help of binaural recordings, a comprehensive examination of the various sounds found in this environment is possible. It is important to emphasize that all sonic occurrences happening in Sai Ying Pun are part of the research material, be it music or noise. The term “sound” allows to undercut the opposition between the two, especially because “noise” often implies a negative connotation. Emily Thompson (2004) suggests to tell passive “hearing” and active “listening” apart. People in Hong Kong would constantly *hear* sounds, but, due to its consensual categorization as city noise, usually not *listen* to it.

In his groundbreaking field study in Papua New Guinea, Stephen Feld (1996, 2006) was able to show that bird song and other sounds of the rainforest are important means of orientation and help to structure daily life of its local communities. In anthropological terms, this aural orientation could be seen as a *conditio humana* (Plessner 1985). Therefore, the people in Sai Ying Pun should endue ways in order to arrange themselves within the city's loud soundscape. The questions are whether aural orientation is possible, how it works or whether it needs to be replaced with visual signals? Thus, this subproject departs from the following hypotheses:

- a) Sai Ying Pun's soundscape is strongly formed by its vertical architecture of density,
- b) Its vertical dimension forms new aural spaces and room to produce and listen to sounds,
- c) Vertical expansion allows to create quiet living space comparable to, but yet different from, horizontal expansion in suburbs or countryside areas,
- d) The sound perception of Hong Kong's city noise can be described and partly understood with Kant's (2006) concept of “the sublime”,
- e) Origin and function of sounds can be distinguished in regard of cultural relevance, technical function, commercial interests, production, etc,

f) Seemingly accidental and unintentional sounds give valuable information about culture and society, as well as music or well-known sound marks,

The specific subproject's methodological approach will follow three steps:

- Extensive study of bibliography and developing of fieldwork methodology, including a) in-depth study of all relevant publications on soundscape and sound studies; b) methodological extension with reference to sociology, economics and architecture, i.e. theory of agency, typology, gentrification etc.; c) test recordings and sound analysis in Bern, test of methodology; d) discussion of interdisciplinary approaches with colleagues from the Walter Benjamin Kolleg.
- Fieldwork in Sai Ying Pun, Hong Kong, including a) binaural sound recordings of everyday sounds; b) documentation of recordings with video, photos and field notes; c) qualitative interviews with people working and living in Sai Ying Pun; d) online open-access discussion of research material through a fieldwork diary-blog.
- Analysis of fieldwork material and writing of doctoral thesis, including a) selection and analysis of data, i.e. sound recordings; b) sound mapping with special emphasis on vertical building structure; c) discussing data in historical, site-specific and philosophical contexts; d) complete dissertation and compare results with further soundscape projects, i.e. subprojects A and B.

#### **2.3.4 Subprojectual Specificity and Complementarity**

Despite the diversity of the three research areas and individual subjects, their specificity turns to be complementary in that it gathers extreme case studies, turning them into valuable comparative resources toward theoretical and methodological formulation. The profound urban scenery of Sai Ying Pun contrasts with the typical rural landscape and demographics of central Brazil. As an intermediate and very particular case study, stands the region of Berner Oberland: although partially untouched by human activity, this area is marked by a transitional, dynamic, short-term density, intimately connected to the phenomenon of tourism.

Further on, human spaces in all three localities present interesting dimensional oppositions: while Hong Kong and the Bernese Oberland are marked by verticality, social organization in central Brazil is eminently horizontal. In the Bernese Oberland, post-modern touristic demands fuses into a magnificent natural – yet also vertical – landscape. These differences alone may already influence the ways in how sound is produced, perceived, reproduced and signified. Accordingly, subproject A, while being closely related to ethnomusicological soundscape research, encompasses issues related to geography and tourism research. The theoretical framework of subproject B is mostly affined with a cultural anthropological perspective, since its main questions focus on sound representation by means of word and music, hereby also integrating a musicological perspective. Finally, subproject C focuses on human behavior in relation to its environment, raising issues also related to sociology and economics, taking into account the study of sound pursuant to organized social segments and institutions.

Subprojects B and C are undertaken as Ph.D. dissertations under the main supervision of Prof. Dr. Britta Sweers, who is also the main project leader of the SNF SCOPES City Sonic Ecology project with Bern, Ljubljana, Belgrade. Both Ph.D. candidates will thus profit from a close interaction with the scholars and teams from the SCOPES project, while they will also be integrated as research fellows into the Institute of Musicology and the Center for Global Studies at the Walter Benjamin Kolleg at the University of Bern.

#### **2.3.5 Methodology**

While the project draws on a number of disciplines, each of the subprojects setting a particular investigatory emphasis, its methodological approaches follow a unified line that combines a cluster of methods based on anthropological

fieldwork and ethnographical studies of sound (Feld 2012). These approaches can be summarized into the following series of methods:

- Collection of a preliminary ethnographic documentation, including quantitative elements (e.g. population statistics, questionnaires, etc.) of the researched areas; participant observation (Nettl 2005, Sweers 2012); overview of local musical practices.
- A cartographic approach, in which the researchers will establish maps of the local sound topographies, hereby integrating textual, visual, musical, and sonic data (Makagon & Neuman 2009). These first overviews are intertwined with detailed diary documentation. Additionally, this stage includes a detailed collection of musical material.
- Subsequent qualitative segments, which play a fundamental role in this research, e.g.: in-depth interviews (Pink 2014), semi-structured interviews with local populations, tourists, urban planners and environmental activist groups. This segment will provide impressions of how people (even whilst stemming from different backgrounds) listen to the related sounds. This part will include active participation in musical performance (Baily 2001), particularly in subprojects B and C.
- Musicological analysis of collected data (including transcription of collected material, analysis of and comparison with the documented musical material), and respective critical deliberation.

So far, except for the sonic descriptions above, little preliminary data material exists in each of these cases, which will require a preliminary first scouting of the investigated areas; this will be done in order to determine the most exemplary density spots for ultimate case studies. The distillation of actual models will be shaped by the “grounded theory approach”, which is a constant interplay of empirical findings and the framing of theoretical findings (Glaser and Strauss 1965, 1967, 1968; Charmaz 2001) during the whole project.

While each of the subprojects are undertaken individually, the methodological framework is nevertheless also shaped by approaches of collaborative ethnography (Zenker & Kumoll 2010) and participatory ethnomusicology (Moore 2013; Dirksen 2012). In the broadest sense, the project’s overall methodology is thus based on *triangulation* as a methodology facilitating validation and interpretation of fieldwork data. It refers to the application and combination of several research techniques in the soundscape research, e.g. transcription and sound analysis. Moreover, this approach includes also a *researcher triangulation*, referring to the involvement of more than one researcher in one particular project in order to gather, yet predominantly also to interpret data from several possible perspectives. Within this project, subproject A, whose object is located in close proximity to the University of Bern, will benefit from joint observations and material collection aimed at the relativization of data analysis; meanwhile, regular joint meetings will provide opportunities for comparison, relativization and critical reflection on the findings of subprojects B and C.

The inclusion of qualitative interviews will also be intertwined with a collaboration and interchange between researcher and research subjects throughout the qualitative process: from the conceptual framing, throughout the fieldwork phase, until the composition of the text (Dirksen 2012). While some interviews (particularly in the case of tourist visitors) might be single instances, the project nevertheless aims to strongly interact with the respective local populations. In this sense, this investigation will ensure that the generation and treatment of data be guided not only by the interests of the research, but also of its participants. This will allow access to and production of scientific knowledge that might wander beyond the academy (Cambria 2011).

State-of-art research has not yet found satisfactory answers towards the establishment of a sound research methodology, which relates to data production, collection and treatment. Accordingly, the emphasis of this project is also the development and systematization of a new specific methodology to be employed at sociocultural studies of

sound. This includes questions regarding the actual documentation of sound – on a technical and sociocultural level. For example, test recordings have showed that the use of binaural in-ear microphones enables a reproduced three-dimensional hearing impression. Together with films and photographs, this technique should make it possible to capture hearing experiences and prepare them for further analysis.

Accordingly, analytical proceedings shall be carried out through, e.g. transcription, computer-based spectrograms, comparison based on categories such as volume, density of sonic occurrences, pitch and echo. Audio recordings should be made at every possible time and weather, in order to allow extensive impressions of the researched soundscapes. This, however, is interrelated with a reflection on the above-mentioned immersion and transduction. How far does the application of these perspectives lead to new insights? While this work poses a reflection on the actual representation of the soundscape (can the sound experience really be represented in the sound documentation?)

## 2.4 SCHEDULE AND MILESTONES

Coordinated by Prof. Dr. Britta Sweers, this project combines individual working clusters with joint meetings, joint fieldwork (subproject A), and joint presentations. The direct concrete outcomes of the project will be the elaboration of an online blog, writing of a joint article, a book that includes the research of subproject A and summaries/articles connected to subprojects B and C, plus the respective Ph.D. dissertations of subprojects B and C.

<b>Milestone</b>	<b>Associated Activity</b>	<b>Duration (Month numbers)</b>	<b>Subprojects</b>
<b>YEAR 1</b>			
Preparatory phase	Development of a theoretical basis and definition of the theoretical and methodological framework	1-10	A, B, C
	Collection of the first sound data material	5-12	A
Joint activity	Joint fieldwork (Bernese Oberland); daily excursion	5-6	A, B, C
	Establishment of a blog	6	A, B, C
Joint activity	Visit to the SCOPES project meeting (exchange with scholars)	11	A, B, C
	Individual article releases	12	B, C
	Public talk I, University of Bern	12	A, B, C
<b>YEAR 2</b>			
	Preparation for fieldwork	13-16	B, C
	Intensive fieldwork phase	17-22	A, B, C
		23-24	A
	Draft data analysis and transcription	22-24	A, B, C

Joint activity	International conference presentation (e.g. annual meeting of the European Seminar in Ethnomusicology)	24	A, B, C
	First draft of the book	24	A (leadership)
	Individual article releases	24	B, C
<b>YEAR 3</b>			
	Writing/key-analysis phase: reanalyzing and re-coding of data, as appropriate, excerpts and presentations of literary works, etc.	25-36	A, B, C
	Data analysis and transcription	25-28	B, C
	Development of sound walks	26-27	A, B, C
Joint activity	Punctual joint fieldwork (Bernese Oberland)	28-29	A, B, C
	Text conclusion	29-36	B, C
	Book manuscript		A
Joint activity	Mutual exchange of and reflection on the findings	30	A, B, C
	Final analysis and conclusion of the Ph.D. dissertations	35-36	B, C
Final meeting	Preparation of book with articles from all subprojects Public talk III, University of Bern	36	A, B, C

## 2.5 IMPORTANCE AND IMPACT

With regard to the soundscape research in general, none of the geographic areas, related sonic cultures, and the broader sociocultural contexts have been previously researched from such a theoretical-methodological framework. Since the documentation of musical practices – that is a part of each subproject – has likewise been scarce, this project will collect and systematize important data, which will be valuable for further comparative research. Furthermore, given its interdisciplinary approach, the project will contribute not only to the formulation ethnomusicological and anthropological discourse, but also to the fields of architecture and geography, for instance. In response to needs that go beyond the lacking sound documentation, the project will address the dimensions, interaction lines and deeper impact of sound that will contribute to future methodological discussions (e.g. regarding the application of sound technology and the description of – and perspectives on – sound perception. Moreover, focusing on density as an analytical factor, yet also on issues of sound violence, the project will strongly contribute to the ongoing theoretical debates and issues of interdisciplinary communication.

Going beyond the hard scientific output, the project will likewise contribute to environmental debates in which issues of noise pollution play an increasingly important role (e.g. the debates related to helicopter noise in the Bernese Oberland). This project thus aims at providing a deeper insight into both objective and subjective impacts of sound. How far can the case of the rural Gerais, for instance, provide a model for an ideal human interaction with the environment? How far does the pastoral ideal need to be modified, as the case of Hong Kong might too illustrate? How far can a balance between different interest groups be achieved (in the case of the Bernese Oberland: tourism, local

population, besides political, economic and environmental interest groups)? In this sense, the goal of this research project is also to establish a suggested action plan that mediates between different groups and sectors. Regarding local interlocutors, research outcomes may catalyze the occurrence of a new and positive look from the subject communities towards their own cultural heritage and environmental context. Accordingly, research attainments may also lead to the establishment of protective policies in cooperation with governmental organs, local NGOs and community leaderships, aimed at the official guardianship of traditional ways of life and art forms of the researched communities, in response to present-day disruptive socioeconomic processes.

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