

A web-based, long-term archive of audio, video, and larynx-microphone field recordings of traditional Georgian singing, praying and lamenting with special emphasis on Svaneti

Frank Scherbaum, Nana Mzhavanadze, and Elguja Dadunashvili

Introduction

The traditional polyphonic vocal music of Georgia constitutes a precious result of its rich musical heritage and an essential aspect of its cultural identity. There have been many efforts in the past to document and record traditional Georgian music in the field, starting with phonograph recordings already more than a century ago. However, many of them have been lost over the years and the available historic audio recordings are often of insufficient quality for the application of modern, quantitative analysis techniques. Therefore, during the summer of 2016 we have performed a three-month field expedition to record a new research corpus of traditional Georgian singing, praying, and lamenting.

The regional focus of our field expedition was on Upper Svaneti which is one of the rare regions in the crossroads of Europe and Asia where very old (presumably pre-Christian) traditions are still cultivated as part of daily life. Svan songs as parts of these rituals therefore occupy a special place within the Georgian music and are still maintained in a comparatively original form due to the remote geographic situation. The style of Svan multi-part singing has been described in different terms e. g. as chordal unit polyphony (Aslanishvili, engl. reprint 2010) or as drone dissonant polyphony (Jordania 2010), and the judgments regarding the importance of the (moving) drone and/or of the role of dissonances differ between authors, e. g. between Dirr (1914) and Jordania (2006). Consensus, however, exists on the hypothesis that Svan music represents the oldest still living forms of Georgian vocal polyphony.

The reason for choosing Svaneti as the target region for our research is our believe that if one wishes to fully understand the harmonic structure and the tonal organisation of

traditional Georgian vocal music, there is no way around the understanding of Svan songs, since presumably the first stages of Georgian vocal music development (and possibly of Europe (Jordania, 2006) have been preserved in them (Aslanishvili, engl. reprint 2010; Chkhikvadze, engl. reprint 2010, Araqishvili, engl. reprint 2010).

There have been considerable efforts in the past to record traditional Svan music, first with phonographs, later with tape recorders. Already more than 100 years ago, Adolf Dirr (1914) discusses the musical characteristics of phonograph recordings from Svaneti (North-Western Georgia), which had been collected by Zakaria Paliashvili (1909). Unfortunately, most recordings of Svan songs from the early days of the last century have not survived the time. The few audio files obtained are mostly in a very poor quality. On the other hand, the Tbilisi Conservatory has also carried out recordings since the 1950s. These recordings, however, were lost during construction work in the 90s. It should also be noted that during the 1980s, a set of recordings with the Mestia Regional Folk Song and Dance Ensemble “Riho” were made in the voice recording studio “Melodia”. These recordings, however, were only released very recently (Khardziani, 2017) and were not available to us prior to our project. A small number of more recent audio recordings were made by ethnomusicologists Malkhaz Erkvaniidze and Ketii Matiashvili (2004, recordings of approximately 25 songs in Lower Svaneti), and between 2007 and 2010 by the State Center of Folklore under supervision of ethnomusicologist Nato Zumbadze, both in Lower- and Upper Svaneti, partly with several microphones and in a mobile recording studio. In addition, within the crowd-funded Svan Recording Project performed by American singer Carl Linnich in 2010 with members of the Riho Ensemble in Lengeri, 32 songs were supposedly recorded. However, it is unclear whether this project was successfully completed, since several email queries to the project initiators remained unanswered and the corresponding website seems to be inactive for several years. In conclusion, prior to our own field expedition described below, the known publicly available audio material from traditional Svan songs was very limited in number and quality.

New Recordings of Svan music

During the summer of 2016, two of us (Frank Scherbaum and Nana Mzhavanadze) performed a field expedition of three months duration, focused on Svaneti but including also other regions in Georgia, to record a new research corpus of traditional Georgian singing, praying, and lamenting. In the context of the creation of this corpus we have taken the criteria of Serra (2014) (purpose, coverage, completeness, quality, and reusability) into account. Regarding the coverage, we have recorded a wide range of examples of traditional Georgian singing, praying, and rare examples of funeral laments (roughly 120 pieces in total). The technical quality of the recordings is good to excellent. All the recordings were done as multichannel-multimedia recordings in which a high resolution (4K) video stream is combined with a stream of 3-channel headset microphone recordings (one for each voice group), a stream of 3-channel larynx microphone recordings (one for each voice group as well), and a conventional stereo recording. The systematic use of larynx microphones, which to our knowledge has never before been systematically used in ethnomusicological field expeditions, was motivated by the results of Scherbaum (2015) who have demonstrated, that larynx microphone recordings allow the undistorted documentation of the contribution of each singer while all of them are singing together in their natural context. Secondly, they contain essential information of a singer's voice regarding pitch, intonation, timbre and voice intensity which allow the application of computer based ways to document and analyse oral tradition vocal music in new ways, e. g. to perform computerised pitch-analysis techniques to document the pitch tracks (including the microtonal structure), to study the pitch inventory and scales used and the interaction between singers Scherbaum (2016). Each recording session was accompanied by extensive interviews of the performers conducted by Georgian ethnomusicologist Nana Mzhavanadze (Scherbaum and Mzhavanadze, 2017). Regarding the fifth criterion of Serra (2014) (reusability), within the recently funded research project Computational Analysis of Traditional Georgian Vocal Music (Müller and Scherbaum, 2018) a web-based repository of Svan music will be developed, in which all the recordings are going to be made accessible for research under a Creative Commons

licence in a quality-controlled manner, together with the collected background data and a standardized and transparently documented musicological evaluation. This way, we intend to contribute to the preservation and documentation of the World Cultural Heritage Georgian Vocal Polyphony in a user-friendly yet authentic form.

All the initiatives to systematically record traditional Svan music prior to our own field expedition have in common that the recordings were purely acoustic. Even with recordings with separate microphones (as in some of the more recent projects), the separability of the individual voices is very limited. In the context of our own work on the generation and propagation of body-vibration during singing Scherbaum et al. (2015) we have tested the acoustic separability of individual voices with directional microphones under study conditions and found that this is lost very quickly even under idealized conditions when singers sing with differing intensity (which they definitely do in Svaneti). In conclusion, the acquired research corpus seems optimally suited to address a large number of very diverse research questions.

Data collection and pre-processing

Recording Locations

The field recordings were done in 25 recording sessions spread over the summer months (July - September) of 2016. The recording locations are shown in Fig. 1. Since our emphasis was on (Upper) Svaneti, the vast majority of the recording sessions involved Svan singers or people performing Svan prayers, either in Svaneti or in Svan settlements outside Svaneti (Didgori, Tsalka, and Udabno). In sessions 3 and 4 we recorded two groups of Gurian singers (*Shalva Chemo* and *Amaghleba* in Ozurgeti and Bukitsikhe, respectively), while in session 22 in Tbilisi we used the opportunity to record singers from a women's group of ethnomusicologists (*Mzetamze*) to perform songs from various regions. In addition, we recorded singers in the villages of Glola and Ghebi in the upper part of the Rioni river valley (which now belongs to Racha). In former days, this region used to be part of Svaneti as well.

Recording equipment and processing

Our standard recording setup consisted of three DPA 4066-F headset microphones and three (modified) Albrecht AE 38 S2 larynx microphones (one set of headset/larynx for each singer), which were simultaneously recorded using a Zoom F8 field recorder. In addition, we recorded each group of singers as a whole with an Olympus LS5 portable stereo recorder. Each session was also documented by video in 4 K resolution using a Sony AX 100 video camera. The corresponding audio signal was either recorded by the internal stereo microphone (in cases of small rooms) or with a Sony XLR-K2M directional microphone (in cases where the camera was placed at larger distances from the singers). In addition, still photos and occasionally short videos were taken with a Sony HX90 camera and an iPhone 6 and a Zoom Q4 video camera was occasionally used for interviews.

For each channel group, tracks of similar length were manually cut and saved to disc in files for which the filenames indicate the song name, the location of the recording, the ensemble or group of singers, the recording date, and the media type. In this context, the naming convention used is described in appendix A. For each song, the audio and video channels were processed separately for the group of larynx and headset channels recorded by the Zoom F8 recorder, the Olympus stereo channel, and the video channel, respectively.

Archive content

The new archive consists of two distinct parts, one containing all song related media files while the second one contains media and descriptive material related to the individual recording sessions. Overall, the distribution of themes covered by the recorded songs is quite diverse (Fig. 2). Hymns and ballads alone already make up one half of the song inventory. One quarter consists of dance songs, table songs, and mourning songs. Eleven recordings of funeral „songs“ (Zari) were made in different contexts. Four of them were recorded during actual funerals (session numbers 12 and 13 in Kala and

Latali, respectively) while the rest were „performed“ during conventional recording sessions. In total, the archive contains 1444 files (tracks) of different media types (video, audio, and larynx microphone recordings). These belong to 216 different „recordings“. Among them are 37 recordings of prayers and 11 recordings of funeral songs (*Zari*). The rest is referred to as songs (in a very general sense). Some of the songs were recorded several times by different ensembles, e. g. *Kriste Aghsdga* and *Jragish* five times, *Vitsbil-Matsbil*, *Tsmindao Ghmerto* (the funeral version) and *Dale Kojas* four times (see Fig. 3).

In preparation for quantitative analysis, all audio and video recordings have been time synchronized and quality-controlled. A curated version of the corpus is stored within the long-term archive of regional scientific research data LaZAR (hosted at the University of Jena/Germany), from which it is accessible world-wide through a searchable web-interface¹.

Acknowledgments

First and foremost, our gratitude goes to all the people who shared their cultural treasures with us and allowed us to be part of and record their rituals. We are immensely indebted to Levan (Leo) Khijakaze without whom the field expedition would not have been possible in its present form. The project has also been helped by many people who supported us in different ways in particular helping us with establishing contacts with some of the singers. In alphabetical order these are the Chamgeliani family in Lakhushdi, Malkhaz Erkvanidze, and Tornike Skhiereli. Didi madloba to all of you.

¹ <https://lazarb.gbv.de/search>

References

Araqishvili, D., 2010, Svan folk songs, in *Echoes from Georgia: Seventeen arguments on Georgian polyphony*, R. Tsurtsunia and J. Jordania, eds., Nova Science Publishers, Inc, 2010, ch. 3, pp. 35–56.

Aslanishvili, S. 2010, Forms of multipart singing in Georgian folk songs, in *Echoes from Georgia: Seventeen arguments on Georgian polyphony*, R. Tsurtsunia and J. Jordania, eds., Nova Science Publishers, Inc, 2010, ch. 4, pp. 57–81.

Chkhikvadze, G., 2010, Main types of Georgian folk polyphony, in *Echoes from Georgia: Seventeen arguments on Georgian polyphony*, R. Tsurtsunia and J. Jordania, eds., Nova Science Publishers, Inc, 2010, pp. 97–110.

Dirr, A, 1914, Neunzehn SwanischeLieder (Statt eines Referates), *Anthropos*, 9(1914), pp. 597–621.

Jordania, J., 2006. *Who Asked the First Question? The Origins of Human Choral Singings, Intelligence, Language and Speech*, Tbilisi State University Press, Tbilisi, 2006.

Jordania, J., 2010, Georgian Traditional Polyphony in comparative studies: History and Perspectives, in *Echoes from Georgia: Seventeen arguments on Georgian polyphony*, R. Tsurtsunia and J. Jordania, eds., Nova Science Publishers, Inc, 2010, ch. 15, pp. 229–248.

Khardziani, M., 2017, *Svan Folk Songs. Collection of sheet music with two CDs for self-study*. Tbilisi, 2017.

Paliashvili, Z., 1909, *Kartuli khalkhuri simgherebis krebuli (Collection of Georgian Folk songs)*, tech. rep., Kartuli filarmoniuli sazoadoeba (Georgian Philharmonic Society, Tbilisi, 1909.

Scherbaum, F., Loos, W., Kane, F., and D. Vollmer, Body vibrations as source of information for the analysis of polyphonic vocal music, in *Proceedings of the 5th International Workshop on Folk Music Analysis*, June 10-12, 2015, University Pierre and Marie Curie, Paris, France, vol. 5, 2015, pp. 89–93.

Scherbaum, F., 2016, On the benefit of larynx-microphone field recordings for the documentation and analysis of polyphonic vocal music., *Proc. of the 6th International Workshop Folk Music Analysis*, 15 - 17 June, Dublin/Ireland, (2016), pp. 80–87.

Scherbaum F. and N. Mzhavanadze, 2017, A new archive of multichannel-multimedia field recordings of traditional Georgian singing , praying , and lamenting with special emphasis on Svaneti, tech. rep., 2017.

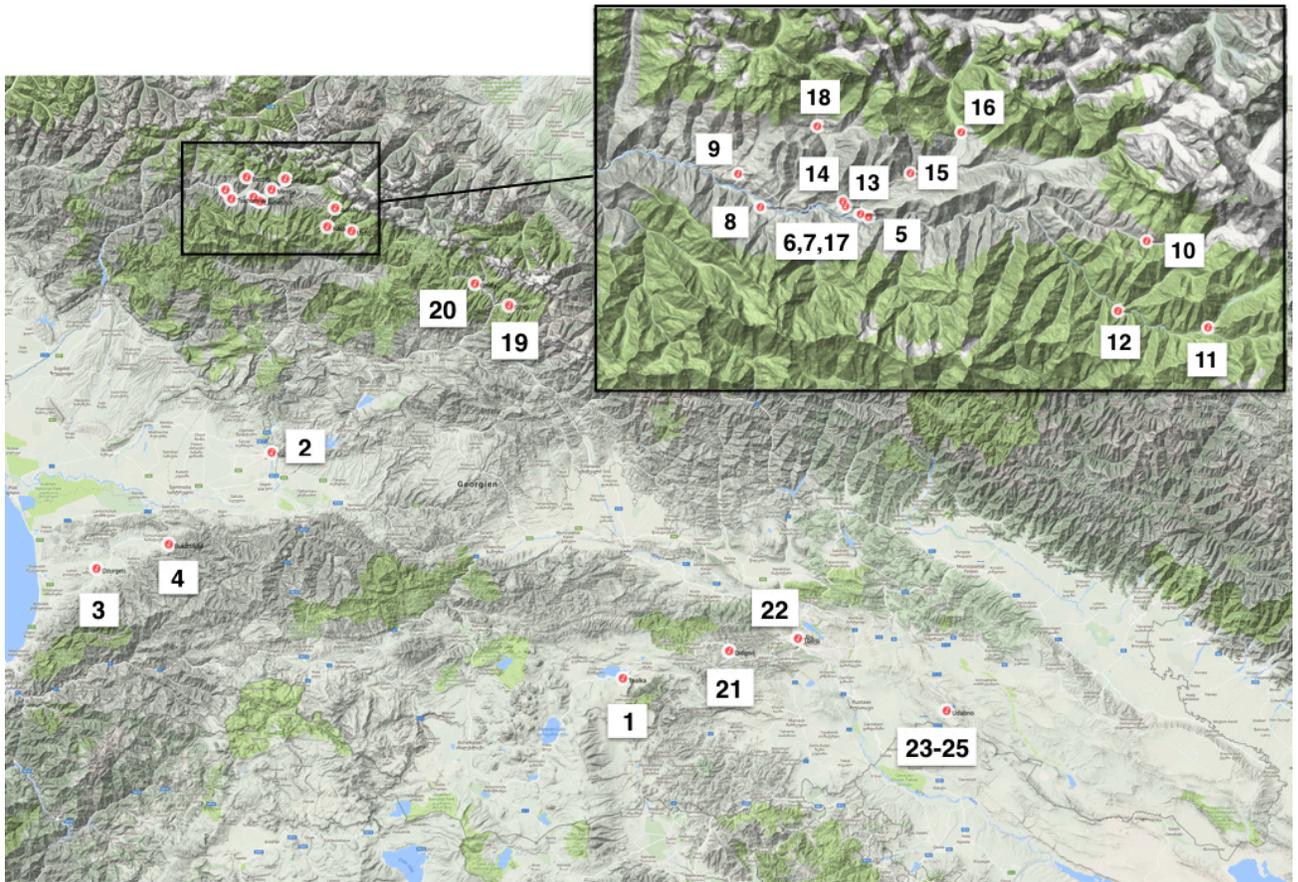


Figure 1. Locations of the 25 recording sessions. The numbers of the recording session correspond to the recording session notes in the archive.

Figure 2. Distribution of themes covered by the recorded songs. The size of each theme indicates its relative frequency of occurrence in the corpus.

Figure 3. Distribution of recorded songs in the corpus. The size of each song name

indicates its relative frequency of occurrence in the corpus.