Access to the Sound Archives of the Bulgarian National Radio

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Abstract. The aim of this paper is to review the sound archives of the Bulgarian National Radio (BNR). The accesses to different sound archives are analyzed. A case study for preparing a radio presentation using the existing archives is outline.

Keywords: Bulgarian National Radio, Sound preservation, Sound archive

1   Introduction

Established in 1935, the Bulgarian National Radio (BNR) remains the largest broadcaster in Bulgaria. The public radio has two national channels, seven regional stations and ten multilingual channels which broadcast abroad. For over 76 years, the Bulgarian National Radio has been gathering, recording, broadcasting and preserving Bulgarian history and culture as they happen. The BNR maintains the richest historical sound archive in Bulgaria, which contains material presenting the oral history of the Bulgarian nation. The Radio Archive is an invaluable collection of sound documents, which can rightly be called as the sound memory of the nation. There are kept indefinitely sound documentation of all significant events of public life in Bulgaria and the world - political, economic, business, cultural, sports and more. The BNR sound archive has a very significant historical value that includes 750 000 sound records, that are equivalent to thousands recorded hours and that were located in thousands of square meters in linear shelves in the BNR Building in Sofia. This archive is part of the Bulgarian and European cultural heritage because it has oral testimonies, as well as broad recorded performances and concerts for the 20th century historical, cultural and society study. This archive is considered the most important audio archive in Bulgaria.

Digitization of the Radio archives has already begun and runs on several parallel levels. One level involves the work with program Dalet+, which is the software that runs all radio programs. The second level is the transfer of disc media, and the third is in the server database transfer to a long-term storage. Most efforts are underway to update an electronic catalog of recorded music, with which editors and producers can work in the electronic database. As a final result, the system will identify each record with 16 different indicators [2].

Today, most radio broadcasters worldwide have inestimable value in their archives, which hold rich sound files allowing representation of whole epochs of the human development. Examples of the archives of some radiobroadcasters EBU (European Broadcasting Union) members are given.

In Switzerland: over the next two-and-a-half years Arvato will digitize approximately 60,000 quarter-inch tapes with a total of more than 30,000 hours of historical broadcasting material on behalf of Schweizer Radio und Fernsehen (SRF). As many as 2,500 tapes a month will soon be shipped from Basel to Gütersloh, where they will be digitized and then transferred to the long-term archives in Zurich [4].

In Hungary: the Archives store the audio memories of Hungarian Radio (MR): 24 hours broadcasting for 40 years of the three main stations and numerous valuable objects of the other MR stations and documents representing the history of radio in Hungary. The first recording was made on the 1st of November 1936, with the help of a record cutter. It was at the beginning of the 1940s when technical equipment was improved in a way that made recording possible outside of the studios. The Archives contain material of 800,000 bands, 18,000 gramophone records, 100,000 CD records, 100,000 books and 1,185,000 other items. The Digital Archive System established in 2004 became an important assistance to broadcasting. Since April 2007, only digitized material can be broadcasted, therefore the Archives became one of the most important players of MR programming. While serving MR programme production the Archives focus mainly on digitization and restoration closely related to digitization. Thus programme production and preservation of endangered sound material are the two decisive factors influencing the order of digitization of the Archives' material. The digitalized collection of the Archives contained over 200,000 records in the fall of 2008. Since then this has been increased with 20,847 records (about 10,000 hours in time) [5].

In Norway: NRK was the only institution with a professional sound archive of any size until Nasjonalbiblioteket was established in 1999. Although sound archives were to be found in some music libraries and collections, NRK was the only institution that was able to document the history of the Norwegian twentieth century in sound. NRK's Radio Archive consisted mainly of recordings on analogue tape, in one copy only. The tapes were not copied for lending, so the original tape was used and reused. The storage of the tapes was not optimal, and danger of deterioration was great. NRK's archives had a preservation problem. Nasjonalbiblioteket aspires to be the best source of documentation on Norway. According to the Legal Deposit Act, Nasjonalbiblioteket aims to collect all types of information produced in varying types of media. Furthermore, Nasjonalbiblioteket deals with the development, preservation, conservation and presentation of these collections. The broadcasting world is rapidly becoming fully digitized. This gives us new challenges in fulfilling the Legal Deposit Act. Every Friday between 200 and 300 tapes are packed in special wooden boxes and sent 1,000 kilometers by car to the NB Department in Mo i Rana. The tapes arrive on Monday morning. They are registered and then digitized by the project staff. There is no enhancement of the sound, or noise reduction, during the digitizing process. The tapes are digitized in their original format. The reason for this is mainly that the future will bring better tools for this type of work. Therefore the work has to be done when

the recording is used. In this way the sound is preserved as close to the original as possible [6].

In Spain: the Radio Nacional de España (RNE) sound archive has been massively digitized and several applications to access this information online have been developed. This archive is considered the most important audio archive in Spanish language in the world [7]. The RNE project objective is the digitization of 190,000 hours of audio recordings in all kind of media (700,000 items) made since 1937. RNE annual growth is expected to be between 18,000 and 20,000 of hours of sound per year.

In Finland: the Finnish Radio has 100,000 hours and the IRIB trial project had an initial scope of only 1,200 hours of audio reel tape located in one of their sites where humidity and temperature are very high. Finnish Radio annual growth is expected to be between five and ten thousand hours, that equals up to 7 TB of storage capacity [3].

The paper is organized as follows: Section 2 makes a brief overview of the different archives of the BNR; section 3 presents the information streams in the BNR sound archives; section 4 describes a case study of using the BNR archives from a musical editor. Finally, in the conclusion steps for future development are highlighted.

2   Overview of the Sound BNR Archives

The BNR archives are constitutes from three parts: Radio Gold fund, Reference department, and the Phonotheque.

2.1   Radio Gold Fund

More than half a century BNR collects in its archive records and extensive reference materials. Today it owns more than 750 000 archive units, the equivalent of hundreds of thousands of recording minutes. There are preserved effects and testimonies of significant events in the socio-political and cultural life of Bulgaria during the past 100 years - the voices of writers, poets, actors, directors, composers, singers, musicians, artists, public figures and politicians. All the meetings of the National Assembly, the statements of presidents and prime ministers of Bulgaria are stored in this sound archive. The oldest record is from 1897. It is "Traditional dance" by Aloys Matzak (1857 – 1921), Czech bandmaster and composer of great merit in the development of Bulgarian military music.

The radio archives became available to listeners through all the programs of the BNR, the largest contribution to this show is "Selected by the Radio Gold Fund" by Hristo Botev Channel. The birthday of the Golden Fund of the radio is considered November 27, 1957, when the first record was described into a book. In fact, since its inception in 1935, the Radio collects and stores valuable sound documents. Radio Gold Fund has the status of National Sound Archive, and for years is a member of the International Association of Sound and Audiovisual Archives IASA.

2.2   The Reference Department

The Written Documentation Center or the Reference department is an operational archive of reference material to help radio journalists. Since 2007 it used database BNR-SIS, which serves informational the Radio Gold Fund and the Reference department. At present the electronic database amounts more than 80,000 records and is enriched with new 2000 records every month. The data base information is the basis for the preparation of specialized thematic newsletters and an annual calendar that is actively used by all programs of the Radio. Other products edited by the Reference department are:

- Provisional calendar for each semester;
- Monthly newsletter of the Radio Gold Fund, which presents all detailed record relating to people and events whose anniversaries are noted during the month (over 700 pages in total for 1 year).

The Radio Library is also in the process of creating an electronic database and digital archive.

2.3   The Phonotheque

The Phonotheque is devoted to sharing, promoting and preserving Bulgaria's audio heritage. The Phonotheque's collections consist of sound recordings and archives (radio archives, audio tapes, records and other media), documents (periodicals, files and monographs), and various types of sound-reproduction equipment. The Phonotheque is the link between the creative and technical radio teams. The Information is recorded on different media carriers: LPs, tapes, CDs and DAT tapes. Here is where every day is forming a new record production, documenting and controlling the use of the operating archive, preparing emissions for the national radio broadcasting and providing music and speech recordings for the programs. The work volume performed by the department has a daily average number of 650 units of sounds needed for the national wide broadcast. Qualitatively new stage over the last year has been sending via Internet audio documents in digital form for regional radiobroadcasts.

3   Information Streams in the BNR Sound Archives

Radio archives no matter wheatear are written or verbal are subject to daily updating, carefully storing and classification. Since 2007, this is activity regulated by directions of updating, storage and use of the archives of the BNR. The work of the departments "Library", "Radio Gold Fund", and "Reference" are interconnected. The Radio Gold Fund has been updated by several generations of journalists and editors from the three radio channels: "Hristo Botev", "Horizon" and Radio Bulgaria, as well as by donations from citizens. The Archive is updated mainly by sound documents, made from the BNR programs and by records provided by third side parties and organizations. The originals of the fund are kept in exclusively specialized radio

storage located in Borovets, according to the Bulgarian law regulations. Every single received sound file is handled and documented technically. The supporting information is entered into electronic reference system which serves as a base for preparing the monthly newsletter: "People and Events".

Radio archivists and engineers across Europe have agreed on a simple set of terms for describing archive content. This set agrees with the standard widely used in conventional archives, libraries, publishing and web production – and by the Audio Engineering Society. The EBU working group Future Radio Archives (P/FRA) has completed the task of defining a minimum set of metadata for retrieving material (video as well as audio) from broadcast archives, and for exchanging this material with other broadcasters and other archives. The result of this work is Tech 3293: EBU Core Metadata Set for Radio Archives [1]. In December 2001 EBU defined a simple set of metadata which is adapted for use in radio archives, but which is aligned both with the main metadata standards of the broadcasting industry (EBU/SMPTE/AES) and with the Dublin Core metadata (the general approach used by libraries and archives, as well as the worldwide web). Fifteen items of core metadata which are an existing standard (Dublin Core) for Radio Archives are: Title, Creator, Subject, Description, Publisher, Contributor, Date, Type, Format, Identifier, Source, Language, Relation, Coverage and Rights [1]. All the metadata above were taken into consideration when the electronic catalogue of the BNR was created.

3.1   Data Deposition

The data deposition in the BNR sound archives includes: (1) Deposit copy of the units. It can be CD, tapes, DAT, etc.; (2) Deposit the "information about the unit". The meta-date includes: Passport of the sound record: text; Radio station: text selected from a list; Signature: number; Genre: text selected from a list (for example: opera, music); Speed: number; Type: text; Title: text; Original title: text; Type: text; Performer: text; Composer: text; Author of the text: text; Author of the translation: text; Language: text from a list; Author of the arrangement: text; Chores: text; Orchestra: text; Conductor: text; Area of Folklore: text; Function of folk song: text; Key words: text from a list; Album title: text; Duration: seconds; Radio Gold Fund: yes or no. An example for deposing the meta-data in the archive is given in Figure 1.

Fig. 1. Meta-date Input Screen

3.2   Item Access in the Information Space

The repository   provides access to the items and metadata in the Information Space. The selection of the search includes: Signature: number; Title: text; Performer: text; Composer: text; Author of the text: text; Author of the arrangement: text; Chores: text; Orchestra: text; Composer: text; Area of folklore: text; Function of the folklore song: text from a predefine list. Some of the terms are keywords from a predefine list. Time duration is measured in seconds.

4   Use Case

An example of the preparation scenario of a concert under the conduction of Daniel Barenboim is given in Figure 2. For that purpose the music editor does the search in the sound archives. Afterwards the music editor sends a request into the system and receives the records.
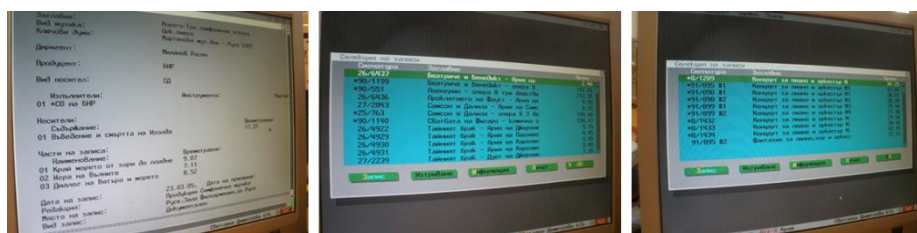

Fig. 2. Search in the Sound Archives

5   Conclusions and Future Work

Digitization of the radio archives is a long and expensive process, which is expected to take between 7 and 10 years. The work is very interesting but also hard to implement both technological and technical standpoint and as a human factor. The best medium recommended for audiovisual massive preservation purposes is information technology longitudinal tapes. In the last three months are treated as more than 130 000 titles, each of which was recorded over the years in the library at least in 7-8 variations and now must be revised and described in a uniform standard. Further delay stems from the fact that over 30 000 titles, for example, requiring detailed review of documentation and investigation of BNR copy rights. To the audio archives now are include also digital products produced by these particular records - only the last two years have been issued over 50 multimedia products, audio and videodisc: "Colors in the Air", "Voices of Prime Ministers of Bulgaria", "Space Bulgaria ", "70 years Radio-theater", "Diko Iliev", "Vasco Abadjiev", "Vaptsarov in words and music". New technologies offer a new opportunity to use materials from the Radio Gold Fund, with text messages, directly or through a link for download via mobile telephone, such services will be paid and will be made after a preliminary inquiry. BNR turns to the hybrid technology. Unlike television which goes entirely digital, in

the BNR analog and digital technologies go along in production and broadcasting. The reason is simple – the music requires high sound-reproduction equipment and the radio works with sound.

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