

Koraljka Kuzman Šlogar, Irena Miholić

Institute of Ethnology and Folklore Research, Zagreb, Croatia

**DIGITIZATION OF THE AUDIO RECORDINGS OF THE ARCHIVE OF THE INSTITUTE
OF ETHNOLOGY AND FOLKLORE RESEARCH
AND ITS AVAILABILITY TO THE PUBLIC**

1. The Institute and its Collections of Ethnographic Material

Established in 1948, the Institute of Ethnology and Folklore Research is today a unique center for folkloristic, ethnological, anthropological and related scientific research in Croatia. Documentation was founded as a part of this research institution, for its needs and purposes. Basic material here is scientific documentation, which create a unique collection of folklore and ethnographic documents that mostly describe Croatian traditional culture. The collection covers the areas of music, dance, oral and folk literature, folklore theatre, visual expression, traditional customs, architecture, housing culture etc. This collection also includes other material of modern daily life, such as refugee, migrant and feminist narratives, as well as images of various events, scientific conferences and more.

In keeping with the contemporary trend of opening archives to the public and facilitating access to its archived material, the Institute is preparing and adapting its archive for publishing on the Internet, and is currently working on two large projects to achieve this goal – the project of digitization of its archived material and the project of creating a digital repository.¹

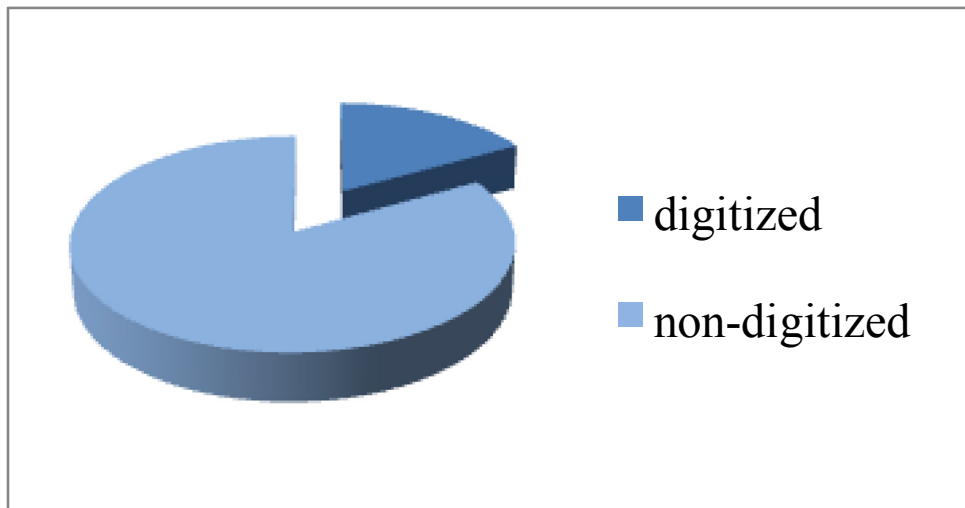
Until today, 75% of musical notations have been digitized (cca 50.000 pages), 10% of video material (cca 150 hours on 120 DVDs), and at least 15% of audio tapes (600 tapes, cca 900 hours). The plan also includes digitizing a photo library, drawing collections and all other material. However, the audio material is on the top of our priority list, because, on one hand, it degrades the fastest, and on the other, because it is what most of our users are primarily looking for.

2. Audio Archive

In our audio archive there is about 5.000 hours of material which consists of mainly music recordings, but also contains narratives about different folkloristic and ethnographic themes and other material about traditional and contemporary culture, conferences etc., recorded between 1912 and 2012. Although these are mostly tracks with recordings in Croatian, there are also some records in other languages, eg. Serbian, Slovenian, Albanian, Macedonian, Hungarian, Italian, German, Roma....

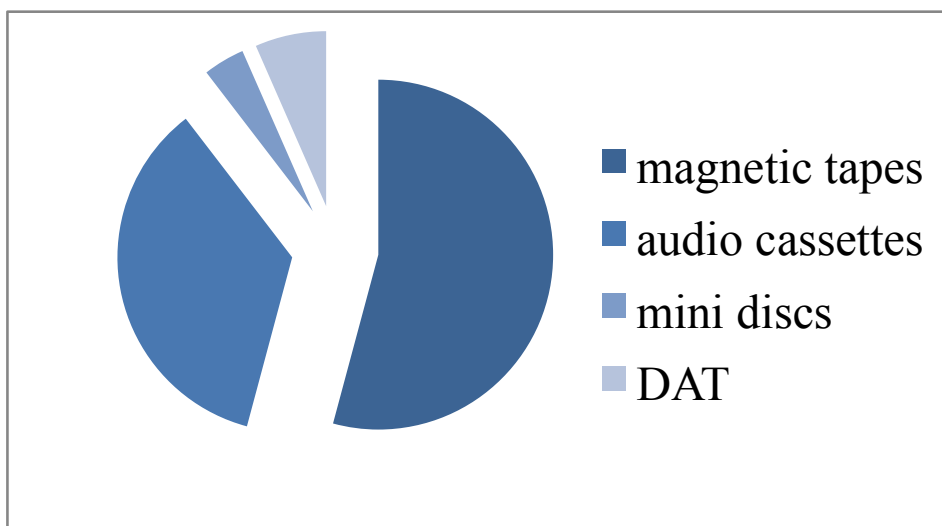
This material is recorded and stored on approximately 4.000 units on a variety of media, including tapes, audio cassettes, mini discs and DAT, that are hard to reproduce today due to lack of technical equipment and because of rapid deterioration of original recordings.

¹ Planning and implementing of the repository is conducted within the Institute's project *Croatian Intangible Cultural Heritage, Social Identities and Values*, financed by the Croatian Science Foundation (2012 - 2014) [1].



Picture 1: (Non) digitized audio material

Particularly vulnerable are the records on magnetic tapes and audiocassettes which are highly sensitive to changes in temperature and relative humidity in the air and decaying if not kept in optimal conditions (40% of relative humidity and 21°C). To ensure their durability, they should be rewound every two years and the new dub tapes every 10 to 15 years [2], which is - due to outdated techniques - difficult to perform. At the turn of the century, IASA (International Association of the Sound and Audio-visual Archives) put forward the instructions for the preservation of sound heritage, claiming that the best solution for long-term preservation of audio content is their migration to the digital domain [3].



Picture 2: Types of audio material

3. Digitization of Sound Recordings

Digitization is therefore necessary in the first place for the protection of said material, but also because of the need that this legacy may be available to everyone. So, in order to protect and also to make

these unique audio records more accessible, we have been digitizing and restoring the audio fund since 1997. But till today, only (approximately) 15% of tapes have been digitized; mostly thanks to donations from the Ministry of Culture and Foundation of Croatian Academy of Sciences and Arts.

Independent digitization of audio recordings within our institution is not possible under current conditions due to lack of adequate space and technical facilities, and especially due to lack of specialized staff members equipped to deal with this endeavour. An ideal solution to this problem would be the employment of ethno-musicological, ethnological or folklore orientated specialist, who would know the techniques of restoration and digitization of audio material and who would exclusively deal with our audio archives. Due to the current impossibility of that goal, digitization is performed outside the home institution, in collaboration with professional studios. The problem is the financing of such digitization, because it is extremely expensive. One hour of studio time costs nearly 40 euros and with respect to the amount of material that is awaiting digitization, just for downloading and processing of these records, it would take more than three hundred thousand euros. Further, for faster implementation of the project, along with co-operation with specialized companies, it would be necessary to include one or two external associates in the job of inputting the various existing metadata in our databases. We are constantly looking for other solutions proposing various smaller projects through which we aim to collect at least some money for the digitization of a small number of tapes.



Picture 3: Original tapes



Picture 4: Digitized tapes on CD's

During planning and implementation of these demanding projects, different approaches in solving the issues of digitization, storing and availability have collided. For instance, during the digitization of audio material professional standpoint of our sound specialist on the techniques of digitization collides with the directives of the archival profession and the demands of the ethnologist on authenticity. Ethnologists and archivists insist on 1:1 copies, while the sound engineers tend to the ideal of purity of sound, simultaneously cleaning the recordings of technical mistakes and "excessive" external sounds. Our approach is to follow the archival guidelines, so our digital duplicates are authentic copies of original tapes. Certain footage is further processed later, for example in the case when it is needed for

the case of its publication on the CD. The results of digitization are 16-bit records with a sampling frequency of 44.1 kHz, which are the recommended values for digitization of audio (sn 2007: 10), in .wav and .aiff format, readable on any CD player, and PC and Mac computers.

Material is downloaded on two CDs, one for permanent storage (as a protective copy), and the other for use and reproduction. CD's for usage are available in the documentation of the Institute where they can be accessed and, with special permission, a user can get a copy. Archive copies of CD's are stored in the stockroom, and serves only as a backup. Both pieces are stored in the corresponding metal filing cabinets. Since last year, all records have been also stored on external HD devices, which are more reliable and durable storage medium of CD.



Picture 5: Magnetic tape



Picture 6: CD – Digitized magnetic tape

Databases² of digitized collection are stored in the information system of the Institute of Ethnology and Folklore, and they are published and available via a website of the Institute, while the sound recordings, at this time, can be only reviewed at the Institute.

The benefits of digitization are numerous. They include the prevention of further devastation of the originals, those rare and unique recordings with narrations about traditions and customs, records of oral literature, music, song and dance, much easier and faster access to the records and the fact that the digital material is thus ready for publication, either on compact discs or on the Internet. Also, it is easier to make additional copies from the digitized material, to be used by a variety of external users around the world.

As for disadvantages, we will not go into technical issues related to the loss of quality or the change of the properties of the sound in the process of digitization, but just address the unreliability of CD media what was bothering us before we purchased the portable HD devices. In 1997, when we began to plan a digitization project, we were all assured in a high degree of confidence in the CD and its durability, but time has shown that it was not true. There are known cases of some archives whose digitized images on CDs have already become unusable after just 5 years. Fortunately, our records have not experienced this fate. Last year, when we migrated them on the hard drives to make additional safety copies and extend the lifespan of the records, we found that only 3% of CDs showed some degree of damage, but we managed to save and migrate all the digitized records.

² Metadata are currently still enrolled in the database created in FileMakerPro program, until the day when digital repository will be fully formed and perfected.

4. Digital Repository

In addition to protecting and prolonging the life of archival records, as well as making safety copies, the goal of the Institute's projects of digitization of documentation is to make easier access to such material. Specifically, in proportion to the advancement of information and communication technologies, expectations and demands of the users are growing too. The customers of the Institute archive are already accustomed to electronic databases that allow them to easily and fairly accurately make a search; and for the past ten years there has been an increasing amount of digitized material, so the next logical step was to go into the construction of a new information system. The Institute is currently working on a development of a multimedia digital repository which should be a highly efficient and practical system for storage and distribution of digital material, particularly because it enables easier, faster and more precise processing and classification of the material, and simplifies its retrieval and manipulation. Development of Institute's repository is a very tedious process because of various digital formats that should be stored there (audio, video, photo, manuscripts...), and the high demands for accurate and easy browsing, that we set before the developers. A demo version of the repository has been made and the metadata from all of our existing databases has been successfully transferred along with digital multimedia examples. The plan is to store a complete documentation of Institute in such a repository, first and foremost the ones that are already in digital form, and it will be later updated and expanded with additional audio, video, photo and manuscript material.



Picture 7: Digital repository – Audio library

Users' great benefit will be the advantage that the material will be available regardless of where they are, because it will be accessed via the Internet from around the world. The browsing will be very precise, as well as simple and fast. Furthermore, downloading the copies of digital material over the Internet reduces the cost (eliminates postage costs and costs of purchasing the CD media). The next big advantage is that the digital material organized and stored in such a way is easy to

process and prepare for publication on the web, in print and on CD or DVD media. Such material is also more suitable for exchange with other related organizations and institutions. It is compatible with the projects of Europeana, which makes it possible to exchange the data.

5. Opening the Archive to the Public and Copyright Issues

However, the repository and opening of the archive to the public via the Internet open numerous new questions, from the requirements of researchers and other users of the material to the issue of authorship rights.

We will have to be very careful in determining which material can be published and be available to the public, concerning the specific issues regarding copyright in our profession, which is partly related to the rights of informants. With regard to the provisions of copyright law in force in Croatia [5] (similar law is in effect in Europe), according to which the copyright (including copyright in anonymous works) lasts seventy years from the death of the author, the lawful publication of the work or, in our case, from the making of the recording, we are quite limited and we still have plenty of issues to deal with.

As things stand now, a significant part of the material will surely have limited access and usage. The idea is to make the databases and digitized material available to employees of the Institute, while for all external users several modules for inspection and possible copying of the material will be developed. The system allows us to define access rules to each individual document within the repository; these rights will be defined for each of the items separately, and for each user group, and for each type of need. After processing the application, the user will receive a password to access the data, depending on the type of approval.

However, there are various possibilities of protection of the publicly released material from unauthorized copying and use that the system itself allows us to have, such as the automatic application of watermarks, showing photos in low resolution and the like.

6. Referral Center for Intangible Culture

The repository will be much more than just a virtual place for storage and usage of documentary material. It will be a stable, well supported platform, upon which we plan to build different applications for further development of the activities and objectives of the Institute. There is an on-going project to establish the Referral Centre for the Intangible Culture. The idea is to connect all institutions in Croatia and other countries that possess the relevant documentary and research material on Croatian heritage, including the heritage of national minorities in Croatia and Croatian minorities in other countries.

Plans for the Centre include several additional subprojects concerning the collecting of relevant data on intangible culture, such as technological solutions to link data from different databases and media, a creation of database of the conveyors of the intangible cultural heritage, the calendar of cultural events and linking with the affiliate institutions of culture in the country, Database of Folklore Societies, public and private collections and archives, based on the IT platform we are working on. In networking with similar institutions and individuals who possess documented material on intangible culture, the Centre will enable access to the databases of other similar institutions in the country, region and Europe. This will provide high quality support for the scientists and, on the other hand, documents about the traditional culture will become available to a broader cultural public.

References

- [1] *Croatian Intangible Cultural Heritage, Social Identities and Values*. 2012-2014. <http://www.ief.hr/Research/Projects/CroatianIntangibleCulturalHeritageHRZZ/tabid/416/language/en-US/Default.aspx> [23.01.2013].
- [2] Milčić Trajbar, Vesna. 2000. "Zaštita građe i dokumenata pisanih na elektroničkim medijima". In *Arhivi, knjižnice, muzeji. Mogućnosti suradnje u okruženju globalne informacijske strukture*. Willer, Mirna i Katić, Tinka, ed. Zagreb: Hrvatsko muzejsko društvo, 166-173.
- [3] Radovinović, Željka. 2007. *Očuvanje elektroničkih kompozicija hrvatskih skladatelja – razmišljanja i prijedlozi*. Zagreb: Hrvatsko muzikološko društvo. http://www.hmd-music.hr/index.php?subhtml=radovi_ocuv.php, [23.01.2013].
- [4] *Formati datoteka za pohranu i korištenje*. 2007. Nacionalni projekt „Hrvatska kulturna baština. Digitalizacija arhivske, knjižnične i muzejske građe”. Zagreb: Ministarstvo kulture Republike Hrvatske, p.10. http://www.kultura.hr/content/download/597/7937/.../smjernice_formati.p... [23.01.2013].
- [5] *Zakon o autorskom pravu i srodnim pravima*. 2007. NN 167/03, 79/07, 80/11, 144/12. <http://www.zakon.hr/z/106/Zakon-o-autorskom-pravu-i-srodnim-pravima>. [23.01.2013].

koraljka@ief.hr

irena@ief.hr