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DIGITIZATION OF MELOGRAPHIC NOTATIONS¹

Abstract: Institute of Ethnology and Folklore Research (IEF) has the largest and unique Archive of intangible cultural heritage in Croatia. From the establishment of the IEF in 1948, its scientists began to create a collection that now includes extensive cursive, video and audio material on the traditional culture of the Croats and various minorities collected and recorded in all regions of Croatia, as well as the expatriated Croats. The collection of unique and rare melographic notations of traditional music is a part of this collection. Their tremendous value and a high degree of vulnerability are the reasons why this part of Institute's Archive is, along with audio recordings, on the top of the list of priorities for digitization.

In this paper, a collection of original materials, its uniqueness and importance, along with the method of their digitization and processing is presented. Emphasis is on the challenges of identification of digital images and their connection with the original records, as well as on the storage, presentation and access to digital content.

Keywords: Institute of Ethnology and Folklore Research, archive collections, digitization, sheet music

1. Introduction

The Institute of Ethnology and Folklore Research, founded in 1948 as the Institute for Folk Art, developed first as an ethnomusicological research center, gradually increased its scope of activity through time.² As an independent institution which attracted experts from different disciplines, it "was intended to collect and research material 'from the field of Croatian folk art (folklore heritage)', to 'establish, handle and publish that material in a scholarly way', and to co-operate with organisations, societies and institutions which promoted folk art so that their activities would be 'as professional and near to the source as possible', 'to give advice and professional opinions on all questions [related to] the application of Croatian folk art (in the field of architecture, industry, cottage industries etc.)' and 'to take care of the preservation and conservation of the legacy of our folk art'" (Vitez 1998: 7).

Today the Institute of Ethnology and Folklore Research is known as a unique center for folkloristic, ethnological, ethnomusicological and related scientific research in the Republic of Croatia, at which the emphasis is on interdisciplinary and transdisciplinary critical research of culture.

The members of the Institute are experts in a variety of disciplines, such as: ethnology, cultural anthropology, folklore studies, literary theory, music studies, theatre studies, choreology, and art history. They are engaged in interdisciplinary research into historical and contemporary cultural phenomena and processes (see more at www.ief.hr).

¹ Under the term „melographic notations“ we consider the sheet music collection, the written records of melodies and texts of traditional music contained in separate music manuscript books and music papers.

² It was a part of the Institute of Philology and Folklore as the Institute of Folklore Research from 1977 to 1990, when it became independent again, under the present name.

Since the Institute's beginnings, as part of its regular scientific research activities, Institute associates have collected documentary, expert and scientific materials and literature which are saved in the Library and Archive departments. Unique in Croatia, the Institute's Library, by its invaluable collection, is specialized in the area of ethnology, folklore research, Slavic studies and cultural and social anthropology and houses the most relevant and rarest domestic and foreign materials. Soon after the Institute's founding, diverse documentary materials began to be collected in its Archive. The Archive today comprises unique collections of Croatian traditional and contemporary culture (oral literature, folklore music and dance, folklore visual expressions, data on customs and other ethnologic materials) recorded in all parts of Croatia and among Croats abroad. It is indispensable for any ethnographic and folklore research studies.

The Archive's ethnographic material is divided by the kinds of materials collected into eight funds. The material that makes up the manuscript collection contains 1 990 text collections and music annotations, 19 dance collections and 374 kinetograms. As well as this, there are 57 drawing collections with about 2 000 panels; 3 910 tape recordings (which consists of mainly music recordings, but contains narratives); a record library with 1 044 sound recordings; a photo library and a slide library with 61 883 items in total; 1 533 video cassettes and 51 films. All details about the collection are stored in a database, which is being continuously updated and enlarged, and thanks to which, to make research into the collections and archives is very simple and quick.

The process of digitizing the collected materials began in 1997 with the primary goal of safekeeping the original materials. Until then, the valuable and unique original records, many of them in frail condition, were being used,³ exposing them to increasing damage. One of the tasks of the highest priority was to digitize the sound recordings, partly because of the technical characteristics of magnetic tapes, which deteriorate through breakage of the carrying PVC layer and also demagnetize through time losing the recorded sound, and partly because the listening and copying of old recordings on outdated and improperly functioning equipment, whose manufacturing almost completely ceased, has become increasingly more difficult. Digitization solves several problems at the same time: the indispensable copies of documented material are made widely available, further deterioration of original recordings is prevented, and the retrieval of the recorded material, its usage and copying, are simpler and faster. However, so far only a relatively small part of the archive has been digitized due to the lack of space and equipment for digitization, too few associates to work on it and insufficient funding for outsourcing the project. From 1997 to the present, only 600 magnetic tapes have been copied while 2 500 are still awaiting digitization. The digitization of the sheet music part of the manuscript bank began in 2002 and to date 210 sheet music collections, i.e. 34 391 pages of melographic recordings of traditional music have been digitized. The video library, photo library and other collections are converted into digital format only occasionally, mostly according to the needs of the Archive's users.

2. Digitization of Melographic Notations

The sheet music collection was next on the list of priorities, after the audio library, for digitization. These are the written records of melodies and texts of traditional music from Croatia, Gradišće and a few other localities in Europe, collected mostly during the 19th and 20th century. They are hand-written, contained in separate music manuscript books and music

³ The entire Archive of the IEF was included in 1991 as a cultural monument into the Registry of Movable Monuments of Culture of the Regional Institute for the Protection of the Monuments of Culture in Zagreb.

papers, most of them written on special forms printed by the Croatian Authors' Society in the mid-1940s, in accordance with the instructions of Vinko Žganec and used until the 1970s.

These requirements were:

- 1) Each song has its own sheet/form with a musical and textual part
- 2) All melodies (leading parts) are entered in such a way that the final tone is g1
- 3) The title of the song is the first line of its text
- 4) The notation of the song is entered with a clearly marked range of individual parts of the tune, i.e. melodic (music) lines
- 5) In the space reserved for the analysis of the tune, the tone row of tones used in the song was entered, ranging from the lowest to the highest, the so-called material scale and the melody ambit was singled out.
- 6) The structure of melody-stanza was entered separately; the melody lines (melody sections) were with a capital letter of the alphabet below which there were numbers denoting the number of syllables of the sung text in one melody line.
- 7) The final tones of each melody line (cadences) were entered in numbers that denoted the magnitude of the interval between these tones and the final tone of the song.
- 8) They were followed by a space for entering rhythmic patterns of individual melody lines with a space beside it for various notes on the song.
- 9) A "comparative crossword" was aimed at having various determined data on the song in one place, but was not filled in then or later.
- 10) First only the first verse of the text would be written with all the repetitions of parts of the text, inserted parts and refrains, and then the complete text of the song would be written separately with no repetitions, no inserted parts and no refrains. (Bezić 1998: 26, 27).

In addition to the tunes themselves, on the back side, melographers noted basic data on the lyrics such as the dialect, speech, way of text notation, description of customs that accompany the song and their additional commentaries. At the top of the form are data about the narrator: first and last name, maiden name, year of birth or the age at the moment of narrating, place of birth, place and date of narrating/recording and the occupation/education of the narrator. With such a meticulous and detailed approach to the recording of traditional melodies and texts, the associates of the Institute created an exclusive archive collection which contained numerous unique recordings of the songs, of which many do not exist any longer outside of their autochthonous contexts. These records are nowadays often the only source for the reconstruction and revitalization of the forgotten songs from various traditions. Users of the Institute's Archive, besides the scientists, are artists and cultural specialists, professional and amateur, associates of different media, film-makers and people employed in theatres, writers, musicians, leaders of cultural and art ensembles and others. They submit about two hundred requests per year, a lot of them concerning sheet music. It was necessary to begin transferring the sheet music into digital format because of its significance and high demand – to save the originals from further deterioration and to facilitate access.

The total number of 314 collections of i.e. 50 000 pages could not be digitized satisfactorily at the Institute partly because of the lack of adequate equipment but also because of insufficient personnel and space, so that the firm CV Sistemi was employed for scanning and recording data to compact discs. The documentalists chose the material for digitization, preparation and processing and for entering new metadata (scan ID and song title) into the existing data base of the manuscript collection. They moved the data subsequently to the server and the external hard drives to increase the safety and accessibility of the material. The project, funded by the Ministry of Culture, took three years, from 2002 to 2005, during that time a

little less than half of the total collection of sheet music were converted and saved in two digital formats: tiff at the resolution of 300 dpi (one page as one tiff document) and pdf (one collection as one pdf document). Each format was stored on two compact discs, one for general usage and the other as a protected copy for safekeeping.

Each digital entry contains certain technical metadata, for instance, file name, creation date, change date, picture format, dimension, color system and file size.

The ID label of every scan has several levels and looks like the following: IEF_RKP_N0054_0_006_3741; IEF_RKP_N0054_0_007_3741A. IEF is the abbreviation of the Institute of Ethnology and Folklore Research, RKP is the collection label, in this case the manuscript bank, N denotes the sheet music collection, 0054 represents the sequence number of the collection and 0 the sequence number of a volume (when present). These labels are at the same time the call numbers of the sheet music collection (in this example the collection IEF rkp N 54). Furthermore, the label 006 represents the sequence number of the page in the collection, 3741 is the archival number of the tune (if it exists, handwritten in red in the collection) and 3741A is at the back of the same sheet music.

The manuscript data base itself contains the following metadata: author/researcher, title of the collection, locality, year of entry, year of entering into inventory, number of pages of the collection, keywords, comments and contents/registry list. Information/link to digital entry is entered into the field “comment” where the data on digitization date, the firm that completed the job and the call number of the CD on which the digital entry is stored and by which it can be retrieved (for instance IEF rkp CD 7) are written. The contents of the particular manuscript collection are entered into the field “registry list,” and, in the case of the sheet music collections, the scan ID of each particular sheet music entry and the title of the song obtained from the first verse is notated.

Such a detailed data base enables a simple and fast retrieval of the sheet music entries. The precise registry list made after the first verse of the song is very practical for searching, whereas the archival number of the tune enables a fast retrieval of the song in that collection. The ID number helps in navigation through digital entries, i.e. at finding a particular entry on a CD or external hard drive.

3. Results of Digitizing

Digitizing of the Sheet Music Collection was an investment that clearly paid off. First, the original unique entries of the Croatian traditional culture have been protected in several ways, which was the primary goal of digitization. By not using the originals, their deterioration has slowed down, and the digital protected copies ensure the increased longevity of records and proper storage of the collected material – because the originals can be stored in a safe place and multiple copies are stored in different locations. Digitization was also the opportunity to organize metadata and to create detailed lists of digitized material. The access to sheet music records thereby became easier. The search and navigation of such detailed data bases is exceptionally simple, links to digital entries are clear and handling data on hard drives is incomparably faster than turning the brittle and sensitive leaves of paper. The cost and time needed for making copies has also decreased. Digitization of the collected material is a preparatory and essential step for presenting and publishing the archived material on the Internet,⁴ and it is indispensable for exchanges with domestic and foreign heritage and similar institutions (such as museums, tourist boards and cultural organizations) interested in the

⁴ The project of publishing the collected material on the web pages of the Institute and Europeana is in the development phase, whereas the publishing of printed songbooks of traditional tunes has started.

Croatian heritage. Registering and starting of international projects that involve presentations of the collected materials on web pages has also been simplified. All this contributes to better recognition of the Institute's Archive by the public, and the public will also be able to learn more about Croatian national heritage.

The biggest hurdle we encounter when implementing plans for publishing materials on the Web is the question of authorship and related rights. In our case the authorship rights which might belong to the researcher/recorder are not in question, since that is resolved with the Institute's Ordinance on the Usage of the Archived Collected Material. Until recently when publishing the scanned sheet music the question of the rights of the performers did not arise and data on the identity of the narrator/performer (first and last name, year of birth, place of residence, occupation) were an integral part of the melographic forms and served to ensure the credibility and authenticity of the record. This practice has become quite problematic lately from the ethical viewpoint. This is partly because of the rising tendencies in ethnology and cultural anthropology to question the ethical "defaults" of doing various kinds of field research, their advantages and disadvantages, causes and effects. While in this particular work, due to the nature of the collected material and basic ethical principles of field research – informed consent to participation in research, respect of privacy, equal treatment of all research participants, estimate of costs and benefits, i.e. the question of usage and relation towards the collected material – we might "dodge" the issues because of the simple fact that these materials were collected by others and saved by them in the Special Collection Department at some other time, a number of issues remain ethically questionable. For instance, while in the case of publishing materials that were collected in the near past, the issue of certain ethical principles can be at least partly solved because contact and agreement between the researcher and narrator is still possible, what should be done when the materials were collected in the more distant past and such possibility does not exist? Of course, the current valid Copyright and Related Rights Act⁵ could be called upon, in accordance with which the property rights of the performing artists expire seventy years from the moment of the performance. In this way all doubts related with the part of the collected material created before 1941 would be solved. However, undoubtedly due to the ethnological and cultural anthropological sensibility, we are questioning whether we have the right to publish data about narrators who, could not even foresee to which purposes and in which places their narrations and data on their identities, would appear in the future. These and other similar questions indicate that publishing the archived materials can be quite a delicate work that cannot be fitted only into archival, technological and financial frameworks. It is a complex topic that is to be left for some other occasion.

4. Conclusion

At this stage, the project of digitizing melographic notations is a work in progress. We have managed to convert and save in two digital formats more than a half of 50 000 pages of sheet music, so we have achieved the first goal, protecting the originals. Next step is, besides digitizing the rest of the manuscripts, publishing the materials. At this transitional period and until the question of authorship rights is resolved, a temporary compromise solution has been found. The part of the Sheet Music Collection without open rights issues is presented descriptively with specific graphic examples (scans). Complete and free access to the data bases with

⁵ *Copyright and Related Rights Act: And The Act on Amendments to the Copyright and Related Rights Act*, NN 173/2003, NN 79/2007, NN 80/2011, Zagreb, July 2011.
(http://www.dziv.hr/files/File/eng/zakon_autor_ENG.pdf)

detailed metadata on sheet music records is allowed to the Institute's associates and registered users. On request, with special permissions, access to a particular data base or to all data bases can be also given to outside users⁶.

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⁶ All archived collections are presently accessible in this way on the web pages of the Institute (<http://www.ief.hr>)