

**Устная история и ее сохранение в электронном виде  
для библиотек. Проект Университета Брауна по сохранению  
устных мемуаров Никиты Хрущева за 1966—1971 гг.**

**Oral History and its Digital Preservation for Libraries:  
Brown University Project on Nikita Khrushchev's Dictations, 1966—1971**

**Усна історія та її збереження в електронному варіанті  
для бібліотек. Проект Університету Брауна по збереженню  
усних мемуарів Микити Хрущова за 1966—1971 рр.**

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Оцифровка аудио материалов представляет собой еще один шаг в деятельности библиотек по использованию новых методов сохранения фондов. Аудио-документы обладают такими характеристиками, которые делают оцифровку наилучшим методом их сохранения.

В 2000-2002 гг. Университет Брауна работал над проектом восстановления и оцифровки устных мемуаров Никиты Хрущева, записанных им в период с 1966 по 1971 год. Последняя запись о советской интеллигенции и оттепели была сделана за пять дней до его смерти. История устных мемуаров Никиты Хрущева очень запутана. Под страхом конфискации, его сын Сергей сделал две копии с оригинальных записей, одна из которых была нелегально вывезена в Соединенные Штаты в 60-х и до 2000 года хранилась в Отделении Устной Истории Университета Колумбии. На основании стенографических записей с копий, Строб Талботт подготовил первое издание мемуаров «Хрущев вспоминает», опубликованное на английском языке в 1970 году. В 1999 года полная версия мемуаров, составленная и отредактированная Сергеем Хрущевым, вышла в России (Люди. Время. Власть. М.: Московские Новости, 1999.4 т.).

Копии на пленках — ценный источник для историков — уже нельзя использовать, поскольку во время копирования, по техническим причинам, они были разрезаны на части и перепутаны. Весь объем мемуаров представлял собой 39 бобин общей длительностью 300 часов, записанных в четырехдорожечном моно формате на самой медленной скорости.

Университет Брауна поставил перед собой цель восстановить и перевести в цифровой формат устные воспоминания Никиты Хрущева для их дальнейшего использования и сохранения. В нашем докладе содержится подробный анализ проекта, особое внимание уделяется использованному программному и техническому обеспечению и поисковому инструментарию, созданному для этих мемуаров.

Digitization of sound materials is another step in library efforts to use new methods for collections preservation. Sound documents have certain features, which make digitization the best method for their preservation.

In 2000-2002 Brown University, had been working on a project to fix and digitize the oral memoirs of Nikita Khrushchev, dictated by him from 1966 to 1971. The last dictation on the Soviet Intelligentsia and the Thaw was finished five days before Nikita Sergeyevich died. The history of Krushchev's Oral Memoirs is quite intricate. Under the threat of confiscation, his son Sergei, made two copies of the original tapes, one of which was smuggled to the United States in 1960s, and until 2000 had been stored at the Columbia University Department of Oral History. Based on transcripts from the copied tapes, Strobe Talbott prepared the first edition of the memoirs «Khrushchev remembers», published in the English language in 1970. In 1999 a complete version of the memoirs, compiled and edited by Sergei Khrushchev, was published in Russia (Люди. Время. Власть. М.: Московские Новости, 1999.4 т.).

Copied tapes, a valuable resource for historians, could not be used, because during copying they had been cut into pieces and mixed up due to technical causes. The set contained thirty-nine tapes of over 300 hours of dictations, recorded in four-track mono at the slowest speed.

The goal of the Brown University Project was to fix and digitize Nikita Khrushchev's Dictations for further use and preservation. In this paper, we will give a comprehensive analysis of the Project, with special attention to the technology/software used, and search tools created for the Memoirs.

Оцифровка аудіо-матеріалів являє собою ще один крок у діяльності бібліотек із використання нових методів збереження фондів. Аудіо-документи мають характеристики, які роблять оцифровку найкращим методом їхнього збереження.

У 2000-2002 рр. Університет Брауна працював над проектом відновлення та оцифровки усних мемуарів Микити Хрущова, які були записані ним у період з 1966 до 1971 рр. Останній запис про радянську інтелігенцію та відлигу був зроблений за п'ять днів до смерті. Історія усних мемуарів Микити Хрущова дуже заплутана. Під страхом конфіскації, його син Сергій зробив дві копії з оригінального запису, одну з яких нелегально вивезли у Сполучені Штати в 60-х роках та до 2000 року зберігали у Відділі Усної Історії Університету Колумбії. Узявши за основу стенографічні записи з копій, Строб Талботт підготував перше видання мемуарів «Хрущов згадує», яке опубліковане англійською мовою в 1970 році. У 1999 р. повна версія мемуарів, яку уклав та відредагував Сергій Хрущов, вийшла в Росії (Люди. Час. Влада. М.: Московські новини, 1999, 4т.).

Копії на плівках — важливе джерело для істориків уже не можна використовувати, з технічних причин, їх розрізали на частини та переплутали. Загальний обсяг мемуарів — 39 бобін загальною тривалістю 300 годин, що записані в чотиридоріжковому моно форматі на найменшій швидкості. Університет Брауна поставив перед собою мету відновити та перевести у цифровий формат усні спогади Микити Хрущова для подальшого використання та збереження. У цій доповіді можна знайти детальний аналіз проекту, особлива увага приділяється програмному і технічному забезпеченню та пошуковому інструментарію, створеному для цих мемуарів.

In November 2000 the new Multimedia Lab of Media Services, Brown University, took possession of 39, eight-inch, reel-to-reel audiotapes, which held Nikita Khrushchev's oral memoirs. These tapes were not the originals, but copies made by Nikita Khrushchev's son Sergei in 1968-1970, and smuggled to the United States for Time/Life publishers. These tapes are a valuable historical document for studying Soviet History, as well as the history of many other countries at the time of Nikita Khrushchev. The tapes had been stored for years at the Harriman Institute, Columbia University, being practically non-used because audio records on them were divided into many fragments, and mixed up.

History of Nikita Khrushchev's Memoirs. As Sergei Khrushchev wrote in a special chapter to the complete four-volume edition of the his father's memoirs «Liudi. Vremia. Vlast'» (Moscovskie Novosti, 1999)<sup>1</sup>, conversations about dictating began in 1966. That Summer a «pensioner of the State Level», and forcefully retired prominent political leader, Nikita Khrushchev was recovering from an illness. The family tried to distract his attention from sickness to some useful and interesting activities. Many people who knew Khrushchev before added to that constantly asking him why he would not write his memoirs.

Thus in August 1966 a tape recorder was brought to Petrovo-Dalneye, to the Khrushchev's dacha. In the very beginning there was no even a raw plan of the Memoirs, and as the first theme Nikita Sergeevich chose the Caribbean Missile Crisis of 1962. Lev Petrov, his son in law, took the finished tape home, typed a transcript and edited it for Nikita's review. Unfortunately, Nikita Sergeevich did not like the final text at all, and his enthusiasm was lost. Dictating was stopped for nearly a year. In the meantime the policy of the new Brezhnev administration, especially its new idea to revive Stalin's glory, troubled Khrushchev more and more, motivating him to get back to dictations and «to tell the truth».

In Summer 1967 the work on Memoirs was resumed. In the beginning, his wife Nina Petrovna tried to type daily dictations and edit them, but very soon it became clear that to follow Khrushchev's pace a professional typist was needed. From that time on two people were working on dictations: Leonora Finogenova, as a typist, and Sergei Nikitich as an editor of the transcripts. The schema of work was as follows: during the day Nikita dictated, in the evening Sergei would pick up a finished tape, and at his apartment Leonora Finogenova, using ear-phones typed the text. After editing it Sergei returned the tapes and transcripts to Petrovo-Dalneye for Nikita's review. Normally, Khrushchev dictated 3-5 hours a day, in the morning and in the afternoon. According to Sergei, he did not use any sources, impressing his family

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<sup>1</sup> Хрущев, Сергей Никитович. К истории создания и публикации воспоминаний Н.С. Хрущева // Хрущев Н.С. Люди. Время. Власть. Москва: Московские Новости, 1999, т. 2, с. 625-724.

and friends with his excellent memory. In some cases, when Nikita could not remember the name or any other data, he would note it right in the dictations, asking his son to check or correct or add the information in the transcript.

Copying of original tapes. With the growth of the amount of tapes (kilometers of them!), and pages of transcripts, Nikita Sergeyevich developed a growing concern about the safety of his Memoirs. This is how a plan to copy the original tapes and save them in a separate place was made between Nikita and his son. The place was soon found. It was a storage closet in Sergei's friend apartment near the metro station Sokol. And time proved Khrushchev's concerns right. In April of 1968 Nikita Sergeyevich was called to the special meeting with Kirilenko, Pelshe and Demichev. They demanded that he cease his dictations and bring the tapes and transcripts to the Central Committee. Khrushchev refused. This meeting depressed Khrushchev deeply, and he almost stopped his work till the end of 1968.

In 1969 Khrushchev returned to his dictation and started to work regularly until his first heart attack in 1970. After recovery, he dictated again. Nikita Sergeyevich was not feeling well, he «sdal» as we say, and the voice on last tapes is weak and unstable. The last record was made 5 days before he died. The last story on the Soviet Intelligentsia was especially difficult for him. It was entitled as «I am not a Judge» (Ya nie sudia). When Sergei, as usual, brought the transcript for review, Nikita Sergeyevich did not like it, and asked to toss it and erase the tapes. Sergei never did it, and now we can hear the last testament of a very ill Khrushchev, explaining his decisions, and in some case expressing apologies to people. [*We can make a sound illustration of the last file, at a certain place*]

Copying audio tapes in the U. S. S. R. was done in secret and haste, with very limited resources. Sergei would copy dictations using smaller tapes and maximal speed on two tracks simultaneously, using his home Grundig. Thus, the original records from longer tapes were cut and the order of dictation on copied tapes — lost.

Moving the tapes abroad. The story of transferring Khrushchev's Memoirs abroad would make quite a mystery or a movie, should there be a writer or a film director who might get interested in it. It has been well described in the second volume of «Liudi. Vremia. Vlast», and in «Khrushchev on Khrushchev» (Little, Brown and Company, 1990)<sup>2</sup>. Here we will only mention that the plan had succeeded, and the first portion of the tapes along with the transcripts was smuggled abroad to a secret place. Since then, every new portion of tapes would be copied twice — for the storage closet in Moscow and for the foreign safe.

Publication of the Memoirs abroad. Initially, smuggling (in its true meaning) the tapes from the U. S. S. R. did not have the goal of publishing the Memoirs abroad. Nikita Khrushchev was too devoted to the Soviet Union and Soviet people, dreaming about publishing his Memoirs in Russia. But after the growing pressure of the authorities, and confiscation of the original tapes and transcripts in July of 1970, Khrushchev agreed on foreign publication. Interestingly enough, the agreement with the publisher «Little, Brown and Company» was signed by the smuggler of the tapes, not by Nikita or his family. Consequently, the former obtained the copyright, which is valid till now. The first volume of the English edition «Khrushchev Remembers» was prepared by Strobe Talbott, and published in 1970 by «Little, Brown and Company». It was not a complete edition, since Khrushchev was still dictating. It should be mentioned, that in the same year the book was translated into Russian and published by «Progress» in Moscow, but with the note «DSP» (ДСП — для служебного пользования). The second volume of the English edition was published in 1974 («Khrushchev Remembers. The Last Testament»), when the last tapes arrived in the West<sup>4</sup>.

Controversies about the Memoirs. Even after being published Nikita Khrushchev's Memoirs have not been free from controversies. They started in 1970, when Nikita Sergeyevich was forced to sign a letter saying, that a publication announced by «Little, Brown and Company» was a fabrication («фальшивка»), and that he never sent his Memoirs abroad. Sergei, his son, also wrote and signed a letter saying that he never made copies of the Memoirs, trying that way to protect copies from possible disclosure. The controversies were continued after the Institute of Marxism-Leninism received transcripts from the Central Committee, and other historians started to use them as a source for publications.

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<sup>2</sup> Khrushchev, Sergei. Khrushchev on Khrushchev: an instant aside account of the man and his era / by his son, Sergei Khrushchev; edited and translated by William Taubman. Boston, etc.: Little, Brown and Company, c1990, p. 233-321.

<sup>4</sup> Khrushchev Remembers: The Last testament / Translated and edited by Strobe Talbott, with foreword by Edward Crankshaw and an Introduction by Jerrold L. Schecter. Boston; Toronto: Little, Brown and Company, c1974. 602 p.

Hence — to restore the tapes in their original truth and order, as a valuable historic document was the main goal of the Brown University Library project.

#### Moving the tapes and transcripts from Columbia to Brown.

As it was mentioned earlier, «Time» found a place for the tapes and transcripts in the Harriman Institute, Department of Oral History, at Columbia University. It is one of the richest Departments of Oral History in the United States open for public use. In 1991 the second copy of Dictations was brought to Columbia by Sergei Nikitich Khrushchev, who moved to the United States and settled in Providence, R. I. working as a Senior Fellow at the Watson Institute at Brown University.

Sergei Nikitich was able to raise the money and initiate the Project at Brown. One set of tapes was shipped to the Hay Library, and the work on restoration and preservation began in 2000.

#### Fixing the Dictations. The Brown University project.

The Hay Library at the Brown University received 39, eight-inch, reel-to-reel audiotapes for Nikita Khrushchev's Memoirs. The audio was recorded in four-track mono at the slowest speed (1 7/8 feet per second). This meant that one tape held eight hours of information. The goal of the project was to preserve and enhance the audio by putting it in a digital format and also to recreate (to the best extent possible) the original order of dictation. Since the transcripts of the tapes had been rearranged and published into a four-volume work, it was also possible to reference the audio to these indexed books.

**First stage of the project, 2000-February 2001.** Since the audio would have to be digitally processed anyway, it was decided to digitize it initially at a faster speed (3 3/4). This allowed us to digitize the 300 hours of material in only 150 hours. The tapes were converted into digital format and processed to remove noises caused by deterioration and copying, as well as speed and, in some cases, reverse recording (Michael Haumasser).

We used a standard reel- to reel tape deck connected to a Macintosh G4 with an 866 megahertz processor and 512 megabytes of RAM. Our software package was DigiDesign's Pro Tools LE. This is a free version of the software they package with their audio hardware. We chose Pro Tools because of its simple interface and the difficulty in accidentally erasing information. We knew several people would be working on the project and we wanted a software package with built in redundancies.

We captured the audio onto 60 gigabyte, external, firewire hard drives. Once the audio was pitch shifted to the proper speed and processed slightly it took up most of the free space on three of these drives.

Naming conventions for the audio was an important consideration. We wanted to reflect the original place, track and direction of the audio. The tapes were originally arranged into two parts. Part I consisted of 13 tapes labeled 1 to 12 with a tape 2 and a tape 2a. Part II consisted of 26 tapes numbered sequentially. The first section of our naming convention was either «01» or «02» and referred to the part to which the tape was associated. The second section was the number of the tape. Thus «01-08» was tape 8 from the first section.

The last section of our naming convention specified which of the four mono tracks, the tape direction (forward or reverse) and the stereo channel (right or left). On the forward pass the right channel was track one and the left channel was track three. When the tape was turned over the right channel was track two and the left channel was track four. The only possible choices for the final naming section were: FR1 (forward, right, track 1); FL3 (forward, left, track 3); RR2 (reverse, right, track 2) and RL4 (reverse, left, track 4). A track named 02-18-FL3 indicates the audio comes from the second part, tape 18 and the left track 3 of the forward tape direction.

With our naming convention in place we began a small database in Microsoft Access to track the exact, original position of each section of audio. This database began with just five fields; original tape; start time; end time; length and region name. This last field was the name assigned to an individual story at the second stage of the Project.

**The second stage of the Project.** With all 39 tapes digitized and name convention in place, we moved to working on the content of the dictations. Tape after tape was listened to define discrete fragments, separate and save them as sound files according to the Name Convention. To define the fragments we used not only sound but also its digital image, showing breaks and different density. 300 hours appeared to be cut into approximately 300 pieces, from 1 to 130 minutes each. When first ten tapes had been finished, we tried to put the fragments (regions, as we called them) into the sequence of the original dictations. Since sound files, as they are don't contain any text to help restoring the order, we made notes of each fragment on regular filing cards. First and last sentences of each fragment were especially impor-

tant, and were put down exactly as dictated. Sergei Khrushchev told us that, in order not to lose information, he always would rewind the tape slightly, when he started a new reel. Thus, if those phrases matched, we were sure that fragments should be placed one after another. It was nice when the repetitions did not exceed a sentence or two, but in some cases, it might be 20 minutes, which made it difficult to match fragments.

Transcripts of the first 10 tapes were very helpful tools. They were made from the original dictations and transported abroad. Thus the order of fragments could be checked against them. The second part, tapes 11-29, was much harder. We did not have original transcripts, and as *Нить Ариадны* we could check the dictations against the first transcript (10 tapes) and the 4-volume editions of the complete memoirs in Russian, published in 1999. The latter could be used with certain restrictions: the memoirs were rearranged in a printed version, while our goal was to restore the order of the original dictations. Working with the transcripts, Strobe Talbott, and later — Sergei Khrushchev could «cut» and «paste» pages. With sound one cannot do that, and we again relied on our cards with brief notes taken during listening.

In the process of work, as it was mentioned above, we compared sound records with two documents: transcripts of the memoirs (tapes 1-10) and the four-volume edition (tapes 11-29). That's why, just in case it would be useful in the future, we cross-referenced sound regions with pages in the both documents. Later it proved to be very useful for creating a small search engine for the digital version of the memoirs linking every topic to the transcript and volumes of «*Liudi, Vremia, Vlast*'».

Each identified region was saved into a database. The sequence of fragments had been defined during the previous stage, and it served as a main organizing parameter for the database. The database proved to be a very useful tool throughout the project. We could easily add regions and resort the database to double-check if any missing minute had been left, or to locate overlapping. A special format was created for fragments. The final database had grown to 453 entries (fragments), 34 fields each, using both Latin and Cyrillic characters.

In the process of listening and arranging the audio materials we continued to improve the quality of the sound. The latter ranged from very good to quite poor. Remarkably however, out of all 250 hours of materials only 30 minutes could not be understood. Many sections had a hum caused by the original duplication. The range of this hum made it problematic to remove without losing Khrushchev's voice as well. We used notch filters created in Pro Tools to selectively remove ranges containing the worst of the hum. This sometimes causes Khrushchev's voice to lose its deeper tones but at least his words can be better understood. In many cases it was necessary to leave in some background noise to preserve the audibility of the material.

As the sound was being processed and prepared to be burned on CDs the referencing work was almost done. The database was almost complete and it was time to create the end-user access points.

Fourth stage. We decided to base the search feature in HTML since it is plain text and forward compatible. The CDs were audio CDs (not data CDs) because that was thought to be more archival. In addition, however, the audio data was processed in to the aiff format (audio interchange file format) to make it more universally readable for our finished, digital product. To make the search engine forward compatible as well, we needed to use a non-compiled search that did not require a live connection. It would also be included as a data CD with the final, archival output of two sets of 261 audio CDs. A javascript search was decided on because it used a simple, text based, amorphous database that could be examined without any proprietary programs.

To create the webpages that would serve as a table of contents for each CD we used a program designed to support a live internet connection to a database. The program, Macromedia DreamWeaver Ultra Dev allows online connection to a database via active server pages (.asp) and several other, similar formats. Unfortunately, UltraDev does not allow all entries of a database to be output as individual web pages. In order to get the 261 individual pages, we had to output a record set of all entries and then cut and paste each one into it's own page. This was time consuming, but not difficult. UltraDev could not seem to output the Cyrillic characters and these had to be pasted in from a list of all the chapter titles.

Once the 261 pages had been created we used a shareware program called Atrise Everyfind to spider the pages and create the javascript search. Everyfind was used because it was written in Russia by Andrew Revvo and it supported Cyrillic searching using the Win-1251 keyboard layout. Other HTML pages were added for explanatory material, a list of topics and technical help. At this point we had all the material

needed to create the two archival sets of audio CDs for the archive. The final phase of the project was to create a more portable form of access that could be made available to other archives.

We had been using external hard drives throughout the project because they were compact, secure and relatively inexpensive. Although hard drive storage devices aren't ideal since they are mechanical and can break down, we decided that, as a means of distribution, they were acceptable. All of the audio files (comprising over 45 gigabytes) as well the html pages and search engine would fit on one 60 gigabyte drive costing less than \$250. The audio is embedded into the HTML page so that it can be played within the page itself. There is no need to locate and insert the correct CD. Everything is self contained within the drive and accessible from the webpages.

The drives can connect by USB, USB 2 or FireWire and we found a drive that allows for all of those types of connections making it very compatible. In practice, the standard USB interface is a little slow to load the audio and we recommend upgrading to USB 2 or FireWire by inserting an inexpensive card in the host machine. We hope that these drives will give good service for several years after which the audio can ported over to the newest, best storage medium. Constant migration to new media is essential to keep digital projects accessible into the future.