

Cultural Heritage Reconstructed - Compact Memory and the Frankfurt Digital Judaica Collection

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Abstract:

Compact Memory, the internet archive of German Jewish periodicals, provides free global internet access to the vast majority of German-Jewish newspapers and periodicals of the 19th and 20th century.

Jewish historical newspapers are the invaluable sources that supply direct and detailed information of the transformation process of Jewry and offer new insights into European Jewish history. The use of these historical sources however is extremely difficult, as complete sets of periodicals are very rarely to be found and they are scattered all over the world in different libraries and archives and in different physical formats (paper, microfilm).

Compact Memory contains the 110 most important Jewish German newspapers and periodicals in Central Europe in the period from 1806-1938, covering the complete range of religious, political, social, cultural and academic aspects of Jewish life. The texts are available partly as full-texts, processed by OCR, partly as graphic documents with corresponding index options. The database offers advanced search options, downloading and printing of articles. Thousands of essays of more than 10.000 individual contributors have been bibliographically indexed.

Compact Memory was established by the Judaica Division of the University Library Frankfurt am Main and in charge today in cooperation with the Aachen Chair of German-Jewish Literary History and the Cologne library Germania Judaica.

Compact Memory is one database within the Digital Collection Judaica which being part of Europeana and other digital portals offers resources for the reconstruction and representation of Jewish cultural heritage.

Keywords: Jews, Europe, German-Jewish history, cultural heritage.

Cultural Heritage Reconstructed - Compact Memory and the Frankfurt Digital Judaica Collection

Compact Memory, the internet archive of German Jewish periodicals, provides free global internet access to the vast majority of German-Jewish newspapers and periodicals of the 19th and 20th century. 110 Jewish periodicals, published in German speaking Western and Central Europe, have been virtually reconstructed and can be accessed as complete sets.

Jewish periodicals- as periodicals in general - are an invaluable source for any student of Jewish Studies. Being a primary source, they supply historians and scholars from different academic fields with direct information that can hardly be obtained by other documents. Although newspapers are produced for immediate consumption and perceived as a current, daily medium of information, looking back they are essential and unlimited sources that provide a straight and undisguised insight into the past. They allow historians to travel back in time and experience the factual as well as mental environment at a specific moment and help to better understand the decisions taken or opinions articulated at that time. Newspapers are a perfect instrument to analyze developments and argumentations in the past from the viewpoint of that past.

There have been – according to a statistic in the encyclopedia Jüdisches Lexikon - about 5.000 Jewish periodicals in the years 1667-1929, spread over 5 different continents and 70 countries. For the research of Jewry since the early modern age they constitute an unequalled resource and are therefore being used again and again by students of various disciplines focusing on Jewish topics. These periodicals, representing the wide range of existing attitudes and ideologies, can be interpreted as a realistic image of Jewish life.

Since their development in the 18th century Jewish periodicals were an integral part of the corpus of Jewish publications, having their own specific characteristics. From the beginning they were created as a temporary product only, meant to serve for daily, weekly or monthly use. Newspapers in special are therefore cheaply produced in low cost material, not expected to last for long. Wood pulp paper, as it was used at the end of the 19th century with its immanent process of yellowing, has caused serious damages to the holdings of periodicals over decades. Jewish periodicals however have been affected by destruction and damages in an even greater extent as result of unintended and intended destruction in recent history.

Today – after the extinction policy of the Nazi regime and the Second World War - complete sets of a Jewish periodical are to be found only in a very limited number of libraries. Even in those institutions most periodicals will not be available in their original form, but will have to be used in different types of material. Some volumes may have survived as the original paper print; others as reprints or photo copies taken from other libraries; while some volumes are stored as microfilms and microfiches, and others missing completely. In addition, in many catalogs incorrect bibliographical information concerning these resources can be found, listing certainly the title, but lacking or providing incorrect details about volumes and issues, sometimes overlooking missing issues or parts of them in between. This situation complicates the work of every scholar, who is obliged to order different materials and be dependent on the help by library staff and interlibrary loan, while in general he is interested in just a few, very specific articles of a periodical and not the whole set. For librarians on the other hand, providing access to

periodicals leads to a significant addition of the amount of work and of time that has to be invested.

Digitization of Jewish periodicals, professional cataloguing and taking responsibility for free access in the internet thus seems the only realistic solution to satisfy the users and at the same time to enhance Jewish Studies. The establishment of a database of digitized periodicals is the only way to prevent the total and final loss of the periodicals and their content – being fragile as they were from the beginning - and to make them available for research on the basis of an economically feasible solution.

Offering free internet access to large quantities of textual sources that are frequently used and as historic resources copyright free is the basis of the success of Compact Memory. It has developed into an indispensable resource of information as proven by the number of about one million hits a month and has received international recognition by being listed on the UNESCO Archival Portal. The decisive factor was the definition and selection of the sources. Thus the texts chosen have an eminent significance for research in Jewish Studies and are therefore used frequently. At the same time they are difficult to access otherwise. In addition their future use in the existing forms of paper print or microfiche is uncertain.

Compact Memory offers a representative spectrum of newspapers and periodicals that cover the different Jewish religious, political and social ideologies of their time and give articulation to various aspects – academic, professional, literary, pedagogical – of Jewish society. Compact Memory includes the major, long running papers as well as small and short-lived periodicals. Just let me name the 3 largest ones:

- the long lasting and most influential Jewish newspaper Allgemeine Zeitung des Judenthums, published from 1837-1922, first 3 times a week, later weekly and bi-weekly. Read widely the AZJ, as the paper was called, defined itself as an objective organ for Jewish interests, but represented German liberal bourgeois Jewish circles;
- the Zionist oriented Die Jüdische Rundschau, published from 1902-1938, weekly or twice a week, turning into one of the Jewish papers with the largest distribution during the Weimar Republic and early Nationalsocialism, propagating the ideas of Jewish nationalism;
- Der Israelit, published from 1860-1938, first once, than twice a week, representing orthodox Judaism and fighting against liberal Judaism and Zionism in Germany.

With the support of the University Library Vienna a large number of Austrian-Jewish newspapers and periodicals were digitized, thus enlarging the scope of the database by including publications from the German speaking parts of the former Habsburg Empire.

The technical ability to index large quantities of texts, to manage them in a structured way and to activate internet access in a much more cost efficient and speedy way than any other mode of access to the sources was another determining factor for the quality of the database. The more or less automatic indexing and digitization of large quantities of texts was by far less expensive than any other form of new publication of the content and could therefore be offered free of charge to the users.

Access to the sources had to be provided in a twofold manner. The interface and search options had to be as uncomplicated as possible, so that the user was not restrained by technical acquirements or pre conditional knowledge of the database structure. At the same time a refined technical structure had to assure the realization of services that surmount the use of the print sources would they be used instead. Thus the sources could not be offered as a mere agglomeration of texts without any surplus value besides the quantity itself. The quality of cataloguing and indexing in combination with innovative technical presentation enabled new approaches to the historic resources. The structure of the database had to match the potential results of a still deficient performance of full-text search with OCR recognition, which for these historic resources were at the time still quite problematic and not without defaults.

Building Compact Memory

The database Compact Memory was a mammoth project, organized as a cooperation of three different partner institutions, in a combination of research and resources, a University department chair and two different libraries. The partners in this phase were the chair for German-Jewish Literature at the RWTH Aachen University under the director Prof. Dr. Hans Otto Horch. Prof. Horch and his colleagues at the chair of German Jewish Literature had been engaged for a while already in research about Jewish periodicals and - at the end of the 1990, when the planning of the project started - had acquired an extensive experience in compiling bibliographical indexes of authors and editions as well as dictionaries on the basis of electronic data processing. They had digitized and semantically analyzed one small German-Jewish periodical in depth that served as a pilot for the project.

The two libraries participating were the library Germania Judaica in Cologne under its director Dr. Annette Haller, a small specialized library with extensive German Jewish resources including major parts of the newspapers and periodicals to be digitized. Secondly the Judaica Division of the Frankfurt University Library under its director Dr. Rachel Heuberger, being the largest Judaica collection in the Federal Republic of Germany and one of the important collections worldwide. With their extensive holdings of German-Jewish periodicals both libraries supplied raw material for the database, provided the services for the preparation of the material as well as checking the digital images and with their expertise made sure that correct bibliographical standards were kept. This involved a time consuming process not to be underestimated, starting from the checking in detail of every issue of newspapers and periodicals and ending with listing gaps and fault digital images, missing pages or volumes. In this project the periodicals involved were first filmed and then scanned. Intensive research and correspondence with various institutions in Germany was necessary in order to be able to fill all the blanks and to form complete digital sets of the periodicals. As mentioned, the University Library of Vienna offered its cooperation and supplied a number of journals.

The realization of this project was a challenge as well. Considering the above mentioned difficult nature of the resources, the enormous quantity and the self-imposed claim of offering easy access for the user, an effective line of production had to be installed in order to secure the prompt supply of large and different amounts of data – digital images as well as bibliographic metadata – for the free use in the internet. About 700.000 pages, split over 110 periodicals had to be managed and provided permanently to scholars who are using different equipment. Our aim was to make sure that soon after starting the project the user would be able to access the first results of digitized periodicals as part of a greater, not yet

completed but well-structured archive of scalable digital images within which one could navigate freely. In this context the well-established and approved method of "Browsing and Searching" was to be applied, so that the user could on the one hand act like he would have done with the paper edition and choose a specific periodical from the list, in order to get access to certain volumes and pages. On the other hand the portal should allow for focused inquiries for specific parts of the sources with the help of various differentiated search masks.

Compact Memory was originally planned for 6 years from 2000 onward and completed in 2006, co-financed by the Deutsche Forschungsgemeinschaft (DFG), the German Research Foundation. The close cooperation between the three institutions and constant exchange concerning content and work flow on the one hand and at the same time, the clear distinction of responsibilities and assignment of tasks on the other hand generated an efficient and smooth work flow without which the realization of this complicated project would not have been possible in that short amount of time.

The technical realization of the portal was done by Semantics, an IT company in Aachen, implementing for the first time their newly developed in-house product Visual Library, designed for the adequate presentation of the academic resources and the efficient management of a large amount of data. Working with the central module Library Manager in the background, large quantities of digital images can be imported into the local server, structured and rearranged automatically or individually. The strength of Visual Library software lies in the short time span that elapses between the import of digital images and the presentation on the web. The system reflects the original structure of the periodical and presents the digital images accordingly. In an elaborated way different hierarchies of metadata - for the title as well as for specific parts of the text - are processed, supplying bibliographical metadata on various levels. OCR software can be used, providing searchable full-texts. Documentation of the project, including further information about the database can be stored and presented as well.

For the user, the system provides an easy, intuitive approach to the sources, offering different functions for access, navigation and download, including the option of printing the chosen articles as pdfs. For the future the system offers the opportunity to be enlarged and to include additional functions, for example an Upload-option that would allow the user to add content and be involved interactively. In the past we have had some reactions by users letting us know about individual pages missing and ready to provide us with these missing documents. Another feature would be the possibility to integrate certain parts of Compact Memory into a virtual research environment of individual users, who could add there research results and decide about the community they are ready to share it with.

The desired information can be gained by different options, the foremost certainly being browsing, in itself already an enormous relief for researchers, sparing them the need to travel around to various collections. The presentation in the online portal is corresponding with the structure of a periodical, so one can browse down from volume to issue to page.

In addition some newspapers and periodicals have been indexed intellectually in depth, meaning specific parts of the text on the level of articles, have been divided into categories like essays, news reports, reviews, illustrations and sheet music and then indexed individually. They are thus searchable within these categories. Bibliographical indexing of this sort – being time consuming by nature, so that it could only be done for a small part of the periodicals within the portal – supplies not only additional historical information, but

gives a detailed picture of the structure and different components of the periodical and thus provides information exceeding regular cataloguing of newspapers and periodicals. At the same time, as demonstrated by this example of the picture of Theodor Herzl, search can be limited to the special categories mentioned, and narrowly defined results can be achieved.

The option of searching, the focused retrieval of definite passages of texts according to the categories, is based on the quality of the metadata. These supply the user with concrete results for the questions put forward, without need to work through the graphic images again and again. The third option, OCR processing of the material, has been implemented in some of the journals, due to the high costs involved and will be continued in the future as the quality of OCR for gothic texts is improving constantly. Nevertheless the implementation of full text search does not reach the same level of qualified results as intellectual indexing of the periodical.

The quality of the metadata is the result of cataloguing strictly in accord with the "Rules for alphabetic cataloguing in scientific libraries" (Regeln für die alphabetische Katalogisierung in wissenschaftlichen Bibliotheken RAK-WB) - the accepted standard in German scientific libraries - without exception. This high standard of bibliographical records increases the value of Compact Memory enormously, turning it into a portal with model character. About 50.000 different bibliographical records for parts of the text, like articles, essays, reviews, photos and so on, have been produced. Connected to these metadata are about 10.000 additional bibliographical norm data relating to authors and institutions. Today these thousands of metadata of Compact Memory - based on implementation of norm data early on – can be used to enrich the pool of Linked Open Data, requiring norm data as precondition. This opens opportunities for extending the range of vocabulary within the context of Jewish Studies and interconnects between different resources.

Over the years Visual Library has developed into a software used by quite a large number of German libraries and archives, operating on the basis of known standards that offer a range of advantages. Thus the software supports automatic data transformation into a number of standards (as METS, MODS, MARC-XML, MAB-XML, DC); enables the metadata exchange via SRU and Z 39.50; provides persistent addressing via urn and can be adapted by the company to develop additional interfaces. The implementation of an integrated OAI-interface, facilitating metadata for harvesting processes and the development of the web portal that allows for connection to different systems are important elements for the quality of an internet archive like Compact Memory.

Recently Compact Memory had to be updated to the new software standard. It received not only a new interface, but was restructured, so that the newly developed adaptations to changing standards as mentioned above could be implemented. This update allowed for the ingestion of the documents into Europeana, the European Digital Library. This was carried out through Judaica Europeana, one of the building blocks of Europeana and responsible for digitizing and harvesting Jewish cultural heritage. Although the user interface changed, it still mirrors the hierarchy of the newspaper, going from periodical to volume to issue to articles.

As the example shows, metadata of the articles are being offered according to categories, divided into essays, illustrations and sheet music. An essential feature is the fact, that cataloguing is now done within the frame of the library's cataloging system. Then the

metadata are uploaded automatically and visible at real time within the database as well as recorded to the German National Library, which is hosting the digital resources. So bear in mind that these bibliographical metadata as well - not only the most elementary for the title of the periodical, but also for specific entries as for example essays - are visible in the OPAC and are harvested by search engines in addition to the titles and come up as results whenever a retrieval with a relevant term is carried out.

The Portal Digital Collections Judaica

Having been updated and transformed, Compact Memory could be integrated into the portal "Digital Collections Judaica", where all digital collections of the Frankfurt University Library are presented in one homogenous outlook. Meanwhile we offer 7 separate databases, representing Judaica collections differing by their special character that have been created over a time span of nearly 20 years. The collections differ by the material and type of the originals, be it manuscripts or prints, monographs or periodicals, as well as by the institution funding them and thus by historical development. Most of them, as the collections of Hebrew manuscript and incunabula, Yiddish prints and the Rothschild collection mirror the special collections within the library and are digital versions of real existing collections. The Freimann collection and Compact Memory are virtual collections in that sense that they bring together books or periodicals from various collections from all over the world and present the digital images as one collection that does not exist in reality anymore. Thus every digital collection has its own specific features, influenced by the level of intellectual or automatic indexing implemented according to the needs of the users.

At the end let me just present to you examples of different features implemented in the collections. Thus the Hebrew manuscripts have been catalogued not only in transliteration, but in the original Hebrew alphabet as well, increasing the access and preventing negative responses in search engines due to misleading transliteration. Hebrew manuscripts have been digitized in colour, the state of the art today. While the digital images within Compact Memory are bitonal, the periodicals were first microfilmed and then digitized, documents that are digitized today are all done in colour, due to the price reductions in this field.

The first database, established at the end of the 90ties was the collection of Yiddish prints. Clouds are used for presenting different categories, as seen here with the category "Place". Not yet in the stage of norm data, as we would do it today, the location of printing is indicated within the cloud structure, allowing conclusions as to the importance of the place in the history of Yiddish printing.

The digital Freimann collection is the virtual reconstruction of the prewar Judaica collection of the Library on the basis of an existing catalogue from the year 1932, while some of the books were destroyed in World War II. Therefore the database is structured according to the catalog classification, allowing for browsing within the digital collection like at the shelves of a virtual reading room. An additional feature of this database is the intellectual structuring of the content of the books, indexing individual chapters that are included in the search algorithm. This expands the retrieval options and allows obtaining results not only on the level of title metadata, but also on the level of individual chapters.

The great advantage of this portal, containing different collections with different degrees of processing, is the possibility of using one query to search all collections and to achieve

appropriate results. Documents of different types are interconnected and new relationships presented, linking articles in newspapers to information from book chapters. Searching with the term "Genf" results in 33 hits from various collections, beginning with an article within the periodical "Palästina" out of Compact Memory, continuing with a booklet of the Freimann collection, that is to be found in the Leo Baeck Institute in New York and including newspaper clippings from the Rothschild-Collection. As shown by this example, the historic collection of newspaper clippings was indexed automatically with OCR, highlighting the relevant terms.

Conclusion

Integrating Compact Memory with its vast amount of articles and daily news into the Digital Collection Judaica has added a new component to the historic document collection of manuscripts and books. By interconnecting resources of different character more than a mere quantitative addition has been achieved, with the help of new developing research tools the strongly linked data are being analyzed within their context from various angles and with different aims in mind. Thus these digital collections, harvested and presented within large digital platforms as Europeana, are the foundation for new research initiatives in various fields of cultural heritage. Compact Memory and the Digital Collection Judaica have developed into an indispensable tool for the preservation, interpretation and reconstruction of Jewish cultural heritage.

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