

**POLISH ELECTRONIC LIBRARIES AND THE CONTRIBUTION OF THE
SCIENTIFIC INFORMATION CENTER OF THE SEA FISHERIES INSTITUTE
IN GDYNIA INTO CREATING A NEW LIBRARY REALITY**

Maggie Grabowska-Popow
Sea Fisheries Institute
Gdynia
popow@mir.gdynia.pl

Abstract. This paper presents a description of the digitalization process of Polish libraries. References are made to global, European, and Polish documents on this theme. The scientific library of the Sea Fisheries Institute in Gdynia is presented, including all changes that have been effected during the process of its modernization.

Keywords: library, digitalization, European Union, Poland, Sea Fisheries Institute, Gdynia

The twentieth century witnessed unprecedented technological progress, which did not bypass scientific information. Among the many signs of progress, such as automation of library processes, the creation of electronic databases, etc., digitalization, or the possibility of producing copies of works that retain the quality of the original, permits making works widely available to a vast readership without putting the original in danger of destruction.

While digitalization provides possibilities for safeguarding collections, it can also render these same collections widely available. This has drawn the interest of government officials the world over, including in Europe, as human cultural heritage is exceptionally valuable and a unique public good.

In 1992, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the international organization that supports educational, scientific, and cultural endeavors, initiated an international program known as Memory of the World, the aim of which is simultaneously to protect humankind's most fragile manuscripts, printed matter, and audio-visual materials and to provide ready access to them by copying them in digital format. This type of protection is applied to the most valuable libraries and archives.

Similarly, in Europe the European Commission recognized digitalization as a priority within the scope of protecting cultural heritage. At a special session of the Council of Europe in Lisbon on March 23 and 24, 2000, the so-called Lisbon Strategy was adopted, among the priorities of which was the initiative eEurope - An Information Society for All.

The first measurable step toward the realization of the eEurope initiative was to begin the four-year program eContent in 2001 and then its continuation eContent plus in 2005-2008.

Co-operation was the basis for the meeting of experts organized in April 2001 in Lund, Sweden. The main impetus behind initiating this meeting was the conviction that it was necessary to develop mechanisms for harmonizing the European digitalization programs and to define the principles of co-operation among member states.

The European Commission assigned the realization of the Lund recommendations to the ministers of culture. Their activities were guided by the MINERVA project (Ministerial Network for Valorising Activities in Digitalization), and later by the new initiative called MINERVA+, that was initiated to accommodate the new EU member states.

It is impossible to mention all the EU initiatives by name, but it is worthwhile to mention the program called i2010: European Information Society for Growth and Employment, which was accepted in June 2005. This concept is the first proposal by the EC prepared within the scope of the Renewed Lisbon Strategy. One of the points addressed by the program was the digital library and the corresponding initiatives listed in the document entitled i2010: Digital Library.

As much as the organization of the digitalization of cultural collections remains within the realm of individual member states, the priority of the European Commission itself is to increase efforts in stimulating co-operation and to implement financial mechanisms.

Of all the proposed digital library projects, two have drawn the most attention. The decade-long project announced by Google, Inc. in December 2004 to scan the collections of five well-known libraries, namely those at the University of Michigan, Stanford, Harvard, Oxford, and the New York Public Library, aroused much controversy. The goal of the endeavor is to make 15 million books available on line in a great digital library by 2015.

The second project is the creation of the European Digital Library, the aim of which is to coordinate national libraries in digitizing efforts and to make available to the world via teleinformation systems the cultural and scientific heritage of Europe.

The accession of Poland to the European Union opened up new horizons in many fields, including those of culture and science.

During the pre-accession period, the Introductory National Plan for Development was created, and following membership, the National Plan for Development 2004-2006 was initiated. It stipulated the necessity of and methods for intensifying the development of technology for an information society. These tasks are also included in expanded form in the National Plan for Development 2007-2011. The aims of the plan are realized in five programs regarding, among other goals, the development of culture and the preservation of cultural heritage. The principles of the plan are set forth in detail in documents such as

ePoland: Strategies for Developing an Information Society in Poland in 2001-2006, in which, for the first time, the possibilities of using digital technology for the preservation and dissemination of cultural heritage are discussed. Specifically, the strategy foresees, among other things:

- preparing a widely available Internet data base presenting Polish culture and national heritage;
- creating the Polish Virtual Library, the aim of which is to create an electronic collection of Polish literary works, which would promote Polish cultural throughout the world;
- developing methodologies for digitally archiving various materials from libraries and museums (documents, manuscripts, incunabula, sundry printed materials, periodicals, etc.) and making them available in digital formats (CD-ROM, DVD);
- scanning the most valuable monuments of the heritage of the Polish state to preserve them for future generations;
- cataloging written Polish works in digital form, in order to preserve copies for future generations of Poles. Issues regarding the development of the libraries in Poland are addressed in the National Strategy for Cultural Development in 2004-2013 and in the Supplement for 2004-2020. The general descriptions of the state of Polish culture in the introductions to both of these documents include an evaluation of the current library situation. In the 1998-2001 period, the number of libraries in Poland decreased consistently, and in the 2001-2004 period 196 libraries and branches were liquidated. An analysis of the finances of the public library network indicates that funds earmarked for purchasing books and periodicals are decreasing annually. Under financing the book sector and the liquidation of libraries is one of the major threats facing Polish culture in the nearest future.

This situation will be improved by increased state and local governmental spending on the purchase of books and periodicals and outfitting libraries with computers and software, the construction of platforms and virtual network systems to make collections, and the construction and outfitting of workshops for digitized collections. These activities will also receive funding from the budget of the Ministry of Culture and from local governmental funds, as well as sectorial operational program grants, structural funds, and, to a lesser degree, from income and the libraries themselves.

The most interesting aspect of Polish libraries, including scientific ones, at the moment is that, despite all the administrative undertakings, they appear to be surpassing all plans and strategies as they race toward modernity.

According to various data, there are currently about thirty digital libraries or Internet-accessible digital collections in Poland. Most of the digital libraries (18) use the dLibra platform to present electronic materials. This platform is improved continually at the Poznań Supercomputer-Network Center (Poznańskie Centrum Superkomputerowo-Sieciowe - PCSS). In early September 2008, more than 158,000 objects were available in digital format on the eLibra platform. The resources of all the digital libraries that are available through dLibra programming can be searched through the Federation of Digital

Libraries (Federacja Bibliotek Cyfrowych) at <http://fbc.pionier.net.pl/owoc/?action=ChangeLanguageAction&language=pl> .

In Poland, most digital libraries are part of traditional libraries. Digital information records have long supplemented traditional collections (books, periodicals, and audiovisual materials), which have long been collected in libraries.

The organizational models are as follows:

1. **Central Libraries**, including the National Library, which contains specialized and general collections, in addition to cultural heritage materials.

The collections of the National Library have been available in digital format since 2006 under the collective name of Polona National Digital Library (Cyfrowa Biblioteka Narodowa Polona - CBN) at <http://www.polona.pl/dlibra> . The builders of library focused on the needs of Polish users and the unique character of the collections at the National Library, which is the founder of Polona. The primary aim of CBN is to give readers from Poland and the world over access to books, periodicals, and other documents which together paint a picture of Polish culture, and which are otherwise unavailable to the public because of their value, uniqueness, or poor condition. CBN Polona comprises thematic collections, and, in accordance with its mission, the Polona collections present the works of the greatest Polish artists, first editions of Polish literature and publishing, as well as underground publications from the WWII period. Since 2007, the National Library has also operated the Polish Internet Library (Polska Biblioteka Internetowa - PBI) at <http://www.pbi.edu.pl/index.html> , which was previously operated by the foundation of the same name. The National Library is currently working on improving the quality of the digital resources of the PBI, the aim of these endeavors is to ensure the greatest possible part of PBI resources are presented in accordance with prevailing standards and to connect them to the Europeana portal.

2. **Regional digital libraries** are created co-operatively by many institutions. Their resources are most frequently linked with the region, but can also collect educational and cultural heritage materials.

3. **Institutional digital libraries** are organized by individual institutions. Such collections are usually linked to the institution's field of interest or its history.

4. **Consortium-based digital libraries** are created by consortia or federations of institutes with similar ranges of interests, and their resources are analogous to institutional libraries.

The central libraries, seven in all, began digitizing their resources in 2002; these included the Sejm (Parliament) and the Central Military libraries. These were later joined by the National Library and the Central Agricultural Library. In 2004, the Central Polish Library for the Vision Impaired and the Central Statistics Library began the digitalization process, followed in 2005 by the Main Medical Library.

All of the libraries mentioned initiated digitalization in an effort to preserve the most valuable resources in their collections. This is why the first documents to be processed were those that are the most valuable to global culture, and those that are oldest since they are not protected by rigorous copyright law. In five of the libraries mentioned,

digitalization workshops or desks were created, and two, including the one at the National Library, offer digitalization services to the public. The financing for digitizing comes from the libraries' own funding, paid library services, state and local grants, and private sponsors.

Among the regional digital libraries, the first deserving of mention is the Greater Poland Digital Library (Wielkopolska Biblioteka Cyfrowa - WBC) at www.wbc.poznan.pl, which went online in October 2002. The principle motive for its foundation was the desire to make regional materials available to a wide-ranging audience, and to provide students with more ready access to the didactic collections of various fields. WBC became the model for other regions, and it is an example that with local resources, dedication, and courage it is possible to accomplish things that had appeared impossible. Currently, the scientific and public libraries of Poznań are also participating in the WBC project. The guiding principle of the WBC is to create Internet access to four types of resources: educational (written educational materials, text books, scientific monographs); cultural heritage (chosen historically significant publications in the collections of the Poznań libraries); regional (publications regarding Poznań and the Greater Poland region); music publications (sheet music, scores, publications about music).

Other regional libraries quickly followed the example of the WBC. In November 2004 the Lower Silesian Digital Library (Dolnośląska Biblioteka Cyfrowa) at www.dbc.wroc.pl was founded by a joint initiative of the Wrocław Technical University and Ossoliński National Department. Other initiative followed, including the Lesser Poland Digital Library (Małopolska Biblioteka Cyfrowa) at <http://www.mbc.malopolska.pl/dlibra>, presents publications on the cultural heritage of Krakow and the Lesser Poland region. The Silesian Digital Library (Śląska Biblioteka Cyfrowa) at www.sbc.org.pl, was created based on an agreement between the Silesian Library and the University of Silesia in July 2006, the aim of this project is to make available on the Internet the cultural heritage of Silesia in all of its historic and present-day diversity, to publish the scientific achievements of the region, and to support didactic and educational activities.

Institutional digital libraries are mainly those of the libraries of higher educational institutions, various scientific and public libraries. The pioneers in this field of digitizing scientific libraries were the Jagiellonian Library (Biblioteka Jagiellońska) at http://www.bj.uj.edu.pl/pbi/index_n.php and the Main Library of the University of Mining and Metallurgy (Biblioteka Główna Akademii Górniczo-Hutniczej) at <http://abc.krakow.pl/>, which is currently joined with the Main Library of the University of Economics (Biblioteka Główna Uniwersytetu Ekonomicznego), all of these were founded in Kraków in the 1990s. In 1995, *De Revolutionibus orbium coelestium* by Nicolaus Copernicus was recorded on CD at the Jagiellonian University.

After 2000, the tempo of digitizing was accelerated at other scientific libraries, including that of the University of Wrocław at www.bibliotekacyfrowa.pl/dlibra, the University of Warsaw at www.buw.uw.edu.pl/index.php?option=com_content&task=view&id=153&Itemid=122, the Kórnicka Library of the Polish Academy of Sciences (Biblioteka Kórnicka Polskiej

Akademii Nauk), which is currently part of the WBC, the Gdańsk Library of the Polish Academy of Sciences (Biblioteka Gdańska Polskiej Akademii Nauk) at <http://dlibra.bgpan.gda.pl/dlibra> and also at the libraries of technical universities in Wrocław, Warsaw, Gdańsk, and Łódź. Among outstanding examples of public library digitizing are the Public Library of Warsaw and the Raczyński Library in Poznań.

The digitized collections of public libraries are generally posted on the websites of large regional libraries. As was done in the central public libraries, these libraries began by digitizing the oldest and most fragile collections first. The priority at libraries of institutions of higher learning is to scan didactic materials, thus rendering information more readily available to students.

The last type of digital library, consortium-based collections, were created thanks to cooperation among institutions with similar areas of interest that hold similar library collections, for example, didactic, academic, etc. Among many such libraries, the Virtual Book Collection of the Federation of Church Libraries (Księgozbiór Wirtualny Federacji Bibliotek Kościelnych FIDES) presents collections of books from libraries that are active within the federation, theological teaching institutions, parishes, and Catholic movements at <http://digital.fides.org.pl/dlibra>. The Digital Library of Education (Pedagogiczna Biblioteka Cyfrowa) at <http://www.wsp.krakow.pl/dlibra/dlibrar> is a wide-ranging collection on education and related fields, including monographs, textbooks, printed matter from the nineteenth and twentieth centuries, selected publications, and conference materials. Thematic consortia, such as the Virtual History of the Book, which is a project at the Library Studies Department at the Pedagogy Academy of Kraków, presents the history and the development of books over the ages at <http://www.wsp.krakow.pl/whk/>.

Poland is divided into 16 regions, two of which, Western Pomerania and Pomerania, are located directly on the Baltic Sea, and a third, Warmia and Mazury, borders the Vistula Lagoon, which is also classified as Baltic waters.



Fig. 1. Map of Poland with administrative districts marked

There are large digital libraries, both institutional and regional, in all of the regions. Noteworthy examples are the West Pomeranian Digital Library (Zachodniopomorska Biblioteka Cyfrowa Pomerania) at <http://zbc.ksiaznica.szczecin.pl/dlibra>, and the Distributed Catalog of the Central Library of Szczecin and Vicinity (Rozproszony Katalog Centralny Bibliotek Szczecina i Regionu - RoK@Bi), was initiated in 2009. It is the basic module of the West Pomeranian Regional and Scientific Information System (Zachodniopomorskiego Sytemu Informacji Region@lnej i N@ukowej). The library makes available documents of regional and national cultural heritage, cultural periodicals, and articles and scientific periodicals, written teaching materials, textbooks, conference materials, and is a repository for the libraries and learning institutions of West Pomerania. Also notable is the Digital Library of the University of Warmia and Mazury (Biblioteka Cyfrowa Uniwersytetu Warmińsko-Mazurskiego) at <http://dlibra.bg.uwm.edu.pl/dlibra>, which makes available publications regarding regional history, the history of the study of mathematics and natural sciences, and didactic materials and publications of the and University of Warmia and Mazury.

In the region of Pomerania, where Gdynia is located, digital libraries got their start at the Technical University of Gdańsk, where the digitalization process began in 2003. Scientific publications (textbooks, books, written teaching materials, old prints) are digitally processed and are available at <http://www.wbss.pg.gda.pl>. Other significant

digital libraries in this region include the Kashubian Digital Library (Kaszubska Biblioteka Cyfrowa) the guiding principle of which is to make available the most historically important and valuable examples of Kashubian writing and other cultural evidence from the region, which is housed at the Kashubian-Pomeranian Museum of Writing and Music in Wejherowo and at other institutions. The Wejherowo Digital Library (Wejherowska Biblioteka Cyfrowa) at <http://biblioteka.wejherowo.pl/dlibra/dlibra> gives users access to the oldest historical writings in the collections, to use the library's collection of written teaching materials and textbooks, and to examine unique exhibits of items from the regional library. The Gdańsk Digital Library of the Polish Academy of Sciences (Biblioteka Cyfrowa Biblioteki Gdańskiej Polskiej Akademii Nauk) at <http://dlibra.bgpan.gda.pl/dlibra> , provides access to the most interesting and the most valuable historical writing in the collections of the Gdańsk Digital Library, PAS.

The Technical University of Gdańsk, mentioned previously, initiated the creation of the Pomeranian Digital Library (Pomorska Biblioteka Cyfrowa). The project proposes to scan in excess of a million pages of documents over the course of three years beginning in July 2009. All of the institutions of higher learning in the Tri-Cities have been invited to participate, as have other large, scientific and cultural institutions in the region including the University of Gdańsk, the Gdańsk Library of the Polish Academy of Sciences, the Academy of Fine Arts in Gdańsk, the Medical Academy in Gdańsk, the Music Academy in Gdańsk, the Gdynia Maritime Academy, and the Kashubian-Pomeranian Museum of Writing and Music in Wejherowo. The value of the project is estimated at 9 254 443.85 PLN. (2 300 000 euro). Three-quarters of this sum is covered by grants from Union funds (6 393 534.78 PLN = approximately 1 600 000 euros), and the remaining portion will be raised by the project's partners.

The Pomeranian Digital Library (Pomorska Biblioteka Cyfrowa - PBC) was founded to preserve historically important documents and to present them on the Internet free of charge and for unlimited periods. Digitizing the collections will continue until all of the library collections in Pomerania, estimated to be 93 million pages of documents, have been scanned. PBC will collect text documents, graphics, and multimedia materials and will use JeromeDL programming to create the digital versions.

Three digitizing centers will be opened for the project at the Main Library of the Technical University of Gdańsk, the Main Library of the University of Gdańsk, and the Gdańsk Library of the Polish Academy of Sciences. These centers will be equipped with special book scanners and programming for the digitizing of collections. Additionally, mobile centers will be created that will be available to the other partners according to a schedule.

The Scientific Library of the Sea Fisheries Institute in Gdynia is Poland's oldest "marine" library. The history of the SFI dates back to June 1921, when the Hel Marine Fisheries Laboratory was founded (the Marine Station since 1938). In late 1938 and early 1939 the Station was relocated to Gdynia, and in 1947 the Sea Fisheries Institute was founded and has remained headquartered in Gdynia ever since.

Fig. 2. A view of Gdynia



Fig.



Fig. 4. The Scientific Library of the Sea Fisheries Institute in Gdynia



The scientific research at the SFI includes fisheries biology, fisheries oceanography, marine ecology, fish processing technology, and fisheries economics.

The library is part of the SFI Scientific Information Center, and it is as old as the institute. Initially a modest endeavor, the first collection of 1921 comprised thirty volumes of Polish and German books, the latter from Prussian institutes, such as the Westpreussischer Fischerei-Verein. During WWII, the majority of the then much larger collection was removed to Germans (only about 100 books were saved). After the war, efforts began to reclaim the collection, and in August 1946, two thousand volumes, about 70% of the pre-war collection, were returned to Poland.

Currently, the library continues to build its collection with selections that address such topics as fisheries biology, oceanography, fisheries economics, marine ecology, ichthyology, fisheries techniques, fish processing technology, and fisheries management. This is the only collection in Poland of publications regarding marine fisheries sciences, and it includes rich resources of fisheries conventions and publications by international organizations such as the Food and Agricultural Organization, the International Council for the Exploration of the Sea, and the International Baltic Sea Commission, atlases, encyclopedias, dictionaries, and keys for identifying fish and other marine organisms.

The Scientific Library at the SFI in Gdynia comprises approximately 13,000 printed volumes and it subscribes and/or exchanges 820 titles of Polish and foreign periodicals. The collection is also enriched with videos, CDs, and DVDs.

In addition to a traditional card catalog, the library has a computerized card catalog that is available on-line. Work on computerizing the catalog began in 1997, and it is continually updated. Since April 2009, it has been available on-line on the SFI website at <http://www.mir.gdynia.pl/biblioteka/>.

Searches can be conducted in a variety of ways according to many categories. The software for the catalog was developed and written by the IT department at the institute.

The SFI Scientific Information Center is the Polish coordinator of the international information system ASFISIS FAO/CSA; not only does it send abstracts to the data base, it also co-ordinates the work in this field of other Polish institutes. Thanks to this the SFI in Gdynia has access to the IDS ASFA databases. The SFI network also has access to the full-text on-line bases Elsevier Science Direct, EBSCO and Springer.

The first steps in implementing digital preservation of the library's collections is participation in the project known as Central and Eastern European Marine Repository (CEEMAR) at <http://www.ceemar.org>, where the first articles from the SFI flagship journal, *The Bulletin of the Sea fisheries Institute*, are available in digital format. Next, it is planned to digitize the most valuable books and periodicals. These priorities, as in other libraries, are motivated by the scientific value of the materials as well as their physical state, as the library has books and periodicals that are older than two centuries.

The realization of these plans will be possible thanks to the purchase of an appropriate scanner. Funding for this has been awarded to the SFI by EURASLIC. It is currently being considered if the SFI should become a partner in the Pomeranian Digital Library, as this would allow the majority of the collection to be digitized.

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