

# The Place of the Book and of Information in the Domain of Scientific Communication in 21st Century Poland: New Tasks for Academic Librarians



**The objective of this article is to describe new tasks faced by Polish academic librarians and information science workers as a consequence of the development of scientific information and the Web environment.**

Modern science is closely connected with scientific communication and requires well organised information science based on methods of mass communication, mainly on the Internet as a global network. A significant role in this process is still played by the book, which is considered to be the first means of mass communication, and periodicals. However, thanks to various data carriers and distribution channels created by new technologies, documents have been replaced with rapidly accessible information, which enabled all members of society to be included in the sphere of information and knowledge.

This article concentrates on modern Polish science, closely connected with that of the Europeans. After the fall of communism in 1989 and the destruction of the barriers separating Poland from the world science resources, the Polish quickly managed to introduce technological innovations, especially into the field of scientific communication. Connecting Poland (initially only academic centres) to the Internet in 1993 initiated among scientists an interest in sending data rapidly. Apart from scientists, the group involved in the rapid data distribution were academic librarians, whose primary task was to create records of Polish research works in the world catalogues so as to make research conducted in Poland better known in other countries. Such activities were significantly accelerated after Poland – along with, among others, the Czech Republic and Slovakia – had joined the European Union in 2004. In the last two decades a new model of scientific communication has been developing, which results from developments in IT and the digital environment and which determines the process of organising science. A significant role in this process, although not the only one, is played by book workers, *i.e.* publishers, booksellers, librarians, bibliographers and information brokers. It is on their knowledge and competencies that the information management infrastructure constructs depend and so does the prospect of various social or professional groups using new opportunities of accessing information to fulfil their educational and cultural needs and whether they will use them in practice.

## **New tasks connected with the development of science and access to knowledge among the duties of librarians and information workers**

In all the mentioned activities librarians and information science workers, mainly from research academic libraries, participate because their professional duties have been expanded and require specific competencies and numerous additional skills.

The most important among new tasks is the work connected with such processes as:

### **A. Digitisation of national writing**

All large libraries are involved in this process, aiming at making valuable library materials and documents more generally available. An example is The National Digital Library Polona<sup>1</sup>, whose mission is to provide access to various digitised materials (books, journals, graphics, maps, music scores, ephemera and manuscripts) from the collections of the National Library in Warsaw and co-working institutions. Within the European Union project, the digital library, museum and archives Europeana has been structured to make European cultural and scientific heritage available on the Internet. Poland also participates in this project, including in Europeana our national digital resources<sup>2</sup>.

### **B. Online research outputs (Open access)**

Its aim is to make scientific publications available online by the means of:

1. Modern tools for knowledge management and communication among workers, including usage rights such as copyright and intellectual property right, among others, Creative Commons<sup>3</sup>;
2. Integration of information created by different research institutions in the form of common databases, repositories, *i.e.* so-called open science centres, *e.g.* Platforma Otwartej Nauki (Open Science Platform)<sup>4</sup>, Repozytorium Centrum Otwartej Nauki (the Repository of Centre for Open Science)<sup>5</sup> and open digital libraries (Open Access Library). Federacja Bibliotek Cyfrowych (The Polish Digital Libraries Federation)<sup>6</sup> was established to register written resources from regional digital libraries, such as Wielkopolska Biblioteka Cyfrowa (the Digital Library of Wielkopolska)<sup>7</sup>, Dolnośląska Biblioteka Cyfrowa

<sup>1</sup> <http://intro.polona.pl/>

<sup>2</sup> <http://www.digit.mkidn.gov.pl/pages/europeana/polska-w-europeanie.php>

<sup>3</sup> <https://creativecommons.org/>

<sup>4</sup> <http://pon.edu.pl/>

<sup>5</sup> <https://depot.ceon.pl/>

<sup>6</sup> <http://fbc.pionier.net.pl/pro/zrodla/>

<sup>7</sup> <http://www.wbc.poznan.pl/dlibra>

(the Digital Library of Lower Silesia)<sup>8</sup>, institutional libraries, and selected digital collections like Polonijna Biblioteka Cyfrowa (Poles Abroad Digital Library)<sup>9</sup> as well as electronic abstracts of printed materials;

3. Transmission of scientific information contained in electronic journals located on the Web or printed ones, from which articles or abstracts are registered in electronic bases. Polish scientific journals, for example, from the fields of humanities or social sciences are registered in foreign databases like Scopus (Elsevier)<sup>10</sup>, ISI Web of Science (WoS)<sup>11</sup>, Cambridge Scientific Abstracts (CSA, Proquest)<sup>12</sup>, The Central European Journal of Social Science and Humanities (CEJSH)<sup>13</sup>, JSTOR<sup>14</sup>, Index Copernicus<sup>15</sup> or others, depending on the field.

Bibliology is based on the culture of both writing and the document, and today, in the era of the Internet, it is understood as the 'sciences of writing' (French *sciences de l'écrit*) (Estivals 1993), on which information science is based. Independently of the mode of transmission, scientific texts and the contents they include can be accessed by specific consumers (students, researchers) and, in a popular science form, a wider circle of readers. A significant role in this process is played by librarians (assisted by scholars themselves, science journalists or teachers).

## C. Parameterisation of science

A new task faced by librarians from academic libraries is not only with introducing data but also with calculating various parameters of science, including scientific works. It is required in evaluating scientific contribution on various levels: main and minor institutions and their workers (Kulczycki, Rozkosz & Drabek, 2015). Librarians have undertaken new tasks in the field of science, especially important when an academic researcher's contribution is evaluated:

1. They calculate an index of citations of a researcher, taking into account both articles in which he or she is cited and articles connected with them;
2. On the basis of the data included in indexes of citations they calculate the impact factor, which refers to scientific journals;
3. They calculate the so-called h-index (Hirsch index), introduced in 2005, which attempts to measure the value and impact of all the publications of a given author by characterising his or her whole contribution and not only his or her single work (which is the case of a citation index);
4. They generate reports and statistics on the basis of the information on scientific publications obtained from world databases;
5. They disseminate information via thematic Internet portals and digital libraries.

The need to perform elaborate calculations of the scientific productivity of both individual scholars and scientific institutions in order to formulate opinions about them, and to evaluate and compare them, has necessitated the introduction of new compulsory subjects into teaching programmes of institutions training future librarians. That is why in Instytut Informacji Naukowej i Bibliotekoznawstwa (the Institute of Library and Information Science) in Wrocław, a new laboratory is being opened: Pracownia Humanistyki Cyfrowej (Digital Humanities Lab), which is to facilitate both the conduct of scientific research and teaching.

## D. Permanent education

To exist in the information society one must strive for self-education, called today permanent education. A librarian affects what one chooses to read and shapes one's information sphere. On the other hand, a reader perceives a text that triggers cognition and evaluation processes (selection, hierarchisation) (Kostecki 2011, p. 19), which is closely connected with knowledge. One's sphere of information, looked at from the modern Web perspective, seems unlimited but it is not so. It can be restricted by, for example, some of the searched documents not being accessible, the result of their not being digitised or put on the Web.

## E. Promulgation and popularisation of science

Library staff have always been involved in the processes of the popularisation of science, only the methods and techniques have changed. Librarians successfully continue their activity to make problems and outcomes of scientific research accessible to the general public. This activity is undertaken outside the educational system: it complements and enriches education. Preparing various science(-related) and cultural events is an important part of library and information activity.

The spheres of activities sketched in this article and new tasks faced by librarians and information science workers show that they are greatly responsible for shaping the information and knowledge society. People working in libraries, with books and information engage in collecting materials, compiling various bibliographical indexes, databases and repositories, and

<sup>8</sup> <http://www.dbc.wroc.pl/dlibra>

<sup>9</sup> <http://pbc.uw.edu.pl/>

<sup>10</sup> <http://www.info.sciverse.com/scopus>

<sup>11</sup> [http://thomsonreuters.com/products\\_services/science/science\\_products/a-z/web\\_of\\_science/](http://thomsonreuters.com/products_services/science/science_products/a-z/web_of_science/)

<sup>12</sup> [http://www.csa.com/e\\_products/databases-collections.php](http://www.csa.com/e_products/databases-collections.php)

<sup>13</sup> <http://cejsh.icm.edu.pl/cejsh/search/article.action?cid=ee5a07ea-515a-426b-bab5-578039e34f03>

<sup>14</sup> <http://www.jstor.org/>

<sup>15</sup> <http://indexcopernicus.com/>

responding to requests and inquiries of users. They make the first selection of materials gathered as a result of a specific search, know how to search for information, manage databases and open science resources, and so they also engage in training information and knowledge users.

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