



## OPAC development as the genre transition process Part II: OPAC genre analysis

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The purpose is to present library OPAC as a communication genre in its mutability. The paper is based on the idea of OPAC development as a transition to subsequent OPAC generations. Every generation, in the light of genre theory, can be treated as a subgenre with its own communication purpose. As such, it is subject to transformations caused by information technology development. OPAC development is described as an electronic genre transition process, which allows for distinguishing eight OPAC subgenre generations. They were distinguished based on socio-historical development of the genre system and were described according to Shepherd and Watters<sup>1</sup> genre development model. These subgenres are then subjected to genres analysis revealing their basic characteristics (purpose, form and functionality).

**Keywords:** OPAC generations; OPAC development; Communication genres, Genre analysis

### Introduction

Part 1 of this paper published in the June 2020 issue of this paper journal had described text genre theory and OPAC generations historical development as communication genre. Part 2 is dedicated to OPAC genre analysis. The second part of the paper is organized as follows. The following section discusses library OPAC understood as electronic communication genre. The final section discusses results of OPAC subgenres analysis in their historical development of form, content and communicative purposes as three distinctive genre features.

### Library OPAC as an information cybergenre

Jack Andersen argues that the theory of genres is also relevant to textual information and metadata, created in KO activities in libraries. The library catalog record contains the usable text, which is the result of the use of communication conventions that support the dialogue between the metadata creator (librarian) and recipient (library patron). This dialog is needed to facilitate in turn the communication between the information author and the reader. Information retrieval is in fact a typical social action carried out under conditions of recurrence. In this situation, both catalog (bibliographic) record and the library catalog or bibliography, and even the entire library can be considered as successively more complex communication genres<sup>2</sup>. Transactions (mainly search) carried out using these genres are part

of a communication project, a repetitive action undertaken by people using tools such as search engines or OPACs<sup>3</sup>. It means that searching is a transaction of the same type as reading and writing.

The functioning of each library, where KO processes are carried out, is based on the entire repertoire of communication events, involving the exchange of information and metadata. Understanding these activities of KO requires research on the use of language in them<sup>4</sup>. Using language means in turn communicating information in interaction<sup>5</sup>.

In every library, which is the place where information is present, conventions concerning its content and form of materialization are used. These conventions help to adapt the content and form to the communication goal, which is the social process of mediation between members of the discourse community. Within these discourse communities, interactions between their members and numerous transactions between them and information, usually in the textual form, take place<sup>6</sup>.

The use of these communication conventions causes them to be treated as communication genres. The implementation of information transactions in the library requires the creation of many genres of library metadata, together forming the genre system<sup>7</sup>. Metadata are created in the social activities of the KO using communication genres, constructed and used based on principles and rules representing the genre knowledge, necessary for the proper implementation of transactions with information. These rules and

regulations can be considered as metatext genres<sup>8</sup>, because their subject is the text of another genre – a metadata record. The metadata and its authors participate in the social process of mediation between the authors of information and its users, who also act as creators and users of metadata. Every library is a complex set of information, metadata, their genres and transactions of their creation and use (writing/reading). Its complexity consists in growing constellations of standards and cataloging theory (e.g. models)<sup>9</sup>. Metadata genres act as bridge connecting information and its genres with users seeking it in recurrent information need situations. Transactions on metadata as a part of KO processes allow for typical access to information materialized and manifested in the form of a document.

Additionally to the many terms used by researchers using the theory of the genres, such as text<sup>10-12</sup>, speech<sup>13</sup>, document<sup>14</sup>, utterance<sup>15</sup> and communication<sup>16, 17</sup> genres, in the remainder of the article I will use the last term. Human communication activity, creating a typed information space is one of the essential life functions. Communication conveys information, and the text is used in this process as the most effective, but not the only form of information materialization. If we assume that the communication purpose is the primary and distinctive feature for shaping the genre, then we must agree that this purpose is accomplished with the use of information transfer in communication processes.

The secondary feature of genre (form) is adjusting the genre to the possibilities of the technology used for information transfer. The genre works in between information and its materialization (textual or otherwise). It is selected due to the constructed purpose of the communication that is influenced by, among others, available technical means and designed recipient. Every communication genre gathers and integrates information in a way specific to them, in response to an existing social need. As a form of social action, information communication with the use of a proper genre is simultaneously shaped and standardized by human rhetorical activities<sup>18</sup>. This is epistemological understanding of information and its genres: they do not exist independently but are a human creation for human purposes defined by differential cultural, sociological, and economic conditions of every community<sup>19</sup>.

Textual form is of course relevant to the most communication genres, as it is the most common way

of externalization and codification of information. As Bazerman<sup>20</sup> wrote, the information is recorded and disseminated mainly in textual form. When creating texts that perform the desired activities, in which meaning is constructed, information is always externalized. According to the quoted author, the information is situated within the utterance as part of the communication activity. Hence, there is a correspondence between the text and the communication genre used during its materialization.

Among many genres of information used in libraries, OPAC plays important role as a mediator between the information needs of all parties of the information process, offering information retrieval transactions. This is why it is treated as the information retrieval (IR) system<sup>21</sup>. OPAC and every library catalog, as a communication genre is a source of metadata about the documents held by library (in that about their communication genres), being a tool enabling the implementation of many transactions with their collection, which can be treated as one big multi-genre document. The genre characteristics of information strongly influence the ability to carry out the transactions.

Historically, the library catalog genre consists of various subgenres, functioning at different times and technologies available at that time, starting from book catalogs, through card, microfilm, and microfiche catalogs. Currently, they are more and more rarely used in libraries, and where they operate, they pursue other communication purposes than they were originally intended to. The second half of the twentieth century brought very important technological changes in this area through the use of computer technology. Computerized libraries and their systems, integrated as well (integrated library system, ILS), have been implemented, part of which is a computer catalog, including OPAC. OPAC is not a homogeneous genre as well. It embraces many subgenres, which are called generations (see part 1 of the paper). Thus, the genre of a library catalog is not a constant construct; on the contrary – it undergoes continuous, though usually evolutionary changes over time.

To make sure OPAC is a genre and not, for example, a software platform, we can, operating on a fairly general level of specificity, compare the OPAC genre to other cybergenres, e.g. to the genre of an online blog. Blogs, like OPAC consist of individual entries – posts/records, and are based on an appropriate technological platform, such as e.g.

WordPress (blog) or Aleph (OPAC). These genres obviously differ in the supported communication purposes, which results in differences in the form and content of the text (codified information). Both genres can be part of much larger information ecosystems. For example, the author of a scientific blog usually writes also texts published in scientific journals, notes in a laboratory notebook etc., created individually and as a team member. Librarians are also text authors or coauthors of *de facto* genres utilized in many places of the library (inventories, vocabularies, ontologies etc.). Similar analogies can be found between OPAC and other cybergenres.

Communication processes in libraries, related to the tasks of librarians and users of information are structured in time, or even in a space-time framework. Bakhtin<sup>22</sup> named this idea genre's chronotope, a term proposed for the representation of time and space in language and discourse. The time experience of these individuals is shaped by recurrent communication practices during shared information retrieval activities. Communication practices coexisting with these activities are recurrently guided and structured by common standards of experiencing time and purposes of participants. OPAC genre as mental schemata, determining and determined by communication processes, must be treated as historically shaped constructs<sup>23</sup>. It communication processes function within the relationship between time and action in space<sup>24</sup>. Participants of this process distribute information to chronologically structured practices related to their activities, but at the same time the communication process is directed and structured by their activities and practices functioning in time and space. These chronotopes are related to the communication purpose<sup>20</sup>. This applies to everyday, recurrent and evolutionary activities, but also to revolutionary processes, that cause rapid and significant changes in communication practice supported by OPAC. The latter are often related to technological innovations, creating new generations of communicative purposes and changing the methods of carrying out information retrieval transactions. Pre-existing communities of librarians and users of information, implementing new technologies replace old norms of behavior with new ones, and new communities gathering around new technologies formulate their standards from the beginning.

As Lindsay Russell<sup>25</sup> writes, genres structure current activities and design future possibilities,

basically not regarding the past. However, their impact on current and future communication activities in recurrent situations is based on the conviction that genres have already supported other users in the same or similar situation in the past. We assume that the OPAC genre in use have a history that sanctions its use now and in the future, without going into detailed discussions about the directions of changes. However, the study of genres requires considering the beginnings of their creation and subsequent stages of modification (OPAC generations), which is important not because the beginnings of the genres reveal a truth about it impossible to discover otherwise, but because the complicated beginnings of OPAC genre construction lead to a more accurate understanding of the genre diversity and current rhetorical interventions, performed in the currently available genre system. These changes can be followed by examining the communication genres in use, as they reflect recurrent information practices of OPAC users and changes to these practices.

This structuration leads to the creation, reproduction or modification of the OPAC genres in use. Members of the librarians' and users' community (the library's discourse community) construct OPAC genres together using knowledge about the rules that apply to them. These principles combine the appropriate elements of genre properties (purpose, content, functionality) with a specific social, recurrent, and communication situation of information retrieval. OPAC genre rules are part of the genre knowledge (mental structure). Each time individuals use genres that are considered useful in KO processes, the genres are reproduced. This is why we need to discuss on many OPAC (sub)genres, not only one. Differences in OPAC genre purposes are reflected by subsequent OPAC generations.

The specific use of a genre does not necessarily reflect all its rules, as long as it remains recognizable. However, certain rules must be followed so that the information activity can be recognized in the KO practices as the occurrence of a specific genre. When librarians or users of information reproduce a genre in KO, they can cause genre changes, either deliberately or unconsciously. Changes often repeated and broadly diffused in the information users' discourse community lead to a situation where a variant of the genre or even a new one may appear. The new genre can function in parallel to existing ones (at least temporarily) or can replace them. This was the case,

for example, in libraries after the introduction of the OPAC, when the catalog cards were often printed from the library system to be included in a card catalog genre running parallel to OPAC. After relatively short time (necessary for re-cataloging the library collection), these practices were discontinued, and the OPAC and catalog record genres began to evolve independently. A new genre arises when the combination of content (including its form), communication purpose, and functionality changes so much that a new value is considered by the users' community. This change can be explicitly expressed, for example, in the cataloging rules or can function in a hidden way, e.g. in organizational structures or schemas. In the case of OPAC we can talk about generations of subgenres, because OPAC always pursues one, overarching goal – information retrieval. Individual subgenres add to this overarching goal other specific goals related to the technical solutions used.

Adopting the terminology of the structuration theory<sup>26</sup>, we can say that genres used in KO are social institutions used by users who are influenced by the genre rules during communication activities. As every social institution, OPAC genres both shape and are constructed by communication activity. OPAC genres are considered to be the effect of long-term negotiations between social actors: information creators (authors), organizers (librarians), users and the library system designers. The results of the negotiations are commonly recognized, typical solutions. Gradually, they gain the moral and ontological status of irrefutable facts. Perhaps this feature can explain of the strong reluctance to abandon solutions adopted in the genres related to the MARC standard, still existed in contemporary library systems and originated even from the card catalog genre rules.

### **OPAC genre analysis**

The analysis of genres is based on two main assumptions: firstly, the similarity of the texts in the group results from their features associated with the social context of their creation and application, and secondly, these features can be described in a way that indicates the relationship of the studied text with other similar texts as well as with choices and constraints affecting on text composers<sup>27</sup>. Treating the genre as a social activity causes paying attention to the communicative purpose of the text (materialized

information) as the main feature of the genre<sup>28</sup>. Language and its tools are perceived as belonging to social reality, and at the same time constructing it, which is done by recursive use of conventional communication forms, with the help of which individuals create relationships, build communities and carry out their tasks. From this point of view, genres are the result of joint activities of individual social agents, operating both within the boundaries of their history and within the constraints imposed by the situational context and having knowledge of existing genre repertoire.

Essentially, genre analysis is a study of the situational use of information in specific context, e.g., in terms of scientific communication. While it is performed, emphasis can be placed on the text or its context. Yates and Orlikowski<sup>29</sup> suggest that for the purposes of analysis, genres can be characterized by the similarity of texts in terms of content (sense) and form. The content relates to social motivations, problems and topics expressed during communication, and the form is determined by the visible physical and linguistic features of the communication, such as the structure, medium, language or symbolic system. Others call these characteristics goal (intention) and form<sup>30, 31</sup>. As with previously cited authors, the purpose concerns communication intentions, and the form mainly of linguistic features. Shepherd and Watters for electronic genres add a third feature (in addition to content and form), namely functionality, due to the fact that the electronic medium has specific functional features. These features relate to the new possibilities offered by electronic media<sup>32</sup>. On this basis, Jan Ljungberg<sup>33</sup> proposed a set of genre features: content (type of information), form (content presentation format), functionality (possibilities related to the medium) and purpose (communication goal achieved by the genre). Later in the article, the development of the OPAC genre and its subgenres will be presented taking into account its three features: purpose (question why), form (how) and functionality (what). OPAC genre was distinguished due to the overarching purpose pursued in all generations, which is information retrieval. Subgenres were distinguished due to partial purposes implemented in individual generations, related to the IT used.

Table 1 presents the basic rules of the OPAC subgenres. The rules result from the historical development of the OPAC genre, the stages

Table 1—OPAC genre evolution	
OPAC generation/genre	Genre rules (examples)
I	<p>Replicated</p> <p>Purpose: transactions of searching previously known items by a limited number of metadata genres. Form: simple interface, command control, limited character repertoire, no graphic form (only textual). Functionality: simple search, assimilation of the card catalog functionality.</p>
II	<p>Purpose: complex search transactions with the possibility of combining criteria using Boolean algebra. Form: access via telnet, menu and message systems adapted to the user experience level. Functionality: metadata display format variability, index browsing, circulation transactions, and subject search transactions.</p>
III	<p>Variant</p> <p>Purpose: user services without direct support of the librarian, OPAC on the Internet. Form: windows, icons, links to external data. Functionality: relevance ranking, client-server model, extensive help system, full text search transactions, controlled vocabularies.</p>
IV	<p>Purpose: federated search transactions in a graphical environment similar to those in the Web. Form: GUI, hypertext, different genres of metadata, links to multimedia, full-text and external databases. Functionality: transaction similar to search engines (simple, complex search), still similarity to the card catalog, new forms of user support e.g. chat), cooperation based on the Z39.50 protocol.</p>
V	<p>Purpose: search transactions in the environment of Web 2.0, OPAC as a social tool. Form: typical for Web 2.0, blurring the boundaries between OPAC and Web, OPAC's external resemblance to commercial sites, e.g. Amazon and/or social websites, e.g. LibraryThing. Functionality: a significant increase in the user's transaction capabilities: adding tags and opinions, increased customization, emphasis on the satisfaction of user needs.</p>
VI	<p>Emergent</p> <p>Purpose: OPAC as a central point of integrated search transactions, in multiple sources, internal and external. Form: maximal similarity to search engines (Google), list of results sorted by relevance, new forms of results presentation (e.g. tags cloud). Functionality: simplification of OPAC transactions, full text indexing, searching multiple sources simultaneously, faceted navigation, self-service, article and chapter-level access.</p>
VII	<p>Purpose: OPAC FRBRization, multi-level retrieval transactions, with using bibliographic relations. Form: extensive, multi-level descriptions of works, expressions and manifestations with relational links, separation of attributes. Functionality: presentation of bibliographic relations, creation of families of works (superworks).</p>
VIII	<p>Spontaneous</p> <p>Purpose: transactions of information retrieval (discovery) in the global graph of the data cloud. Form: RDF triplets connected in the cloud, records released from closed data silos, OPAC as nanopublication. Functionality: metadata transfer to the cloud, increase in the importance of vocabularies/ontologies, unique metadata elements identification, full integration of library data with the network environment, computer interpretation of information (inference).</p>

(generations) of which were presented in the previous part of the paper. It is easier to define them for older generations, for which in retrospect we know which features were important and which ones did not stand the test of time. We don't have this knowledge for more contemporary generations; hence the more detailed division into shorter periods. On the other hand, the faster development of subsequent generations may result from the increased pace of technological development, affecting the identification of new genre rules. As already stated, these rules combine the appropriate elements of genre properties (purpose, form, functionality) with a specific communicative, recurrent situation. OPAC

acts as a set of attributes that are regular and systematically identifiable.

The content property was omitted as an insufficiently distinctive feature for the evolution of the OPAC subgenres. Form as a genre property is often connected with content; one stems from the other. The form refers to the observable physical and linguistic features of the communication process, such as structural features (text format, e.g. headers and lists, ways of interaction, fields and subfields), communication medium (e.g. print, electronic, conversation), and language (librarian professional vocabulary, formalization). The form provides guidance on the meaning and proper use of

information. It was also necessary to consider that OPAC is an electronic genre (cybergenre). Cybergenres are treated not only as an artifact, but also as a medium for participation in a communication act<sup>14</sup>.

Functionality is related to the form and results from the technological means used. In the case of cybergenre, it mainly concerns computer technology, and for OPAC genre it is also necessary to consider the network technologies. The social consequences of using the electronic communication medium in OPAC are the functionalities that the medium provides to users, especially the change in the level of functionality (probably increase) in relation to the card catalog<sup>34</sup>. Functionality is connected with the adopted OPAC purposes and should result from them.

The purpose, shared by the OPAC users, is the main characteristics of the genre. This is the goal of the communication act in information retrieval as social action. The purpose is constructed, recognized and used in the discourse community; it does not concern individual communication motifs. It refers to typical situations of information management. The same purpose can be implemented by various forms of information<sup>35</sup>.

The OPAC subgenre generations are given in Table 1 according to the stages of the evolution of cybergenres proposed by Shepherd and Watters<sup>1</sup>, who split them into replicated, variant, evolved, and spontaneous genres. Subgenres grouped in every generation of OPAC in its evolution are similar in genre rules applied which allows mixing their functionalities in market products (ILS). In particular, good practices from previous subgenres are transferred to the next stages. At the first stage (generation), OPAC was created as a replication of card catalog solutions (replicated genres). Three successive generations were the result of looking for own ways of implementing communication processes (variant genres). In the next three generations, OPAC subgenres slowly release from dependences on previous forms, and the functionality is increased by wider application of the possibilities of the new electronic medium (emergent genres). Finally, at the last stage described, OPAC ceases to resemble the hitherto prevailing genre, receiving completely new functionalities and forms, which allow the implementation of a completely new communication purposes (spontaneous genres).

In practice, all of the OPAC subgenres described above, or at least some of their elements, are still in

use. The features of the last three are encountered simultaneously in various configurations in commercial and open ILS products. They are used in all types of libraries and in scientific libraries as a standard. OPAC genre is modified, or new subgenres are created, as a reaction to changes in the expectations and communication activities of their users. These changes are the result of the creation, strengthening and modification of OPAC user's information practices and methods of structuration of these activities over time.

OPAC genre historical evolution is a good example of hybridism and individualization of cybergenres<sup>36</sup>. Hybridism is a process of merging genres with different communicative purposes into a single information object. In OPAC, two functions with different communicative purposes were incorporated; they are representations of the document's *aboutness* and *isness* understood here broadly, as any metadata element describing the formal features of a document. The representation in traditional catalog was divided into several genres. In OPAC they are interconnected in one, compound genre. What is more, OPAC is usually a part of the library webpage. In such a communicative situation the whole library webpage can be treated as a big multi-genre document, where OPAC is one genre of the genre system. Individualism means that OPAC genre allows some freedom of variation, which results in the possibility of individualization. The individualization can be implemented on several levels, beginning from the level of the whole ILS design features to the level of local meaning of metadata elements.

The integrated approach draws attention to the conditions affecting the use of new OPAC subgenres as part of the KO activities. Many consequences of their application are closely related to each other in the structuration process implemented in time and space. Hence, focusing on one cause-and-effect relationship at the expense of others, although it may be useful for specific analytical purposes, in the case of abuse may lead to hastily drawing of one-sided conclusions – recklessly falling into technological determinism where rather a rationalization of choices can be stated. For example, the vast majority of OPAC users (including librarians) do not use the possibilities of advanced search transactions, just entering single words as a search terms following the search engine pattern. From the point of view of technological determinism, this may lead to a decrease in retrieval efficiency. From the point of

view of rationalization of choices, such behavior can be treated as a rational decision limiting the types of interfaces and transactional techniques used in heterogeneous Internet environment, which leads to increased efficiency of transactions carried out in this environment. In this way, that information behavior can be understood as a typified form of communication activities in a similar (recurrent) situation of meeting the information needs.

The genre perspective should not lead to understanding KO activity as an isolated act or the result of individual action undertaken. It is rather the result of communication processes situated in the mainstream of social practices, shaping them and simultaneously being shaped by them. The introduction of a new KO tool into the ILS (e.g. related to the use of new IT), causes the impact of existing communication genres on this new tool; the card catalog genre has had a strong impact on OPAC for long decades. The kind of impact reflects the interaction between existing genres and information activities carried out in the new context. The duality of the genre approach also allows us to draw attention to the unintentional consequences of users' actions – such usage of the genre rules that causes, for example, the preference of simple search, as it is known from search engines to the extent that the advanced search in contemporary OPAC disappears as a result of rhetorical decisions of both users and system designers. However, actions such as adding cover images and table of contents or user tags to OPAC records can be interpreted using genres theory as referring OPAC to other genres (e.g. internet bookstores interface) or as modification existing genre rules in a way that may lead to a new genre emergence in response to a new recurrent situation.

The above-mentioned examples indicate the genre appropriation processes<sup>37</sup> in the discourse community of OPAC users and designers, occurring during the evolution of the OPAC genres. These processes are implemented bi-directionally. Appropriation involves taking over the characteristics of existing genres in a new rhetorical situation, requiring the creation of a new genre. In the initial period of the OPAC evolution the features of card catalog genres were appropriated. In subsequent generations, OPAC designers have moved away from simulating a card catalog on the computer screen towards appropriation of genre features of other websites, mainly social networks and search engines. By focusing on the

communication process and transactions with communication genres, changing over time, it is allowed gaining experience in a longer period, which gives the opportunity to place modern OPAC in historical and futuristic perspectives.

As the presented results show, the use of genres is significantly influenced by many social, economic, and technological factors that cause the creation and modification of various OPAC subgenres in different sociohistorical contexts. The case of OPAC genre indicates that depending on historical conditions, some factors may have a stronger influence than others. The development of contemporary OPAC was surely affected by the change in views on library information tasks, from treating the library as a storehouse, collecting and storing heritage resources to the vision of the library as a center providing information regardless of its source and organizing it according to users' requirements (Ranganathan's laws).

Perhaps the latest changes will lead to the creation of communication genres that will cease to be associated with the genre of the library catalog. The emergence of new network technologies leads to a communication situation that causes changes in existing genres and the emergence of new ones. There are previously non-existent ways of communicating or executing transactions using multiple (cyber)genres. If these situations can be considered recurrent, they create the possibility of new genres emergence, whose form of information materialization reflects the possibilities of new media. In the area of KO, examples of such phenomenon can be the LibraryThing portal, gathering enthusiasts of reading and cataloging their books and Mendeley, supporting scientists in creating personalized databases, as well as Amazon's online bookstore catalog. Some of them use library metadata genres converting them to communication genres useful for KO activities specific to these sites. Their formation means a change in cultural relations regarding who has the capabilities and power (skills and resources) that provide access to information and/or its creation. The digitization of KO processes may cause the deepening of the "digital divide" situation into those who have access to information technologies and those who have the power to create information and its technologies<sup>38</sup>.

Even more evident example of transition from traditional OPAC genre rules in KO processes is

implementation of IT based on Linked Data technology and tools like RDF. It provokes a fundamental transformation of genres and metagenres applied in KO: vocabularies, authority files and catalogs, both in terms of their form and communication purposes (openness) as well as their uptake. The changes are well characterized by the proposal to change the term cataloging to *catalinking*<sup>39</sup>, meaning major changes in the KO transactions and genre knowledge of their performers.

Another important factor affecting the development and acceptance of OPAC subgenres is the context of their application: national, organizational, and disciplinary. Strongly regularized (standardized) genres, such as OPAC, go beyond the limits within these situations relatively easily, although they can be adapted to local contexts, which allow OPAC to be treated as a boundary object<sup>40</sup>. An example of this process with regard to the genre of metadata is repeated modifications of the MARC format, leading to its global unification. Less regulated genres, often subgenres of widely known genres arise in a strong relation to specific, local context; examples are some locally created genres, such as thesauri. Such genres first arise and are used in a limited context and in selected communities. Later they can gain wider acceptance, which means that the emerging genre is perceived as associated with a recursive situation common to a larger community<sup>29</sup>.

### Conclusions

Genre approach to KO, presented in the paper is somewhat similar to the usability approach. In this latter approach, usability of any system could be expressed as a function of particular user performing particular tasks in a particular environment<sup>41</sup>. Genre theory is about a particular person, performing a typical communication activity in recurrent rhetorical situation, what in this article means librarian/library patron, performing cataloging/searching in KO situation. The difference between the two approaches is that genre theory approach is more focused on information and its role in communication processes. OPAC is an example of cybergenre participating in recurrent information retrieval actions taking place in the library environment.

The study of genres used in the KO also allows distinguishing between genre as mental schemata and genre as the medium and the physical carrier associated with it and then allows understanding how their mutual relationships are developed. Both are

dependent on the technology used. The medium refers to physical means by which information is created, transmitted and collected. Genres are mental representations of typical communication activities undertaken in recurrent social situations and characterized by similar purposes, content, and functionality. Although the medium is also part of the content, the genre can be studied in application to various media, of which a good example is the library catalog.

The research on the roles and interactions of information and their genres in the KO activities submitted in the paper points to the central role of the information of many genres for the constitution and historical formation of the community of librarians and library patrons. OPAC has its place in these activities represented by this genre set. Together, these communication genres form a genre system. The creation of metadata in cataloging transaction, one of the most important KO activities, forms a catalog genre. In these transactions, the other communication genres are used, like vocabularies and cataloging rules. The OPAC genre (and hence also the librarian) acts as an intermediary between the creator (author) and the recipient (reader) of information allowing their interactions in the information retrieval transactions. This activity forms the basis for transactions of the stakeholders with information offered by the library. Possession all the communication genre knowledge determines the membership in a particular community of knowledge. KO requires the multilevel interactions of information in numerous genres and genre systems, in applications at every level (from the very local to global) and in all professional activities comprising information transactions. The knowledge of these relationships is essential for the understanding of the role of writing and reading transactions in every KO community.

### References

- 1 Shepherd M and Watters C, The evolution of cybergenres. *In Proc. of the 31<sup>st</sup> Annual Hawaii Intern. Conference on System Sciences (HICSS'98)*, (IEEE Press; Los Alamos), 1998, p. 97-109.
- 2 Andersen J, The concept of genre in information studies, *Annual Review of Information Science and Technology*, 42 (1) (2008) 339-367.
- 3 Andersen J, Genre, organized knowledge and communicative action in digital culture. In: Andersen J and Skouvig L, (eds.) *The organization of knowledge: caught between global structures and local meaning*, (Emerald Group Publ.; Bingley), 2017, p. 1-16.



- 4 Harper R and Sandis C, Wittgenstein and communication technology – a conversation between Richard Harper and Constantine Sandis. *Philosophical Investigations*, 41 (2) (2018) 241-262.
- 5 Savolainen R, Pioneering models for information interaction in the context of information seeking and retrieval, *Journal of Documentation*, 74 (5) (2018) 966-986.
- 6 Latham K, Experiencing documents, *Journal of Documentation*, 70 (4) (2014) 544-561.
- 7 Bazerman Ch, Speech acts, genres, and activity systems: how texts organize activity and people. In: Bazerman Ch and Prior P, (eds.) *What writing does and how it does it. An introduction to analyzing texts and textual practices*, (Lawrence Erlbaum Assoc.; Mahwah), 2004, p. 309-340.
- 8 Loewe I, Gatunki paratekstowe w komunikacji medialnej, (Silesian Univ. Press; Katowice), 2007.
- 9 Sandy H, Explaining cataloging to a six year old? *Technical Services Quarterly*, 36 (4) (2019) 379-390.
- 10 Miller C, Genre as social action, *Quarterly Journal of Speech*, 70 (2) (1984) 151-167.
- 11 Isenberg H, Probleme der Texttypologie, *Wissenschaftliche Zeitschrift der Karl-Marx-Universität Leipzig*, 27 (5) (1978) 565-579.
- 12 Franke W, Texttypen – Textsorten – Textexemplare, *Zeitschrift für germanistische Linguistik*, 15 (3) (1987) 263-281.
- 13 Bakhtin M, Speech genres and other late essays, (Univ. of Texas Press; Austin), 1986.
- 14 Kwaśnik B and Crowston K, Introduction to the special issue. Genres of digital documents, *Information Technology & People*, 18 (2) (2005) 76-88.
- 15 Gajda S, Gatunki wypowiedzi i genologia. In: Bilut-Hoplewicz Z, Czachura W and Smykała M, (eds.) *Lingwistyka tekstu w Polsce i w Niemczech. Pojęcia, problemy, perspektywy*, (Oficyna Wydaw. ATUT; Wrocław), 2009, p. 135-146.
- 16 Swales J, Genre analysis: English in academic and research settings, (Cambridge Univ. Press; New York), 1990.
- 17 Luckmann T, Grundformen der gesellschaftlichen Vermittlung des Wissens: Kommunikative Gattungen, *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 27 (Sonderhefte) (1986) 191-211.
- 18 Skouvig L and Andersen J, Understanding information history from a genre-theoretical perspective, *Journal of the Association for Information Science and Technology*, 66 (10) (2015) 2061-2010.
- 19 Skouvig L, Genres of war: informing a city. In: J. Andersen(ed.) *Genre theory in information studies*, (Emerald Group Publ.; Bingley), 2015.
- 20 Bazerman Ch, The orders of documents, the orders of activity, and the orders of information, *Archival Science*, 12 (4) (2012) 377-388.
- 21 Xie I, Interactive information retrieval in digital environments, (IGI Publ.; Hersley, New York), 2008.
- 22 Bakhtin M, Forms of time and of the chropotope in the novel. In: Holquist M, (ed.) *The dialogic imagination. Four essays*, (Univ. of Texas Press; Austin), 1981, p. 84-258.
- 23 Keunen B, Bakhtin, genre formation, and the cognitive turn: chronotopes as memory schemata, *CLCWeb: Comparative Literature and Culture*, 2 (2) (2000) art. 2. Available at <http://docs.lib.purdue.edu/clcweb/vol2/iss2/2/> (Accessed on 12 Nov 2019).
- 24 Im H, Yates J and Orlikowski W, Temporal coordination through communication: using genres in a virtual start-up organization, *Information Technology & People*, 18 (2) (2005) 89-119.
- 25 Russell L, Defining moments. Genre beginnings, genre invention, and the case of the English-language dictionary, In: Reiff M and Bawarshi A, (eds.) *Genre and the performance of publics*, (Utah State Univ. Press; Boulder), 2016, p. 83-99.
- 26 Giddens A, The construction of society: outline of the theory of structuration, (Univ. of California Press; Berkeley), 1984.
- 27 Hyland K and Salager-Meyer F, Scientific writing, *Annual Review of Information Science and Technology*, 42 (1) (2008) 297-338.
- 28 Askehave I and Swales J, Genre identification and communicative purpose: a problem and a possible solution, *Applied Linguistics*, 22 (2) (2001) 195-212.
- 29 Yates J and Orlikowski W, Genres of organizational communication: a structural approach to studying communication and media, *The Academy of Management Review*, 17 (2) (1992) 299-326.
- 30 Crowston K and Williams M, Reproduced and emergent genres of communication on the World Wide Web, *The Information Society*, 16 (3) (2000) 201-215.
- 31 Yates J, Orlikowski W and Rennecker J, Collaborative genres for collaboration: Genre systems in digital media, In: *Proc. of the 13th Annual Hawaii Intern. Conference on System Sciences (HICCS 30)*, Wailea, HA, (IEEE; Washington), 1997, p. 50-59.
- 32 Shepherd M and Watters C, The functionality attribute of cybergenres. In: *Proc. of the 32nd Hawaii Intern. Conference on System Science*, Manui, Hawaii, January 5-8, 1999, (IEEE; Washington), 1999, p. 2007-2015.
- 33 Ljungberg J, Combining Actor Network Theory and genre theory to understand the evolution of digital genres, *Sprouts: Working Papers on Information Systems*, 8 (20) (2008). Available at <http://sprouts.aisnet.org/8-20> (Accessed on 25 Nov 2019).
- 34 Shepherd M, Watters C and Kennedy A, Cybergenre: automatic identification of home pages on the Web, *Journal of Web Engineering*, 3 (3/4) (2004) 236-251.
- 35 Orlikowski W and Yates J, Genre repertoire: the structuring of communicative practices in organizations, *Administrative Science Quarterly*, 39 (4) (1994) 541-574.
- 36 Santini M, Characterizing genres of Web pages: genre hybridism and individualization. In: *Proc. of the 40th Hawaii Intern. Conference on System Sciences (HICSS'07)*. (IEEE; Washington), 2007, p. 71.
- 37 Artemeva N, Key concepts in rhetorical genre studies: an overview, *Technostyle*, 20 (1) (2004) 3-38.
- 38 Geisler Ch. et al. IText. Future directions for research on the relationship between information technology and writing, *Journal of Business and Technical Communication*, 15 (3) (2001) 269-308.
- 39 Library of Congress new bibliographic framework initiative: update forum with Eric Miller. Available at <https://www.loc.gov/item/webcast-5605/> (Accessed on 22 Nov 2019).
- 40 Star S, This is not a boundary object: reflections on the origin of a concept, *Science, Technology, & Human Values*, 35 (5) (2010) 601-617.
- 41 Smith P, Newman I and Parks L, Virtual hierarchies and virtual networks: some lessons from hypermedia usability research applied to the World Wide Web, *International Journal of Human-Computer Studies*, 47 (1) (1997) 67-95.