Genre Groups in Knowledge Organization

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ABSTRACT

The article is an introduction to the development of Andersen's concept of textual tools used in knowledge organization (KO) in light of the theory of genres and activity systems. In particular, the question is based on the concepts of genre connectivity and genre group, in addition to previously established concepts such as genre hierarchy, set, system, and repertoire. Five genre groups used in KO are described. The analysis of groups, systems, and selected genres used in KO is provided, based on the method proposed by Yates and Orlikowski. The aim is to show the genre system as a part of the activity system, and thus as a framework for KO.

Introduction

In the field of information science, knowledge organization (KO) is understood as an area for the construction of tools used for document storage and retrieval.[1] It is associated with numerous communication activities, performed by the communities of knowledge organizers and information users. This type of communication usually acquires a textual form. Social activities involving the use of texts are shaped with and, at the same time, they shape the genre of the text, understood as a "typified rhetorical action, based in recurrent situations."[2] This means genres should be recognized as communication activities occurring between the author (creator) and the reader (receiver) in a shared space of meaning and actions.[3] In the area of KO, the knowledge organizers encounter institutionalized mediation actions, and while performing those actions, they use texts in genres. In this respect, one may observe genre-driven processes of communication in the organizations (institutions). Genres are social constructs created, reproduced, or modified when genre conventions are applied in the organizational communication processes.[4]

The choice of genres used in KO largely depends on the communication situation of a particular system of information (SoI, e.g., a library); systems of information are understood here, according to Black and Schiller, as systems shaping the

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information with social means, unlike IT-bound information systems.[5] Following this definition, one may treat the SoI as complex genre systems. The abovementioned communication situations mostly arise from the information needs of the SoI users. In order to reach their communication objectives, users employ many genres within a complex system of social actions. These actions are, on one hand, so common and recurrent that they cause the similarity of organizations (all libraries are similar), but, on the other hand, they are as different as the information needs of each user community. The genres used in KO must reflect both the similarities and the differences. Therefore, it is surprising that only a limited attempt is made to understand or clarify the concept of genre for the purpose of knowledge organization.[6]

If one intends to illustrate some methods of reflecting simultaneously the similarities and the differences, it is helpful to employ connectivity, one feature of genres. Genres in organizations, including those dealing with KO, form complex structures. Some of these structures have already been described in the literature (see below). In order to provide a complete picture of genre applicability in KO, it may be useful to consider the point of view of an information system designer. His/her tasks involve the selection of genres best meeting the needs of the user community from among all genre sets supporting specific communication activities. That work amalgamates a number of genres used in various stages of those activities, chosen from among a set of genres resulting from the practices in the area.

Genre connectivity

It happens very rarely that one genre is used in total isolation from the other ones. Many genres collectively coordinate social activities, or one genre enables the use of another one in a variety of activity systems.[7] This feature is related to such concepts as genre hierarchy, genre set, genre system, and genre repertoire. The easiest way to organize genres is by means of a hierarchy.[8] For instance, Crowston and Williams wrote about paper genre in the field of social sciences, which is a type of scholarly paper, which, in turn, is a type of journal paper. The genres in a hierarchy simultaneously show some similarities and differences.[9]

The concept of a genre set was used by Amy Devitt in her work on intertextuality[10] in tax accounting.[11] She enumerated thirteen genres in the tax accounting field, such as administrative memoranda, transmittal letters, engagement letters, letters to customers, tax protests, and others, all forming some set of genres. This set reflects the professional activities and social relations, and thus the tax accountant's occupational situation.[12] The intertextuality and its stabilizing function within and between genres are reflected by the similarity of genre sets used in the situations of the same type (accounting companies, in this case). The set in question may also help to define and stabilize the situation, as all members of a genre set's user group have a common knowledge of the set and individual genres

commonly used. The genre set may reveal much information about the community genre constructing and applying processes. Studying texts within genres provides background for the choices made by the authors of these texts.[13] According to Devitt, genres construct situations and situations construct genres; in other words, the discourse can construct a community, and it, in turn, constructs the discourse. As a result, the nature and structure of a community of discourse can be defined not by a description of its members but by a description of the genre set used by the community.

The concept of the genre system was introduced by Charles Bazerman. While the genre set is a collection of text types, formed by someone performing a specific role,[14] the genre system consists of genres linked through relationships and interacting under specified circumstances (conditions).[15] It consists of several document genre sets and standard relationships arising during the production, flow, and use of documents by people working together in an organized manner. The genre system reflects the recurrent sequences of genres used in typical communication situations occurring within a group of collaborators. Some genres in the genre system must be used simultaneously in order to operate properly under specified circumstances. The system becomes a part of the activity system of the user group members; therefore, defining the genre system means defining structures specifying user tasks, interests, and achievements. The genre system thus understood is an extension of Devitt's concept of a genre set that represents the actions taken by only one party of complex personal interactions. By contrast, the genre system is a full genre set that reflects the involvement of all participants. It is, therefore, a complete interaction, a complete event, and a set of social relationships, all shown while being employed. The use of the genre system concept enables the study of KO activities and dependence of these actions on the texts recognized as the mediation tools for these activities.

The repertoire of genres, according to Wanda Orlikowski and JoAnne Yates, is an analytical tool for studying the structures of communication practices within a given community.[16] Its members rarely use a single genre in their communication activities. Rather, the most usual situation is the use of multiple genres that are diverse and interact over time. Orlikowski and Yates call these genre sets "the genre repertoire." The genres forming the repertoire are used jointly within the community. For instance, the presence of research grant proposals and various types of technical reports genres in the repertoire would suggest a research-oriented group. Changes in the genre repertoire reflect changes in the communication practices. The application of the genre repertoire concept means a transition from an individual standpoint on genres (used in the case of a genre set) to a social perspective.

Genre groups

Used subsequently in this paper, "genre group" is a new concept concerning the connectivity of genres. It is applied in the area of genres used in organizations,

including libraries and other SoIs. These provide a good example of the use of genre groups, because these organizations run similar processes related to KO, but done in different ways depending on the level of the user's information needs. The result is a differentiation of library types, that is, public, school, university, national libraries, and so forth. The librarians and the users of each library type employ similar genres, but different from other library types. The genres used for the same user task (communication situation) in every library type construct a genre group. A similarly complex social structure is supported by educational institutions; thus, there is a good reason for both types of organizations to be tightly related as regards their tasks and processes.

The genre group is a set of genres potentially useful in some communication situations. The individual genres are selected from that group depending on their usefulness, feasibility, and appropriateness for the specific communication situation of the social system (in this case, the SoI). The SoI construction at the design stage, as regards the genres used, involves the choice of genres from the groups of potentially useful genres that best meet the communication needs of the system users. The communication needs are closely related to typical activities supported by the genres. It follows that KO in different SoIs is performed in a similar manner, but different enough to cause the diversification of the genres in use. The choice of a genre from the group is not made due to the personal preferences of the system designer. It is socially constructed and recognized by the communities of the knowledge organizers and users. The genres selected from various groups form a system of genres understood as described by Bazerman. This means that each communication activity, selected from the set supporting similar objectives, is combined in interrelated sequences of communication actions.[17] They are joined together into a network that enables more coordinated communication process, thus allowing for more structured cooperation within SoIs. For instance, collection development in a SoI is built with a system of genres such as desiderata, orders, cover letters, invoices, and accession and inventory records.[18] Each of them supports specific communication activities, coordinated and interconnected differently in different library types.

The genres within a group, similar to the individual genres, are socially constructed according to the social activities they support, serving a common communicative purpose, but they differ as regards other features, such as the forms of the text, resulting from the diverse communication needs of the users. For example, in two different SoIs, a public library and a research library, the texts in the genre of a bibliographic description of an information object are created and used with the objectives of searching, identifying, and acquiring access to the texts in another group of genres. However, because of the diverse needs of SoI users, the details of the text in a description genre can vary from only a few essential elements of a description to a full description, useful in the scholarly research; thus, they are various genres in the same genre group.

The genre selected from the group of genres that are potentially useful in a particular system supports specific social activities. It has an impact on the ongoing communication activities of the user community by the fact that it is used in that community. Moreover, it is also used in other communities with similar communicative objectives and user information needs. It follows that the selection of the genre from a group depends on the library type and will be similar in the libraries of the same type[19] (for instance, in any public library) that perform similar social activities. These selections are also influenced by the traditions of the communities related, for instance, territorially. In addition, due to the high level of the regulation of genres used in KO (standardization), the choice of a genre from a group largely determines the extent to which the community members are engaged in social interactions. The selection of a regulated genre means the selection of a standardized action.

Each genre selection usually prevents the choice of other genres from the same group and influences the choice of genres from other groups. For example, only one genre must be selected from the group of vocabulary genres focused on subject cataloguing (this is usually done when the system is designed). The selection of subject headings vocabulary as a search tool usually prevents the use of classification tables for the same purpose. This, in turn, affects the use of the genres from other groups, for example, by defining the structure of a user's request (a search query text). Similarly, the choice of the structure for the bibliographic record (e.g., MARC 21 or UNIMARC) obviously influences the text of the bibliographic record.

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The communication needs, resulting from the rhetorical tasks and goals of KO in SoI, are very specific and, at the same time, diverse, thus worth investigation. As Hajibayova and Elin mention, genre analysis could be used to create a framework of analysis for the domain that can help to structure and interpret texts, events, ideas, decisions, explanations, and any other activity in that domain.[20] The distribution and appropriate analysis of potential genres in groups and actual genres in systems, with both the SoI knowledge organizers' and the users' points of view taken into account, can accurately depict the field of social activity where genres are used. The typology of the genre groups is presented below, addressing the needs of the knowledge organizers and SoI users as the readers and writers of the texts in many genres used in KO and linked with numerous intertextual relationships. The following paragraphs include some suggestions on the composition of text genres and their groups used for KO activities in SoIs based on their functionality in that domain.

   Genre group 1: Texts of primary documents, collected in the SoI as a main source of information for the SoI users. These are all kinds of publication genres, classified in a variety of ways; due to their characteristics affecting the processes maintained in the SoI, they are commonly divided into books,

journals, and other (special) genres, although this division does not cover the increasing availability and importance of electronic document genres.

Genre group 2: Texts from the sources either external or internal to the SoI, which are the textual tools used within the system. Those tools are used to create the textual representations (genre group 3) derived from the primary texts (genre group 1). In this sense, they depend on these texts. This group can be divided into two subgroups of the vocabulary genres:

- The vocabulary genres include a set of metadata element values to construct the texts of the primary document representations. Within this group of genres, further subdivisions may be made.[21] Here, referring to the functions associated with the creation of the representations, one may assume a division into two more groups of subgenres:

  o First, there are textual tools used to develop the subject representations, known in the literature as controlled or uncontrolled vocabularies of the knowledge organization systems (KOS). These are the texts in the classification tables, subject heading vocabularies, thesauri, and many others. For instance, more recent ontologies and semantic networks, often applied in SoIs in various forms, include the authority files in the integrated library systems (ILS). They are used to represent the content (subject, topic) of the primary text, that is, the feature called "about"-ness, and, at least, some formal features affecting the representation of the content, that is, "kind"-ness.[22]

  o Second, there are textual tools used for the construction of a bibliographic description (record), such as formal authority files (for instance, author names). These files, similar to KOS vocabularies, contain the texts (lists) of elements used to create bibliographic, intertextual relationships among the represented bibliographic objects. These elements help to make the objects in question identifiable and searchable.

- Genres such as standards, manuals, and instructions containing cataloging rules, concern all elements of the document representation, both in terms of the form and content of the primary document texts (genre group 1). They can be treated as comprehensive lists (vocabularies) of elements of data structures (fields and subfields, preferably the standardized metadata element sets such as MARC 21 or Dublin Core) used in the SoI. They enable the standardization of the choice (structure) of the textual document representation elements (a record—genre group 3). The form and content of the elements as well as the relationships also are standardized by their description in the textual form. The most widely known and popular texts in this genre group are the *Anglo-American Cataloguing Rules*, Second Edition (AACR2) and the International Standard Bibliographic Description (ISBD) or, more recently, *Resource Description and Access* (RDA). Aside from formal sets of rules, there also exist informal or

> locally formalized instructions or good practices distributed among the knowledge organizers of one SoI or among cooperating SoIs.

In both aforementioned subgroups, the texts form the tools in Linked Data technologies generally called "vocabularies."[23] The term is understood more broadly than previously in library research, covering both the vocabularies used on the pragmatic level of metadata, including metadata values, also called the "controlled vocabularies" (authority files, KOS vocabularies, code lists of language, geographic names, etc.) and the sets of terms used on the semantic level, previously known as "formats" or "schemas" (lists of metadata elements, fields and subfields of the metadata schema). In general, all tools identified here as the textual tools in genre group 2 can be understood as the vocabularies containing some information elements and instructions or rules for their application in social communication processes. The application of new information technologies enables the placement of the vocabularies within the data cloud, where the metadata on both semantic and pragmatic levels are encoded with mark-up languages, and thus become available for direct computing.[24]

> **Genre group 3:** Texts created in the SoIs to represent the content and bibliographic features of primary texts (genre group 1), which shall be called the "derived texts," that is, a kind of epitext.[25] Their characteristics were duly presented by Andersen, who called them "secondary texts."[26] In particular, attention should be drawn to their dependence on the primary texts (genre group 1) as well as their close intertextual relationships with the texts in genre group 2. The form and content of the texts in genre group 3 are regulated by the texts in genre group 2.

> **Genre group 4:** Texts introduced by the SoI users as information requests (search query texts). They are prepared by both the knowledge organizers and the end users, often in close cooperation. These texts can be entered formally in a written form or exist as a more or less conscious and verbalized information need. Their formulation is facilitated with the same vocabulary tools that are used by the knowledge organizers, that is, the authority files and KOS vocabularies (genre group 2). Simultaneously, users use texts in genre groups 3 and 5 while interacting with the information system, particularly during information retrieval.

> **Genre group 5:** Texts situated within an information system interface, both a manual one (card catalog interface, including its arrangement) and an electronic one (software interface), which are a part of a system's information architecture. They are designed and prepared by the information system designers and developers. The texts in this genre group are in use (read) both by the knowledge organizers and the users of the SoI. The important functionality of this group is the support of the creation/presentation/interpretation of text genre groups 2, 3, 4, and 1 (in the case of full-text SoIs).

It is necessary to emphasize that, in addition to the genre groups mentioned above, there are some other text genres used in SoIs. These may be, for example, textual tools used for the acquisition or recording of library materials, as mentioned earlier; these have been omitted in the following analysis, as they do not directly influence KO processes.

Every genre group is distinguished in a way that enables the presentation of different types of social activities of KO in the SoI to be accomplished through the texts in genres. These activities may involve processes such as writing, rules preparation, cataloging, indexing, search and retrieval, information system design and development, and other functions. The introduction of texts and their genres is accompanied by the introduction of these activities with a number of interactional patterns, attitudes, and relationships, described later. Acting in a typical manner helps to coordinate the communication acts; these actions are easily recognizable as specified activities performed in specified circumstances.[27] The genre groups described here emerge in the social processes of KO, where people try to understand each other well enough to coordinate activities (those both mentioned and not mentioned) and share meanings for the practical purposes concerning knowledge development. As Andersen claims, through the use of genres, one tries to understand the communication situation and its social structures, its recurrent forms of action, people involved in that situation and these actions, and the means (texts) they may use to achieve the goals of the situation.[28]

The analysis of text genres in knowledge organization activities

The analysis of the text genres listed above was conducted while taking into account the features defining their place in KO. The KO is understood here as socially organized discourse that results from the epistemological division of tasks, occurring in the area of scholarly communication based on the genres presented. Because the author's intention was to exclude the genres treated as textual regularities (literary genres) and to understand the genres from the functional point of view, only scholarly communication was analyzed.[29] The analysis presented below concerns Miller's so-called de facto genres,[30] which again emphasizes the importance of their function, or action. The structural and lexical-grammatical features are omitted. These genres, collected in groups, are designated by their rhetorical and discursive functions in scholarly communication. They are used to determine the relationships between the documents as the elements of social actions. The aim of this analysis is to show the interrelationships among the texts in the five groups of genres presented above, with particular emphasis on the mediation role of the latter four, as the first group of genres is most frequently described elsewhere in the literature. As Bazerman mentioned, such an analysis can help to understand what people (the knowledge organizers and the users) do and how texts help them to achieve that.[31]

Method

The analysis is based on the method described by Yates and Orlikowski. They believe that the genre systems, just like the individual genres, are the organizing structures within the community, enabling one to make assumptions about the objectives, content, participants, form, time, and place of a communicative interaction.[32] In other words, both the genres and their groups (and systems) help to make suppositions about the why, what, who/whom, how, when, and where.[33] On this basis, the following criteria for analysis were identified (location and time have been omitted):

1. WHO/WHOM: The participants involved in a communicative interaction and their roles; a) the creators of the texts in a genre and their structures of knowledge; b) the intentional receiver of the text in a genre and his/her structures of knowledge; c) the secondary receiver (important for the SoIs) and his/her structures of knowledge.
2. WHY: The socially recognized purpose of the genre; the communicative purpose of the genre in a group (rhetorical actions supported by the genre).
3. WHAT: The content of the whole genre group and its constituent genres; place of the genre within the group of genres described.
4. HOW: The form of genres (media, structuring devices, linguistic elements); a) the methods of the genre knowledge dissemination; b) the variability of the genre and its texts; c) the current form and possibility of transition to an electronic form (cybergenre).

The genres in the same group share the value of the WHY criterion. The most important criterion for distinguishing the genres is the communicative purpose; the remaining criteria depend on it, in the sense that they change parallel to its changes. In situations where the purpose changes, a new genre emerges in a new group. Changing other criteria with the same purpose results in the creation of a new genre in the same group. The genre is used as a tool to achieve the purpose of the communicative situation in the activities focused on the author's and receiver's needs.[34] The content and form are adapted to their needs as well.

The analysis of these genre features enables the description of the objectives of the texts treated as a social tool used in the scholarly communication, aimed at the transfer of individual knowledge by means of socially organized systems (KOS). These features refer primarily to the objectives pursued jointly by the discourse participants, while, to a lesser extent, affecting the linguistic similarity of the form and content. This approach is close to that of Miller[35] and Swales.[36]

Results

This section contains the analysis of the aforementioned text genres and their groups together with the criteria selected for this analysis, based on the Yates and Orlikowski method mentioned earlier. Particular attention is paid to the texts in the second through fifth genre groups, since a detailed discussion of scholarly

primary text genres (genre group 1) exceeds the scope of this paper. The aim is to show the genre system as a part of the activity system, and thus a framework for KO. In this way, one may consider KO closely related to the genre system, enabling the description of people's activities and how people use texts to accomplish their activities and goals.

Genre group 1: Primary texts (scholarly publications)

Who/whom. Both intentional parties (senders and receivers) of the communicative interaction shaped by the genres possess adequately prepared knowledge structures for information perception and internalization. The scholarly texts are created by the researchers for other researchers, usually within the same field of research. Only in the area of scholarly texts dissemination does the interchangeability of roles always occur: the receiver of a scholarly text reads it as a part of his/her own text writing, so the reader is also an author of another text, probably connected in an intertextual relation with the one that is read.[37] The genres used for other purposes (for instance, the literature popularizing science) are clearly different from the genres of strictly scholarly literature as they require other structures of knowledge. The level of these differences depends on the field involved; it is higher in the science and engineering and lower in the humanities.

None of these discourses is conducted directly from the knowledge organizers' point of view. They are the secondary and not the intentional receivers from the perspective of the creator of the text of a scholarly publication. The scholarly texts are, in fact, created without their knowledge structures taken into account. Neither are the means of persuasion used by the authors directed at them. The knowledge organizers perform the role of intermediaries, creating the texts in other genre groups. Their knowledge of genres employed by the authors and intended receivers (here assuming the role of library users) may be on different, perhaps insufficient, levels. They are not experts on the genres of texts used by the researchers to represent a part of their own knowledge structures. This raises the issue of inadequate knowledge structures of the knowledge organizers. This problem may be exacerbated with the phenomenon of the creation of local (sub)genres of texts, used within small, diffused groups, active, for instance, in narrow scientific specialties. In such environments, the adjustment of knowledge structures and access to genre knowledge from outside is very difficult. This process is made easier, to some extent, by the texts in another genre—the instructions (manuals) for the authors, published by the editors of scientific journals.

Why. The primary texts were always treated by the knowledge organizers as basic sources of information,[38] that is, the basic artifacts and objects of KO activities. Their authors are the researchers who are expected to be experts in some field. It is assumed that the researcher becomes an author when his/her knowledge level reaches the creative level, providing the information given in the text with the

peculiarity of a novelty.[39] Of course this applies only to strictly scientific text genres and does not imply the lack of intertextual relations with other texts, previously published.

Information is delivered in the document in a form defined by its genre and, as such, shapes prospective social interactions. The texts created by the researchers belong to different genres forming genre group 1. The information sender chooses a genre suitable for his/her own rhetorical needs and the expected level of the receiver's knowledge. These texts are created for diverse audiences, in other words, for various communicative purposes. Depending on the expected knowledge level of the receiver, one can distinguish several types of scholarly discourse[40] corresponding to the appropriate subgenres, ranging from strictly scholarly texts intended for fellow researchers, through textbooks for students, to the popular texts addressed to a broad audience. Within each of these genres, one has to deal with subgenres, used in appropriate rhetorical situations, mostly scholarly articles in journals, books, essays, reports, and new electronic genres.

What. The primary text, when included in the collection of information resources, becomes a part of the SoI (e.g., the library) text genre. First, however, the information contained in the text is organized with the creation of its textual representation and inclusion of all this textual information in the overall information collection, organized by the SoI. These processes take place with the application of textual tools in the genre groups 2, 3, and 5. The texts in genre group 1 are delivered through many genre and activity systems, constituting the processes of KO. Simultaneously, KO processes construct diverse genre and activity systems as they are used to coordinate the activity of the people, texts, and information that control those systems.[41]

How. Gaining genre knowledge is a long process of practicing both the sender and the receiver's roles during the externalization of knowledge (writing) and the internalization of information (reading). The prospective researchers practice these activities as early as during their university education, participating, for instance, in student scientific association activities and conferences, and finally writing mandatory exam projects. This is followed by a varying period of practicing the scientific work under the supervision of a professor. During this educational process, the requirements for the created texts are assembled. One reason for this process is the development of personal knowledge concerning the subject of the research. Another is the emergence of the genre knowledge of the social customs and traditions of textual communication adopted by the scholarly community. On the other hand, the author, being regulated by the conventions of the selected genre, creates his/her own mental picture of the receiver of the text and matches his/her own rhetorical tools to the predicted persuasive capabilities of the text.

The genre group involves various genres, but the most obvious ones are scientific journal articles and scientific books. The publications belonging to these genres are usually taken into account while the researcher is promoted by the official bodies. There are significant differences among the disciplines as regards the use of genres. The genres characterize and distinguish one scientific discipline from another.[42]

Increasingly, the primary texts take an electronic or hybrid form. Digitized texts in cybergenres are stored in SoIs such as repositories and digital libraries, constituting structured information resources. Their inclusion in these resources enables some activities that are technically impossible in the nondigital world. Moreover, an increasingly common practice is the creation of electronic genres of born-digital texts, mostly electronic journals and research reports, and recently e-books, too.

Genre group 2: Textual tools used for the construction of the representations of texts in the first group of genres

Who/whom. These textual tools, similar to any other texts, were created as the representations of their authors' knowledge. This means that the epistemologies listed by Hjørland[43] and used during the social circulation of texts should be completed with the epistemology of the creator of vocabularies and files used for indexing as well as the epistemology of the author of the cataloging rules. The authorship of the two genre subgroups is often collective (created by the teams of professionals), although the names of such outstanding individual creators as Ranganathan, Dewey, Otlet, Cutter, Panizzi, Lubetzky, Tillett, and Svenonius, are well known.[44] Many works initiated by those individuals (Ranganathan, Dewey, Otlet, Avram) have been continued and maintained by teams of professionals. The knowledge structures of the creators of such tools have strongly influenced the formation of tangible visions of the subject distribution for the library information resources, or the principles and objectives of the catalog genres. In other words, the creators had significant impact on the social activities of information retrieval and internalization.[45] The opinions on what is an appropriate source of knowledge are diverse; one of those sources can be the analysis of knowledge domains and genres.[46]

On the other hand, text genres always tell much about the knowledge of their creators (knowledge organizers), who are also their intentional users, and the characteristics of the society and culture where they were planned to be used. Hence, the creation of these texts requires an adequate knowledge of the potential users and the sociocultural circumstances of their use. Furthermore, both the knowledge of the users and the people compiling the tools could be provided with the analysis of the texts and their genres.

The receivers of both groups of texts are the professionals, that is, the knowledge organizers. The texts in the genre subgroups are created mostly in response to their needs, as they have the appropriate genre knowledge. This knowledge is acquired

through the librarian's special education and during long-term practice. In order to fulfill these purposes, the knowledge organizers participate in cooperation, training, experience sharing, and other activities. As a result, some texts are created within the genres known to a small group of people using them every day (the knowledge organizers) as tools for the creation of texts belonging to genre group 3. In addition, any text of genre group 2 is a representation of the knowledge of the authors (the professionals in various fields, including the knowledge organizers), and rarely comparable to the knowledge of the end users. The texts in this group of genres, as any other texts, are interpreted individually by the receivers (the knowledge organizers and the SoI users) on the basis of various (individual) knowledge structures. The knowledge of genre group 2 as regards both groups of text receivers is quite different, wherein, as usual, the difference is in favor of the professionals, in this case the knowledge organizers. This difference may cause a decrease in the efficiency of information retrieval, particularly when one considers end users connected by the Internet.

The abovementioned issues result from the differences in the accessibility of texts in both subgenres to the public. The genres of texts containing some enumeration of the metadata values are made available to all users to help them to create texts in another genre—the information requests (genre group 4) during the search. The second subgenre texts—the cataloging rules—in general are not accessible to the end users. Average end users may not even be aware of their existence. These texts affect their knowledge structures only indirectly, through their contact with texts in genre group 3. It must, therefore, be concluded that the intentional receiver of texts in both genre subgroups is a knowledge organizer possessing the necessary genre knowledge, with the SoI end user being just a secondary receiver. The lack of knowledge concerning the genres in group 2 causes constraints on the user's activities, requiring the knowledge of what the document description text represents, and how, why, and when various texts in different genres used in KO are related. The users must acquire the adequate knowledge on their own in this area, although the knowledge of vocabularies used in a given discipline is considered a part of scholarly knowledge, and the members of the scientific community (and, therefore, the library users) tend to be members of the teams constructing the vocabularies of the subject metadata element value sets. One component of this genre knowledge should be the awareness of the methods of relating the texts of bibliographic description and content representation with other texts in the bibliographic universe. The other component is the understanding of the reasons for the text element occurrences in the bibliographic record, and an acquaintance with the activities of which these elements are a part.

Why. The communicative purpose of the texts from genre group 2 is to be a tool for the preparation of other texts in other genres. One may refer here to the situation described by Andersen: the instructions (manuals) for the authors of the articles belonging to one genre are used to create articles for the scientific journals

belonging to another genre.[47] Accordingly, based on the texts in the two genres of group 2—vocabularies of metadata element values and vocabularies of metadata elements (cataloging rules)—the descriptions (representations) of both the content and form (also genre[48]) of the document (text genre group 1) are formed. The description text belongs to genre group 3. Both genres of instructions mentioned—addressed to the authors of journal articles and the authors of bibliographic records—are standardized documents. This regulation would be implemented at different levels, including the international level. The texts in two subgenres within genre group 2 impose restrictions on the texts in genre group 3 in the sense that they provide the text elements available for use. The cataloging rules (texts in genre group 2) determine expressible bibliographic relationships among the texts in the genre group 1 and among the texts in the genre groups 1 and 3. The exposition of the relationships is an indication of intertextuality, both horizontal and the vertical.[49] The cataloging rules impose constraints on possible solutions available for use in the texts in genre group 3 and, thus, on the available bibliographic statements/utterances it is possible to express about the texts in genre group 1. The constraints also apply to the decisions on how to represent the content of the document described in the catalog record. This representation is created with the elements of the authority files (KOS vocabularies). Based on the same principle, the text in genre group 1 is created with specialized terminology vocabularies, translation dictionaries, and so forth. These constraints apply both to the structure of the bibliographic record text and the forms possible to be applied as text elements of the record that are available from the authority files of metadata element values. The limitations of the structure and form, in turn, suggest possible social activities that the text in the genre group 3 can support. As the meaning of the text is a function of its possible social impacts,[50] the texts in the genre group 2 construct meanings of the texts in genre group 3 (the document descriptions). The choice of text in genre group 2 and, hence, genre group 3 affects the ways the texts in genre group 1 can be retrieved and accessed.

As mentioned earlier, KO activities involving the interpretation of the texts in the first group of genres and the formation of their representation in particular bibliographic records (genre group 3) are regulated (standardized) to a large extent. All texts in genre group 2 need to be treated as standards of different kinds constraining the structure and the semantics of the texts belonging to genre group 3. As Feinberg notes, this results in a situation where the creation of the text in genre group 3 is perceived as a task that resembles scientific observation (analysis) more than creative interpretation.[51] There are numerous standards and regulations, both national and international, applicable to this field and that include detailed provisions. These standards are the result of work on the general objectives of the catalogs and the resulting cataloging rules.[52] Originally performed locally and later at the national level, those activities are performed now at a global level. In addition, each SoI or cooperating group of SoI often uses locally created detailed instructions, based on standard solutions, but adapted to local needs. The work

done at different levels of the vocabularies of metadata element values is even more diverse. Here, in addition to the global level, concerning, for example, the aggregation of formal authority files (such as VIAF) and universal classifications (such as DDC, UDC, LCC, and others) or subject headings (like LCSH, MeSH, etc.), some work is conducted on the local level, for example, as regards the construction of narrow-scope thesauri and ontologies. The text elements of vocabularies are used as building blocks for bibliographic records (genre group 3). It is also necessary to understand the full compatibility of the texts in genre groups 1 and 2 (KOS) as a *moving target*; new texts in genre group 1, containing new terminology, are created constantly as a result of scholarly activity. The creators of the texts in genre group 2 try to take these changes into account, but naturally they remain a step behind. This problem can be solved with a full-text search, but it results in the loss of the benefits from the strict regulations used in the KO.

What. Genre group 2 can be divided into two subgenres: the vocabularies of metadata element values (representing subject and formal features of text genre group 1; and the rules and instructions for KO, often published in a standardized form, containing lists of metadata elements and/or regulations on their form and semantics. In addition to the official forms of instruction genres regulated by the responsible institutions, there is also an informal distribution of regularized genres among the knowledge organizers, that is, instructions, interpretations, and good practices, via all types of media (both traditional and electronic, such as e-mail, for instance). As mentioned earlier, the texts in both genre subgroups may be considered vocabularies as defined with Linked Data nomenclature. In the case of texts containing enumerations of the values of metadata elements (vocabularies often contain not only the enumeration of the values, but also the relationships linking them), within the theory of library science these tools have always been called "vocabularies." In the case of the cataloging rules genre, the texts may be recognized as comprehensive vocabularies of available metadata elements, along with descriptions of relationships between those elements and filing rules.

While the recognition of cataloging rules as texts does not raise any serious qualms, attempts to use a similar approach with the vocabularies of metadata element values are not very common within library theory. However, some attempts were made, as exemplified by the work of Hansson, who, in his study, treated the Swedish SAB classification (*Klassifikationssystem för svenska bibliotek*) as an autonomous text in order to demonstrate the relationship between the text and the views (professed ideology) of the authors.[53] This method was used in the research on the procedures of SAB creators' knowledge representation within the text of the classification. The library classification treated as a text genre is, thus, a textual representation of the knowledge of its creators, reflecting their adopted specific epistemological point of view. This applies to any kind of vocabulary used for the creation of the textual representations (genre group 2) of the texts in genre group 1.

On the other hand, all texts in this group of genres can be considered vocabulary texts. Again, if this does not raise doubts concerning the vocabularies of metadata element values, such as the previously mentioned classification tables, some doubts may arise regarding the treatment of cataloging rules as vocabularies. The texts in the genres of cataloging rules and instructions contain lists of metadata elements (fields and subfields) and a description of the relationships interlinking them. They may include, for example, regulations on the use of a specific element of the record text requiring the use of another element or vice versa—preventing the use of another element in the same record (the text in genre group 3). One simple example may be the situation that occurs after the decision is made to create a main entry in an AACR2 record. These cataloging rules include regulations on the main entry and added entry. Only one main entry is assigned per record, so the decision to create a personal name main entry prevents the creation of another main entry. If it is necessary to create an entry for another author, corporate body, or illustrator name, for instance, it may only be made an added entry. Placing entries within the text of a bibliographic record (genre group 3) results in the creation of an intertextual relationship between the text of the relevant authority file (genre group 2) and all bibliographic records for which the entry was ever used (genre group 3), and even (indirectly) between the texts in genre group 1, the representations of which were grouped under the same entry.

How. The texts in the vocabulary genres must be subject to constant modifications, which distinguish them from the texts in the other groups of genres described. Often it is a long-lasting process, involving more authors and their individual knowledge structures, different from those of the original creators of the texts. The modifications are a result of the development of both the domain (the vocabulary update) and genre knowledge. The genres of vocabularies of metadata element sets (instructions) are modified mostly as a result of changes in information technologies.

The texts in those genres suit the digital environment very well, similar to all kinds of vocabularies, encyclopedias, and reference tools.[54] Making their marked-up, computer-readable versions available as Internet resources (a computable cloud) means they become a part of the Semantic Web.[55]

Genre group 3: Secondary texts or document descriptions

Who/whom. Secondary texts are created by the knowledge organizers, as a result of the text (subject cataloging) or paratext (bibliographic records) representation. Knowledge organizers make statements/utterances/texts, they become the authors responsible for the representations of the content of the texts in genre group 1.[56] Collections of these texts are called "bibliographic data," although, in reality, they are information contained in the texts of the descriptive records of the documents. They are created as a result of the externalization of the knowledge organizers'

different kinds of knowledge. The creators of the texts in genre group 3 know, in addition to the genre knowledge, the texts of other genres they create and use—both the vocabularies of metadata values and metadata elements (genre group 2). The record is a representation of its creator's knowledge, concerning both the cataloging/indexing rules (the knowledge of a professional, i.e., the knowledge organizer) and the knowledge of genre group 1 concerning the issues described in the text (the reader's knowledge). The texts in genre group 3, despite their regulation (standardization), are created with the individual knowledge structures of the knowledge organizers, hence, the differences in the content of the records based on the same standards and primary texts.[57] The creators of the genre texts rarely are specialists in the field of the content they represent; their reader's knowledge is not necessarily sufficient for a competent interpretation of the texts in genre group 1. As Hjørland states, subject knowledge has been and continues to be extremely neglected in KO.[58] Inevitably, it affects the quality of the representations produced.

Knowledge of the genres in group 3, as in any other genre, can be obtained through the process of information internalization (here: reading), but the processes of externalization (writing) also play an important role. The receivers of bibliographic record texts are both the knowledge organizers, who know the genre on an expert level, and the end users looking for information, knowing the genre to varying extents. Assuming that the author creates the text in a particular genre for other people (readers) who know the genre, one has to agree that bibliographic records are made by knowledge organizers mostly for themselves and their colleagues. This results from the fact that it is not possible to acquire full genre knowledge of genre group 3 without having at least some knowledge of genre group 2. This, in turn, produces the somewhat more complicated situation of the secondary genre text receiver, specifically the end user of the SoI. First, the user is not familiar with the text of the instructions (manuals) allowing him/her to create a text of a bibliographic record. Second, although the genre knowledge of the bibliographic record is considered to be a part of the mandatory knowledge of every researcher, it cannot be required of students, particularly freshmen. Therefore acquiring the knowledge of genre group 3, used in a particular domain, should be an equivalent objective of the curriculum in each field of study. This knowledge would enable an independent use of the scholarly literature. The deficiency of this knowledge can lead text receivers to understand differently and often misunderstand the bibliographic record genre and the catalog genre. As a result, the same text in the same genre is internalized by different receivers in different ways. It even can be recognized as different genres, supporting different actions, as the bibliographic record is a final step for the cataloger and a starting point for the user. Another issue is the adjustment of genre knowledge among the knowledge organizers; they also form a small, scattered community in which it is difficult to coordinate and obtain some common knowledge. The automation of text creation has had a considerable impact on the spread of genre knowledge in this area resulting in

global cooperation on genre regulation. This globalization has strongly influenced KO activities by decoupling knowledge from the particular context in which it is produced, resulting in the same information and knowledge having the same meaning and effect, regardless of time and space.[59]

Why. The bibliographic record is a text of KO, used as a tool for mediation between the document and the search for that document in a SoI.[60] The objective of the texts in genre group 3 is to direct the user to other texts, that is, the texts in genre group 1. The text of the record plays an important role in the process of representing and identifying the text in genre group 1. The record emerges during the KO processes, such as cataloging and indexing, the creative activities consisting of text writing. Its creation is constrained by the rules ensuring the stability and consistency of its form and content. It is necessary to note, in this case, that consistency is valued more highly than flexibility.[61] The rhetorical activity of this type, unified with the vocabulary genre texts (genre group 2), is performed in recurrent situations for each new library acquisition. The text of statements/utterances present in the bibliographic record must be selected and/or formulated with the texts in genre group 2 to provide access to valuable information about the text of the work, manifestation, and the item represented and about the usefulness of this metainformation in the process of KO. What is also important is that the understanding of "usefulness" may change over time, which is reflected in the related changes in the cataloging rules. Moulaison, Dykas, and Budd indicated that changes in the authorship rules were made from *Anglo-American Cataloging Rules* (AACR) through RDA up to Linked Data services, resulting in differences in the author representation ranging from a simple character string to a dense network of relationships and events.[62] It means an increase in the amount and complexity of possible rhetorical activities supported by the continually developing new genres in group 2 and the resulting new genres in group 3.

The creator of the text in genre group 3 is responsible for its content, similar to the responsibility of any other author of any text. Interestingly, this is not reflected in the regulations of the copyright law. For this reason, bibliographic records, the library catalog containing an ordered set of these records, and the entire library can be regarded as communication genres. Their rhetorical aim is to support the processes of publishing, documenting, and circulating information. This means that the creation of bibliographic record texts (cataloging) is an activity as complex as the creation and reception of the primary texts. In both cases, it is necessary to possess an equally extensive knowledge of genres.

The unification achieved with the standardization on various levels is necessary to ensure the reliability and interoperability of the record. Reliable records are considered correct by SoI users because they make information resources easier to identify, compare, and locate. The interoperability of the record makes it exchangeable between SoIs. It also increases the effectiveness of the tasks performed, as the same record can be used for KO in different SoIs.[63] On the other

hand, the standards used for the unification of the structure, semantics, and syntax of statements/utterances are flexible enough to allow for customized solutions; this flexibility is necessary for the adaptation of universal solutions to local SoI user needs. The contradiction arising from this fact is a cause for permanent tension between the universal need for regulation (standardization) and the local need for individual solutions (deregulation).

What. In genre group 3, one can distinguish genres of reference resources, mostly catalog/bibliographic descriptions and their collections: bibliographies, including databases, bibliographical dictionaries, and library catalogs, including online public access catalogs (OPACs).[64] The texts in this genre group are representations of the texts in genre group 1, presenting their form and content with the text elements in genre group 2. Moreover, the intertextual relationships between the texts, called "bibliographic relationships," are represented here. These relationships occur both among the texts in genre group 1, for example, the relationship of origin that links the successive editions of the text, and the texts in genre groups 1 and 3, for example, the descriptive relationship between the text of the publication and its bibliographic record text.[65] The texts linked with bibliographic relationships form a family of texts, sometimes across different genres.

The structures and content of the texts in genre group 3 tend to be well described with the texts in other genres belonging to group 2. The genres of the bibliographic record text are so strictly defined as to be standardized, although, in general, there are not any respective international or even national standards published by the standardization institutions. The standardization is based on the texts in genre group 2, such as ISBD affiliated with International Federation of Library Associations and Institutions (IFLA), AACR2, and RDA, maintained by the Joint Steering Committee. Moreover, there is the International Standards Organization (ISO) 690, the standard for bibliographic references. The structure and meaning of Dublin Core elements is standardized at different levels, including the international level (ISO 15836-2009). Excellence in metadata generation depends on the adherence to standards. Again, one can find an analogy here to the situation of the texts in genre group 1 (the primary texts). These are instructions (manuals) prepared by the publishers for the authors of articles; in this genre group, the cataloging rules, agreed upon at an international level, are in operation. The result of the application of cataloging rules is a division of the texts in genre group 3 into genres such as brief or full bibliographic record or records describing books, papers, electronic documents, etc.

How. Essential genre knowledge is the subject of education and training. It is delivered both for the creators of the texts in genre group 3 (via vocational training at schools and in offices) and for the users (for instance, via workshops, including webinars, addressed to library users and conducted by the knowledge organizers).

The circumstances the genre group 3 use tend to change as a result of technology development. Genres are moved to wide area networks, and the text turns into

a cybertext. The bibliographic record text genre is subject to numerous well-advanced modifications both at semantic (metadata elements) and syntactic levels (new ways of mark-up, particularly XML and RDF). It seems that these and similar changes will continue to evolve in the near future. Their crux is the wide, general use of standards instead of a narrow, library-focused one.

The genre of the bibliographic record text is almost entirely an electronic genre now. All research libraries and most other libraries in Western countries make their catalogs available in electronic form, usually on the Internet (OPACs). This increases the number of text versions: the text created in one form is made available to the readers in another form; often there is a choice between various text genres available. The text contains utterances that can be almost freely combined into structures useful in the support of social actions. Additionally, the use of hyperlinks changes the meaning of intertextuality and increases its importance.

Genre group 4: User-made texts for interaction with SoI and/or information system in KO

Who/whom. Users are understood here in a broad sense, as anyone using SoI (both the knowledge organizers and the end users). The information behavior and information seeking models represent a very extensive and advanced part of research on the SoI.[66] Within the theory of genres, users are treated as sense makers capable of formulating and implementing various activities.[67] According to Devitt,[68] the genres are defined by the users, in this case the SoI knowledge organizers and end users. In the process of defining genre group 4, there is also an important role played by information system developers and programmers, that is, the authors of the information system interface (genre group 5).

Dervin's sense-making theory assumes that people in everyday circumstances constantly face situations of inadequacy caught between an understanding of the world and their experience of it in the course of a continuous process of assigning meaning to the world around them.[69] They try either to fill or to avoid the resulting information gap in various ways. For this purpose, SoI users formulate a verbal description of the problem in terms of the information gap. This description is used at almost all stages of the information behavior specified by Ellis, as stated by Järvelin and Wilson.[70] At the stage of information retrieval in the SoI, the description takes the textual form of an information query. Its form and content depend on the state of the user's knowledge resulting from the accumulated effect of earlier experience with the texts in different genres (genre knowledge). The texts in genre group 1 affect the level of domain knowledge, including the knowledge of professional or scientific terminology, directly affecting the ability to formulate needs. This should be supplemented with the knowledge of the texts in genre group 2, as it has already been mentioned. It is expected that only the most advanced users would be familiar with the classifications and ontologies of a given subject area.

This issue is important, as the textual tools are used to standardize (regulate) the creation of texts not only in genre group 3, but also in genre group 4. The user should also have some knowledge of genre group 5, that is, the operating mode of all kinds of information systems, which at present means familiarity with Internet-based search engines. For this reason, the designers of library information systems wish to achieve a maximal simplification of the process of query text creation, preferably reducing the information system interface to a single "search box" used to enter any text, consisting of a set of keywords. This method of text creation in this genre was initiated by Google, and it is continued within the framework of new library applications, such as so-called discovery systems.[71]

An interesting situation occurs when the receivers of user-made query texts are involved. On one hand, undoubtedly those texts are addressed to the knowledge organizers, being an element of social interaction between them and the users. The user formulates a query, and the knowledge organizer formulates an answer, presenting the texts in genre group 3. Then, as a result, the user can provide an answer with a modified query text and receive the subsequent search results. As one can observe, this creates an interaction (dialog) among people; the information system serves only as a mediation technology. Information system designers also are involved in this interaction, although less directly, particularly the creators of algorithms who establish the framework of possible and allowable interactions among the knowledge organizers and the users. Algorithm developers and system designers (developing, among other things, the system messages) participate in the communication in recurrent rhetorical situations of KO. Finally, one needs to remember that the knowledge organizers and the system designers act as intermediaries between the authors of texts in genre group 1 and 4.

Why. SoI users employ genres to achieve objectives from their information activity. The user is shaped by the language, its genres, and purpose-shaping actions. Thus, there are complex interactions among all these elements: the users, the texts, and the context of the rhetorical situation of KO. From this point of view, the KO should be considered as some means to reach a goal, and not as an independent purpose. This causes the user and his/her information needs to be related to the genres of all groups mentioned above. The independent objective from the user's point of view is, however, to fill the information gap. For this reason, gaining access to KO results or even access to the texts in genre group 1 is not the user's ultimate goal. The aim is to change the subjective sense of the lack of information. The subjectivity of this situation makes the functionality of the SoI difficult to assess in an impartial way. Filling the gap takes place during the dialog among the authors of the texts in genre groups 1 and 4. The SoI is as good as its intermediation services, delivered with the texts in genre groups 2, 3, and 5. What is important is that the SoI user does not communicate "with the computer," as it is sometimes referred to in the literature, but with the authors of the texts in the genres mentioned above.

What. The texts in genre group 4 are a representation of the knowledge of their authors as regards the given discipline and genre group 1, as well as the employed SoI and genre groups 2 and 3. The users create these texts with the texts in genre group 2 (for instance, the vocabularies or authority files) in a manner designed by the authors of the texts in genre group 5. The direct results of information retrieval are the texts in genre group 3 with links (either analog or electronic ones) to the texts in genre group 1.

How. The genre knowledge is disseminated during training on the use of the information system. It may concern, for example, the syntax used in the statements/utterances and the construction of a so-called advanced search. It should be noted that the texts in genre group 4 are the most ephemeral ones of all discussed herein. They are deleted after the search is completed. Usually, the information system supports the ability to store these texts until the end of the so-called search session, as they may be used to modify the text of queries during successive interactions. Some of them, often repeated, can be displayed by the system to the users as a list of typical (recurrent) queries (social interactions).

The texts in genre group 4 are regulated by the standards used in the information system. Any modifications in the information system interface functionality (genre group 5) are associated with the need to make changes in all other groups of genres. One can observe a long-term trend toward the simplification of the syntax of these texts, as a result of moving them to the global network, where the user must cope on his/her own, without any direct communication (or help) from the knowledge organizers. The communication is mediated by the information system interface, so it should be simplified and standardized as much as possible. During the course of the processes, the genres in group 4 become cybergenres, and the use of traditional genres, in the form of paper files, tends to fade.

Genre group 5: Textual interfaces of information systems

Who/whom. The creators of the textual and graphical information system interfaces are computer professionals (programmers) cooperating with the knowledge organizers. In the past, this process could be a problem, because the professionals treated an information system like any other database application. Now, the studies on user needs and competition from Internet search engines have contributed, to a large extent, to an understanding of the specificity of KO processes in information systems. Some methods have been developed for testing usability as part of human-computer interaction (HCI). For each information system, for instance, the interface of an integrated library system, is a representation of its creators' individual knowledge of KO. This makes these systems different, even though the processes that make them organized and automated (in the case of computer information systems) are similar. Some differences may also result from the characteristics of the information system, for example, their size.

It should be noted that the expression "HCI" should not be taken literally as concerning "human-computer." In reality, the interface texts constitute a communication medium between two people: the user of the system and its designer (and/or the algorithms creator). The computer is only a mediating tool, facilitating the dialog between the parties involved. One should talk instead about human-human interaction, mediated by the computer use.

The receivers of the information system interface texts are the system users, both the knowledge organizers and end users. The differences between their structures of genre knowledge of all genre groups described are so extensive that it is often necessary to create separate interfaces for each user group. According to Rosenfeld and Morville, users approach an information system with specific expectations, which means they already have some knowledge of how it operates.[72] This knowledge can be used to design the system. Information architects try to determine the most common expectations and to design systems that meet such expectations, a solution called "top-down information architecture." Bottom-up information architecture is also used. It specifies the structure of the information system content and methods of sequencing and tagging, allowing the user to locate himself in the system and determine its contents. The importance of bottom-up architecture results from the user tendency to skip top-down architecture. It is reflected, among other things, in the tendency to seek and use search tools such as Google, even if other available tools offer more complex information retrieval. The users often are not aware of the differences between the catalog genre (in particular the keyword search) and Google genres, which means the lack of adequate mental schemata in their knowledge structures.

Why. According to Feinberg, the automation of the genre groups so far discussed in this article did not cause any significant changes in the content and structure of the texts in genre group 3.[73] Even innovations, in terms of the objectives and the structure of the library catalog genre, such as Functional Requirements for Bibliographic Records (FRBR) and RDA, did not introduce any fundamental changes into bibliographic records compared to paper card catalogs. Some visible changes have occurred in the access modes related to the capabilities provided by the interfaces of computer information systems. This results from a significant increase in the functionality of the systems, mainly concerning information retrieval.

The texts in genre group 5 are used in direct communication with the user. From his/her point of view, the system is only as good as its interface. It is probably well understood by the information system designers and programmers because the programming of the graphical user interface (GUI) can take as much as 80% of the time spent on the programming of the whole information system. These genres are used in rhetorical activities related to information system functionality, such as information input or retrieval. The search can be conducted not only via access points, controlled with the authority files (genre group 2), but via any character string included in the bibliographic record (genre group 3), for example dates or

even pagination. The record can be searched in a full-text search mode, in the same way as the texts are searched on the Internet with search engines. Thus, the content of the bibliographic record is treated like any other computer-readable text. It is searched with widely understood keyword queries, with the possibility of applying logical operators (relationships). One should note, however, that this is only a seemingly unstructured search by keywords, such as that performed on the Internet. Such a search is an attempt to adjust the functionality of the information system to the structures of its users' knowledge, resulting from their work habits with search engines. The processes in question are reflected in genre group 5. However, this search is conducted on the texts of the bibliographic records, standardized in the aforementioned manner, which enables social mediation between the author and the reader in a recurrent communication situation. These regulations help; for example, one can be sure that the record text will contain, at least, metadata such as the title of the work described.

What. The texts in genre group 5 are rhetorical and graphical tools used for mediation among the texts in all other groups of genres, bringing them together in a system of genres, that is, interrelated genres functioning within the SoI. They affect the representation and the accessibility of the information contained in the texts of all genres used in the SoI. The system designer, being the author of the texts in these genres, communicates with the users of the information system, offering the services as well as specifying limitations on the system functionality. The texts in all other genre groups, in one way or another, respond to the texts in genre group 5. Moreover, the information system users use these texts to represent their needs and limitations. The activities based on the texts used in KO result in the negotiation and unification of the participants' knowledge, enabling cooperation in the communication. Hence, there is a need for the best possible adjustment of these texts to their users' genre knowledge and the proper dissemination of such knowledge.

How. Dissemination of genre knowledge takes place during the communication processes. Help systems and trainings are used wherever and whenever possible. Training for the users of online systems often is not possible, so it is important that such information systems operate intuitively. It means that the genre knowledge beyond the level necessary for the application of any IT system should be as little as possible. This, in turn, implies the standardization of the interface text genres of all popular computer applications.

   The form of the texts in genre group 5 directly depends on the technology used. In the rooms where the card catalog was located, the classification symbols were displayed on large sheets of paper, and the catalog boxes were labeled with appropriate ranges of the alphabet letters. All boxes were numbered and arranged in a particular order. The librarian on duty in the catalog room was the part of the interface. Currently, manual information systems are losing their raison d'être,

Table 1. Summary of genre group analysis.

Analysis element		1	2	3	4	5
				Genre group		
Who/whom	a	Author – a field professional	KOer	KOer	Sol user	IS designer and programmer
	b	Reader – a professional in the author's field	KOer	KOer	IS designer and programmer	KOer
	c	KOer – a professional in another field	Sol user	Sol user	KOer	Sol user
Why		Scholarly research	Knowledge organization	Knowledge organization	Information retrieval	Information retrieval and access
What		G 1 organized by g 2 and 3, retrieved with the use of g 4 and 5	G 2 organizes g 1 for retrieval with the use of g 3, g 4 and 5	The use of g 2 for accessing g 1, a part of g 5	The use of g 3 and g 2 while using g 5 to access g 1	G 5 is a basis for the use of any other g (1–4)
How	a	Education, especially higher	Professional training for KOer, user training	Professional training for KOer, user training	User training, simplification (Googlization)	User training
	b	Large, depends i.a. on the field	Large, depends i.a. on IS aims	Small, strong regulation	Simple and advanced search	Some common rules from IA
	c	Large, hybrid g	Large and very useful	Finished (OPACs)	Finished (computer Sol)	General automation

Note. KOer—knowledge organizer; IA—information architecture; Sol—system of information; IS—information system; g—genre group; i.a.—inter alia.

and the users are forced into conversations with various types of computer system interfaces, whether textual or graphical (GUI) ones. Some of them use Web 2.0 capabilities, enabling mediated communication with the knowledge organizer (for instance, via chat). It means a change in the genre (to that of a cybergenre), but not its group—both communication situations are of the same type.

Conclusion

The whole discussion of the genre system for KO is summarized in Table 1, along with answers to the questions asked before the analysis was made, based on the method of Yates and Orlikowski (see above). The questions concerned all investigated levels of text organization: genres, genre groups, and genre systems. The answers to the "who/whom" question are divided into three groups according to the text senders/receivers: a) who is the text creator? b) who is the intentional receiver? c) who is the secondary receiver? The answers to the "how" question are also divided into three groups that depend on the questions about the forms of genres used: a) what are the methods of the genre knowledge dissemination? b) what is the variability of the genres? c) what is the possibility of a transition to cybergenres?

The result of the analysis can be considered a complicated activity structure of the organizations where KO takes place. The entire system of activities is based on the written texts in a number of genres selected from the genre groups to construct a genre system. Choosing some genre from a genre group constrains the possibilities of choosing other genres and often affects the selection of some other genres from other groups.

Almost all genres used in KO are cybergenres, as the texts in the genres have an electronic form. This is an effect of the automation of KO activities. The transition from the traditional genre to the cybergenre is due to the changes in the way the text is used, whether by its sender and receiver or various intermediaries. This causes a shift from the focus on the final product of KO and its categorization to the schemata of the KO activities that define the text of the document and its genre.

The research on the roles and on interaction of the texts and their genres in the KO activities submitted in this article points to the core role of the texts in many genres in the constitution and formation of the community of knowledge organizers and SoI users. Each text has its place in the activities represented by a given genre. Together, these texts form a genre system. The genres to be applied are selected from the respective groups during the design stages of the SoI. The genre system described above both defines the boundaries and enables the operation within the KO. The creation of the texts in cataloging, one of the most important KO activities, forms a catalog genre group. The activity is based on the texts in another group of genres, the vocabularies in a number of genres. The catalog genre acts as an intermediary between the sender and the receiver in the retrieval activity; it is another important KO activity. The genre knowledge of these texts determines

the membership in a particular community of knowledge. The multilevel interactions of the texts in numerous genres, genre groups, and systems—both in their local applications and in all professional activities of KO—indicate a tight dependence of the community of knowledge on the texts. The knowledge of these relationships is essential for the understanding of the role of writing and reading processes in the KO community.

Notes

1. Richard Smiraglia, "The Progress of Theory in Knowledge Organization," *Library Trends* 50, no. 3 (2002): 331. Smiraglia lists tools (text genres) such as catalogs, indexes, and databases that are constructed to enable rapid manipulation and retrieval in large collections of texts that are surrogates of represented documents, which, in turn, represent the information materialized in them.
2. Carolin Miller, "Genre as Social Action," *Quarterly Journal of Speech* 70, no 2 (1984): 159.
3. Jack Andersen, "What Genre Theory Does," in *Genre Theory in Information Studies*, ed. Jack Andersen (Bingley: Emerald Group Publ., 2015), 4.
4. Chad Saunders and Mike Chiasson, "Using Genre Systems to Investigate the Interplay between Technology-in-Practice and Knowledge Management Practices of Lawyers," in *Proc. of the 38th International Conference on System Sciences HICSS-38 (Hawaii)*, Jan. 3–6, 2005. (Los Alamitos: IEEE Computer Society, 2005), 98b.
5. Alistair Black and Dan Schiller, "Systems of Information: The Long View," *Library Trends* 62, no. 3 (2014): 629.
6. Hur-Li Lee and Lei Zhang, "Tracing the Conceptions and Treatment of Genre in Anglo-American Cataloging," *Cataloging & Classification Quarterly* 51, no. 8 (2013): 893.
7. Andersen, "What Genre Theory Does," 10.
8. Some authors believe that genres can only be defined at one level of the hierarchy, at least within a certain period of time (Miller, "Genre as Social Action," 162). Such an arbitrary restriction may, however, reduce the usefulness of genres as analytical tools of communication in organizations.
9. Kevin Crowston and Marie Williams, "Reproduced and Emergent Genres of Communication on the World Wide Web," *The Information Society* 16 (2000): 202.
10. From the point of view of poststructuralists, the text is gaining importance in the relationship with other texts, and the meaning of the text is distributed in this network of interrelated texts. Text intertextuality comes, in part, from the associations, which texts define between them, with the relationships between them, and partly from the association combining the text with the context through which these texts are perceived. See Luke Tredinnick, "Post-Structuralism, Hypertext, and the World Wide Web," *Aslib Proc.* 59, no. 2 (2007): 180.
11. Amy Devitt, "Intertextuality in Tax Accounting. Generic, Referential, and Functional," in *Textual Dynamics of the Professions. Historical and Contemporary Studies of Writing in Professional Communities*, ed. C. Bazerman and J. Paradis (Madison: Univ. of Wisconsin Press, 1991), 336–380.
12. Devitt, "Intertextuality in Tax Accounting," 340.
13. Amy Devitt, "Generalizing about Genre: New Conceptions of an Old Concept," *College Composition and Communication* 44, no. 4 (1993): 581.
14. Charles Bazerman, "Speech Acts, Genres, and Activity Systems: How Texts Organize Activity and People," in *What Writing Does and How It Does It. An Introduction to Analyzing*

Texts and Textual Practices, ed. C. Bazerman and P. Prior (Mahwah: Lawrence Erlbaum Assoc., 2004), 318.

15. Charles Bazerman, "Systems of Genres and the Enactment of Social Intentions," in *Genre and the New Rhetoric*, ed. A. Freedman and P. Medway (London: Taylor & Francis, 1994), 97.

16. Wanda Orlikowski and JoAnne Yates, "Genre Repertoire: The Structuring of Communicative Practices in Organizations," *Administrative Science Quarterly* 39, no. 4 (1994): 541.

17. JoAnne Yates and Wanda Orlikowski, "Genre Systems: Structuring Interaction through Communicative Norms," *Journal of Business Communication* 39, no. 1 (2002): 15.

18. It should be noted that these names defined as genres, for the sake of simplicity, may be groups of genres as well, e.g., desiderata may be submitted orally or in writing (traditionally or electronically), in free form (e.g., email) or in the form provided.

19. In fact, these choices do not depend solely on the library type, but also on other differentiation factors, for example the size understood, e.g., as the volume of collection. In this way, one can distinguish selections made in the communities of small public libraries or large public libraries.

20. Lala Hajibayova and Jacob Elin, "User-Generated Genre Tags through the Lens of Genre Theories," in *Knowledge Organization in the 21st Century: Between Historical Patterns and Future Prospects*, ed. W. Babik (Würzburg: Ergon Verlag, 2014), 391.

21. See for example, Gail Hodge, *Systems of Knowledge Organization for Digital Libraries: Beyond Traditional Authority Files* (Washington: DLF, 2000), http://www.clir.org/pubs/reports/pub91/pub91.pdf (accessed October 20, 2014) or Vanda Broughton et al., "Knowledge Organization," in *European Curriculum Reflections on Library and Information Science Education*, vol. 7, ed. L. Kajberg and L. Lorring (Copenhagen: Royal School of Library and Information Science, 2005), 142.

22. Mikael Gunnarsson, "Classification along Genre Dimensions. Exploring a Multidisciplinary Problem" (Ph.D. diss.), Swedish School of Library and Information Science, University of Borås, 2011. http://hdl.handle.net/2320/7920.

23. Emmanuelle Bermes, "Convergence and Interoperability: A Linked Data Perspective," in *World Library and Information Congress: 77th IFLA General Conference and Assembly*. Puerto Rico, August 13–18, 2011. http://conference.ifla.org/past/ifla77/149-bermes-en.pdf (accessed November 15, 2015).

24. Marek Nahotko, "Współdziałanie metadanych w chmurze," *Przegląd Biblioteczny* 1 (2014): 11.

25. Epitext is a kind of paratext; both terms were used first by Gérard Genette, *Paratexts. Thresholds of Interpretation* (Cambridge: Cambridge University Press, 1997).

26. Jack Andersen, "Analyzing the Role of Knowledge Organization in Scholarly Communication: An Inquiry into the Intellectual Foundation of Knowledge Organization" (Ph.D. diss.), Royal School of Library and Information Science, 2004, 107.

27. Bazerman, "Speech Acts, Genres, and Activity Systems," 316.

28. Jack Andersen, "Re-Describing Knowledge Organization—A Genre and Activity-Based View," in *Genre Theory in Information Studies*, ed. J. Andersen (Bingley: Emerald Group Publ., 2015), 26.

29. Sune Auken, "Utterance and Function in Genre Studies: A Literary Perspective," in *Genre Theory in Information Studies*, ed. J. Andersen (Bingley: Emerald Group Publ., 2015), 159.

30. Miller, "Genre as Social Action," 155.

31. Bazerman, "Speech Acts, Genres, and Activity Systems," 319.

32. Yates and Orlikowski, "Genre Systems," 16.

33. As the authors cited mentioned, the dimensions of communicative interactions are treated separately for analytic convenience, although in practice they are closely interconnected.

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35. Miller, "Genre as Social Action," 155.

36. John Swales, *Genre Analysis: English in Academic and Research Settings* (Cambridge: Cambridge Univ. Press., 1990), 46.

37. Kathleen Fitzpatrick, *Planned Obsolescence. Publishing, Technology and Future of the Academy* (New York: New York University Press, 2011), 106.

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40. Michael Halliday and Ruqaiya Hasan, *Language, Context and Text: Aspects of Language in a Social-Semiotic Perspective* (Oxford: Oxford University Press, 1989), 45.

41. Andersen, "What Genre Theory Does," 21.

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43. Birger Hjørland, "Information Retrieval, Text Composition, and Semantics," *Knowledge Organization* 25, no. 1/2 (1998): 28.

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45. Birger Hjørland, "Theories as Knowledge Organizing Systems (KOS)," *Knowledge Organization* 42, no. 2 (2015): 122.

46. Birger Hjørland, "User-Based and Cognitive Approaches to Knowledge Organization: A Theoretical Analysis of the Research Literature," *Knowledge Organization* 40, no. 1 (2013): 14.

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53. Joacim Hansson, "How Bibliographic Classification Mirrors Society—The Case of the Swedish SAB-System," *Library and Information Science Research* no. 9/10 (2005/2006): 156.

54. Christine Borgman, *Scholarship in the Digital Age. Information, Infrastructure and the Internet* (Cambridge, MA; London: The MIT Press, 2007), 113.

55. Bermes, "Convergence and Interoperability."

56. Jack Andersen, "Written Knowledge: A Literary Perspective on Indexing Theory," *Knowledge Organization* 27, no. 4 (2000): 207.

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