

A CONCEPTUAL MODEL FOR DESCRIPTION OF WRITTEN HERITAGE COLLECTIONS

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ABSTRACT

The written heritage can be found in different states of preservation and availability. In order to overcome the present state, it is necessary to link the strategies of preservation and conservation through an efficient system of information organisation for the management and access to collections.

Therefore, the purpose of this paper is to present a model for description of heritage collections which is designed in accordance with the concept of collection level description and follows the entity-relationship modelling. By accepting the concept of common information environment, the proposed model could be applied not only in the Croatian library community but also in other related communities, such as archival and museum; particularly for the identification and registration of the entire collections of historical materials at each physical or digital location.

KEYWORDS

heritage preservation and conservation, heritage management and communication, information organisation for management and access to collections, collection level description, entity-relationship model

Introduction

The focus of interest of this paper is the topic called *recorded culture*,¹ and more specifically one segment of its immeasurable totality – *written culture*. In contrast to the concept of *oral culture*, it encompasses all the works created by writing using letters, numerals and other signs, regardless of the manner and medium of recording. But since the majority of the works of written culture was created by writing/printing on traditional media like parchment and paper, in this paper we shall dis-

1 Williams, Raymond. *Kultura*. // K. : časopis za književnost, književnu i kulturnu teoriju 1, 1(2003), 14.

cuss manuscripts and printed works, that is the *manuscript culture* and *printed culture*. In theory, the manuscript culture spans the period from the introduction of writing till today, and printed from the introduction of printing till today. For practical reasons we shall limit ourselves to the corpus called *historical manuscripts* (manuscripts from the period of the Middle Ages and earlier and modern manuscripts of different provenance), as well as to the printed books created from 1455 to 1850. Due to the selection procedures, this corpus varies in scope and state of preservation and makes up the *printed* and *handwritten heritage*.

Written heritage is most often organised in the so-called *heritage collections*, and it can be found in independent libraries or those that are within other institutions, chiefly other heritage institutions – museums and archives, and in numerous private libraries, primarily those in religious communities.

The study of heritage collections in the Croatian cultural space shows the problem of user access. Researches as well as other information needs are often prevented by incompleteness or lack of data about collections and their content (items). Thus a conceptual model developed for their more efficient retrieval will be presented in this paper. Its application contributes to the improvement of information environment and aims at the creation of common information environment of heritage institutions. The latter leads to the concept of total care for the heritage on which the contemporary theory of heritage is founded.

Concept of total care for the heritage and management of written heritage

The relationship towards the heritage and its (physical) protection and preservation has changed through history – from antique restitution or substitution, through interpolations of the Middle Ages, Renaissance and Baroque rudimentary conservation procedures, restoration and conservation procedures in the 19th century,² all the way to today's concept of total care for the heritage.³ This places the contemporary

2 Špikić, Marko. Uvod : obziri prema stvari. // Anatomija povijesnoga spomenika / Antoine-Chrysostome Quatremère de Quincy [et al.] ; priredio i uvodima popratio Marko Špikić. Zagreb : Institut za povijest umjetnosti, 2006. Pp. 277-286.

3 Šola, Tomislav. Muzeološki prilog teorijskim osnovama informacijske znanosti. // Informacijske znanosti i znanje / uredili Slavko Tkalac, Miroslav Tudman. Zagreb : Zavod za informacijske studije, 1990. P. 151. See also: Šola, Tomislav. The general theory of heritage. // Zbornik radova "Težakovi dani" / [urednici Slavko Tkalac, Jadranka Lasić-Lazić]. Zagreb : Zavod za informacijske studije Odsjeka za informacijske znanosti Filozofskog fakulteta Sveučilišta u Zagrebu, 2002. Pp. 215-231.

management of written heritage in a much broader perspective than the saving of its material traces, connecting the questions *What?* and *How?* to *For whom?* to protect the heritage. Following these questions the contemporary management of written heritage is developed on two levels – on the level of the collection and on the level of item, through procedures of *identification*, *registration* and of *collection development*, *bibliographic control*, *legal* and *physical protection* and its *communication* with the users.

In the research conducted within the framework of a doctoral dissertation *The model of information organisation about European printed heritage (1455-1850) in Croatian libraries*⁴ detected were the problems that arose due to failure of implementation of legal regulations, their datedness or due to negligence of the responsible institutions and owners. These problems have occurred on every level of management – national, regional and local, as well as in all processes, particularly in the lack of adequate bibliographic control which is, together with identification and registration of collections, especially those less known or utterly unknown, a precondition for physical and legal preservation of the collection/item and, finally access.

The concept of collection level description, based on contemporary ideas of information science was looked into to find a solution to the problems mentioned.

Concept of collection level description

The concept was developed in the English speaking community. Actually, two different phrases are in use, each with a specific meaning: *collection level description* and *collection description*. *Collection level description* represents an individual record that describes the collection as a whole, i.e. as a set of particular items, and *collection description* is a set of metadata or a finding aid that describes items in a collection.

For the understanding of *collection level description* the following concepts are important: *functional granularity*, *information landscape*, *information environment*, and *common information environment*.

A collection, regardless of its organisation mode with regard to type and number of items and tasks it performs in a given heritage and/or information community, can be, along the accepted principle

4 Katić, Tinka. Model organizacije informacija o europskoj tiskanoj baštini (1455.-1850.) u hrvatskim knjižničnim zbirkaama : doktorski rad = The model of information organization about European printed heritage (1455-1850) in Croatian libraries : Ph.D. Dissertation. Zagreb : Tinka Katić, 2011. Pp. 94-129.

of *functional granularity*, either “fragmented” or “expanded” according to the goals set by the institution – owner/holder of the collection. This results in a number of higher and lower ranked collections that are mutually linked by different kinds of relationships, but also in other relevant and complementary collections like for instance, their catalogues that also represent a collection as a set of records of items.

In order to express the value of a collection, as well as all the established links between higher and lower ranked collections, an appropriate collection level description is needed. It will lead the user from the highest level of granularity, i.e. the higher level collection, over the lower level collections to the desired level of specificity, that is to the record of an item and finally to the item itself. This is a functional approach, both for the user and for the institution.⁵

The concept of *information environment* was developed by JISC (Joint Information Systems Committee) as a support to the British university community and it relates to “an integrated set of networked services that allow the end-user to *discover, access, use* and *publish* digital and physical resources as part of their learning and research activities.”⁶ Originally designed for the library community, the concept has gradually encompassed both the archival and museum communities to make the envisaged service complete. The new concept was named *common information environment*.⁷

Information landscape represents a set of collections described in information environment.

In order to be efficient, the information environment has to refer to the finding aid for the search of items. Some collections included into information environment or landscape have their own finding aid (catalogue, inventory, and the like) that can be completely or partially present in the general catalogue of the institution, and general catalogues in union catalogue. Dispersion of collections in general finding aids will make it more difficult for the user to find his/her way during searching and finding. Thus it is necessary that metadata used for the creation of information environment describe the collections of

5 Macgregor, George. Collection-level description : metadata of the future? // *Library review* 52, 6(2003), 248.

6 Powell, Andy. JISC Information Environment Architecture. 2006 [cited: 2011-10-30]. Available at: <http://www.ukoln.ac.uk/distributed-systems/jisc-ie/arch/>

7 Dunsire, Gordon. Zajedničko informacijsko okruženje : pojava novog koncepta. // 9. seminar Arhivi, knjižnice, muzeji : mogućnosti suradnje u okruženju globalne informacijske infrastrukture : zbornik radova / uredile Mirna Willer i Ivana Zenić. Zagreb : Hrvatsko knjižničarsko društvo, 2006. Pp. 1-8.

various size and scope, maintain the hierarchical relationships between higher and lower level collections within an institution or service, as well as between participating institutions in the mutually organised, maintained and used finding aid (for instance a union catalogue).⁸

Collection description will fulfil its purpose if it is founded on a general model and created according to a standard scheme that ensures the consistency of metadata elements. Among the models developed with this aim in the library community the most successful one is *An Analytical Model of Collections and their Catalogues*.⁹

An Analytical Model of Collections and their Catalogues

The primary aim of *An Analytical Model of Collections and their Catalogues* is to ensure access to users and facilitate management of collections to owners/holders. M. Heaney, the author of the model, connects the aim of the model with the concept of information landscape, and the ways of traversing the information landscape with four user tasks defined in *Functional Requirements for Bibliographic Records* (FRBR)¹⁰ – *find, identify, select and obtain*.¹¹

Based on the entity-relationship methodology, it contains, as its name suggests, two models: *collection level description* and *collection description* (Diagrams 1 and 2).

Both models are based on three classes of entities: **objects, agents** and **indirect agents**.

Objects include entities that are produced by an **agent** (*content, item, collection, location, content-component and item-component*).

Agents are persons or corporate bodies (*creator, producer, collector, owner, administrator*) whose action produces the entities of the class of entities: **objects**.

Indirect agents are persons or corporate bodies (*creator's assignee, producer's assignee*) who are in a certain legal relationship with an entity from the class of entities: **agents**.

8 Dunsire, Gordon. Landscaping the future for collaborative collection management. // Acquisition and collection development / 73rd IFLA General Conference and Council, 19-23 August 2007, Durban, South Africa [cited: 2011-10-30]. Available at: <http://archive.ifla.org/IV/ifla73/papers/125-Dunsire-en.pdf>

9 Heaney, Michael. An analytical model of collections and their catalogues. Third issue, revised. Oxford, 14 January 2000 [cited: 2011-10-30]. Available at: <http://www.ukoln.ac.uk/metadata/rsip/model/amcc-v31.pdf>

10 Functional requirements for bibliographic records : final report. / IFLA Study Group on the Functional Requirements for Bibliographic Records. München : K. G. Saur, 1998. Also available at: <http://www.ifla.org/files/cataloguing/frbr/frbr.pdf> [cited: 2011-10-30].

11 Op. cit., p. 3.

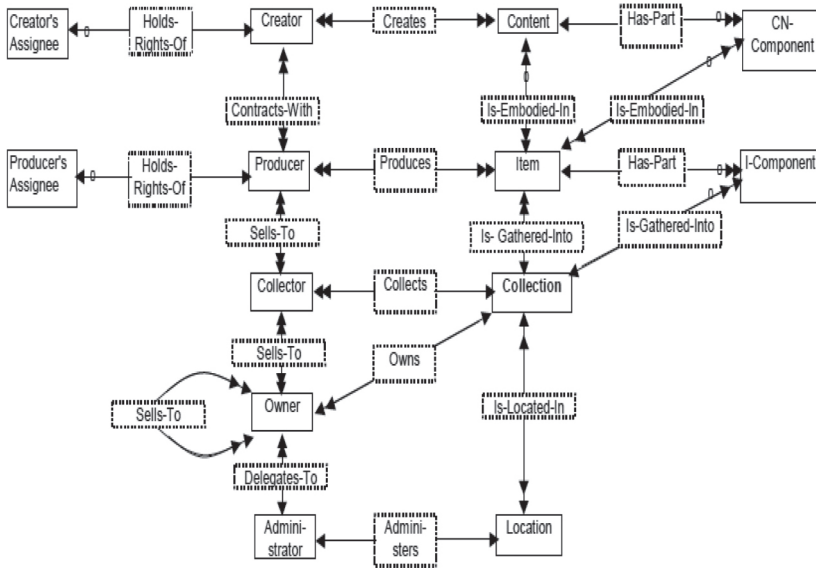


DIAGRAM 1.

Collection level description

(From: Heaney, Michael. An Analytical Model of Collections and their Catalogues. Third issue, revised. Oxford, 14 January 2000)

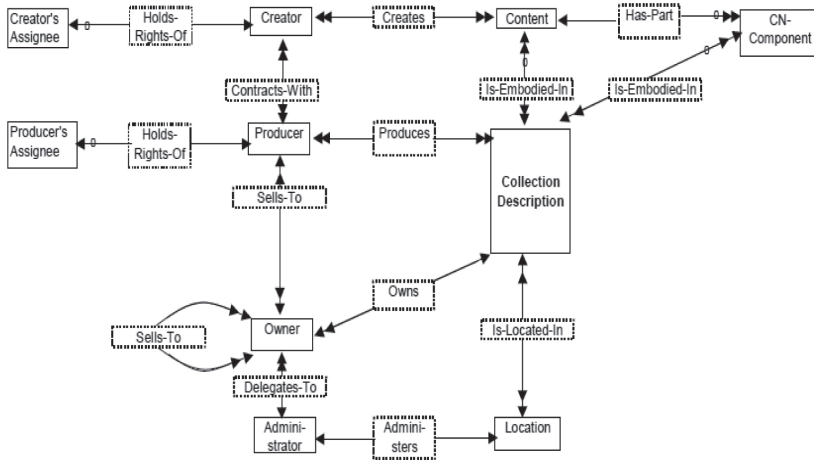


DIAGRAM 2.

Collection description

(From: Heaney, Michael. An Analytical Model of Collections and their Catalogues. Third issue, revised. Oxford, 14 January 2000)

Acting of *agents* connecting with *objects*, i.e. different ways of creating, producing, distributing, collecting, administering etc. are presented by multiple relationships which can be read in different directions (e.g. *creator* “creates” *content* / *content* “is created by” *creator*; *producer* “produces” *item* / *item* “is produced by” *producer*; *collector* “collects” *collection* / *collection* “is collected by” *collector*).

The main differences between *collection level description* and *collection description* are visible in the exclusion of the entity: *item* and the use of the entity: *collection description* instead of entity: *collection* which, consequently, excludes entities (*item-component*, *collector*) and relationships (“collects”, “is gathered into” and “has a part”) linked to entities: *item* and *collection*.

Diagram 3 shows the relationship between *collection level description* and *collection description*. *Unitary finding aid*, as an equivalent to *collection level description*, consists of information on collection as a whole, and there is no information about items within the collection. It can stand independently or it can be linked to *collection description* i.e. *finding aid* (e.g. *hierarchical finding aid*, *analytical finding aid*, *indexing finding aid*). By choosing a certain type of *finding aid*, we determine the point from where it would be linked to collection level description i.e. *unitary finding aid*.

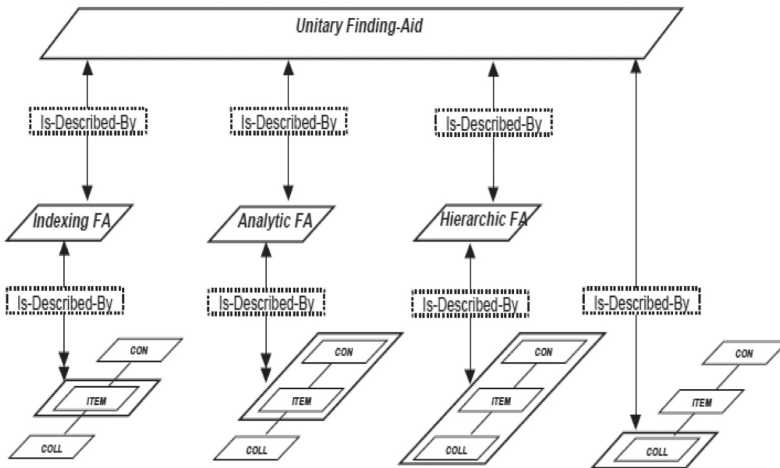


DIAGRAM 3.

The relationship between collection level description and collection description (From: Heaney, Michael. *An Analytical Model of Collections and their Catalogues*. Third issue, revised. Oxford, 14 January 2000)

An Analytical Model of Collections and their Catalogues was judged suitable for description of all kinds of digital and physical collections and has become the basic model for the development of numerous schemes for the creation of a structured, standardised and machine readable collection description, the most outspread among which is the *RSLP scheme*.¹² The influence of *Dublin Core Collection Application Profile (DC CAP)*¹³ is also important, and *SCONE Database Schema*,¹⁴ used in the portal¹⁵ bearing the same name should also be mentioned.

Development of a conceptual model for description of written heritage collections

In deliberation about the introduction of collection level description in Croatian library community, detailed investigation of advantages and disadvantages of *An Analytical Model of Collections and their Catalogues* was made and the above mentioned schemes were contemplated. It was determined that the entity-relationship methodology on which it is based, provides a solid foundation for the organisation of information on heritage collections in Croatian libraries, under the condition that its analytical character, that is especially expressed in the definition of the class of entities: *agents*, and accordingly their relationships, is raised to a higher level of abstraction. Thus an independent model was developed that owes its structure mainly to entities and relationships of *An Analytical Model of Collections and their Catalogues*, either taking them over literally or redefining them in accordance to the entity-relationship methodology used in IFLA's complementary models FRBR and FRAD (*Functional Requirements for Authority Data*).¹⁶ At the conceptual level such a model should express more clearly the functionality of the access to and management of the collections.

- 12 RSLP Collection Description : Collection Description Schema [cited: 2011-10-30]. Available at: <http://www.ukoln.ac.uk/metadata/rslp/schema>
- 13 Dublin Core Collection Application Profile [cited: 2011-10-30]. Available at: <http://dublincore.org/groups/collections/collection-application-profile/>
- 14 Dunsire, Gordon. Technical and functional description of the SCONE Demonstrator Service : final report of the RSLP SCONE Project. Annex B.1. June 2002 [cited: 2011-10-30]. Available at: <http://scone.strath.ac.uk/FinalReport/SCONEFPNXB1.pdf>
- 15 SCONE. Welcome to Scottish Collection Network [cited: 2011-10-30]. Available at: <http://www.scotlandsinformation.com/scone/>
- 16 Functional requirements for authority data : a conceptual model / edited by Glenn A. Patton ; IFLA Working Group on Functional Requirements and Numbering of Authority Records (FRANAR) ; approved by the Standing Committees of the IFLA Cataloguing Section and IFLA Classification and Indexing Section. München : K. G. Saur, 2009.

Following the entity-relationship methodology, and on the basis of the determined state of heritage collections in Croatia, first of all it was established which entities of the actual bibliographic universe are the subject of interest of users and institutions managing the heritage collections. This was done having in mind the conclusion stated above, that the entities have to be flexible and defined on the higher level of abstraction. The chosen entities are: *collection* [**objects**, **agents**], *catalogue*, *place*, *agency* and *rules*.

The entity: *collection* was separated the first. Usually, written heritage is brought together in special collections or it is scattered in the general collection of a library and yet needs to be organised and virtually brought together by means of a bibliographic tool, including the unitary finding aid as M. Heaney calls the collection level description. Collection level description will be the sole finding aid for a number of collections. But it must be said that it also functions in organised and established bigger collections if it points to the elements that can be important to users.

Entity: *collection* is defined as a complex one, and it includes two classes of bibliographic entities: **objects** and **agents** (see Diagram 5).

In the class of entities: **objects** included are the entities: *content*, *item* and *collection* which represent a reduced list of entities from the one Heaney offers in his model.

The problem arises with the inclusion of entities from the class of entities: **agents** (and *indirect agents*). According to the definition in *An Analytical Model of Collections and their Catalogues*, **agents** represent persons and corporate bodies that are in active or inactive relationship with the related entities from the class of entities: **objects** (*content*, *item*, *collection*, *location*, *content-component*, *item-component*), and the class of entities: **indirect agents** (*creator's assignee* and *producer's assignee*) that are in some kind of property-rights relationship with the related entities from the class of entities: **agents**. Both of them represent concrete roles or functions that are repeated through relationship naming (e.g., *collector* "collects" *collection*). Such a solution can cause disturbances in the description of *collections*, first of all redundancy, or multiple repetitions of data on **agents** that can perform different functions at the same time.

In some present uses, for instance in the RSLP and DC CAP schemes, other problems were noticed, e.g. the entity: **agent** is treated like attribute or relationship. This cannot be considered acceptable because the users are interested in some of the **agents**, primarily as enti-

ties, especially the primary *agents* linked to the *collection* – *collectors* and previous owners, that is controlled access points and they should be thus named.

In the future use, because of expressed dynamics of the bibliographic universe, *agents* and *objects* built into the Heaney model can become a limiting factor of the application of the model in new circumstances.

With regard to the listed disadvantages, in shaping of the class of entities: *agents* in this model the FRAD entity-relationship methodology is used. Namely, FRAD proved to be suitable because the entities of the second set (*persons* and *corporate bodies*) described in FRBR are expanded with the entity: *family* which corresponds to the basic types of entities: *agents* – *person*, *corporate body* and *family* identified in heritage collections in Croatian libraries. Because of that, for naming the class of entities: *agents* three basic FRAD entities are used – *person*, *family* and *corporate body*, and their roles and mutual connections will be expressed through different kinds of relationships.¹⁷

By identifying a *collection* at the desired level of granularity or via a relevant access point (binding, language, script, subject etc.) in the next step the user will try to get the information about the collected *items*, that is about the metadata about the *items* that are in the *catalogue* of a *collection* or any other bibliographic finding aid. The *catalogue* is thus the second entity that has to be built into the model.

In order to access the *catalogue*, and the *collection*, that is the items gathered in it, the model must include the third entity: *place* that can be either physical or electronic.

In order to enable managing of *collections*, it was necessary to introduce the fourth entity with the task to manage *place*. In *An Analytical Model of Collections and their Catalogues* this task is assumed by the *agent: administrator*. But, since it was decided that *agents* will not be named according to their tasks, but their task will be shown through the relationship towards an *object*, the *agent: administrator* will be defined in this model as the entity: *agency*. *Agency*, in its turn must manage the *place* on the basis of determined *rules* (laws, regulations, etc.), which establishes the fifth entity. *Agency* and *place* can overlap, but they can also be separate entities.

17 Such a solution, although only for *persons* and *corporate bodies*, was used in the SCONE Database Schema.

Among the chosen entities four categories of relationship are established: “collection-catalogue-place-agency-rules”; “object-agent”; “object-object” and “agent-agent”.

To set up the model structure, defined were the relationships between these entities, and users’ tasks were supplemented according to those defined in FRBR.

The next methodological step, the identification of attributes for the description of each entity, was left out from the model presentation since the selection and especially the defining of attribute content, actually their adaptation to the specificities of heritage collections demands a special, more comprehensive research. Thus the model will be kept on the conceptual level, i.e. only entities and relationships for the collection description of heritage collections will be identified and defined, as well as their users and tasks they undertake in managing and accessing *collections* and their content.

A conceptual model for description of written heritage collections

The basic model for description of written heritage, shown in Diagram 4, is founded on three entities: *collection*, *catalogue* and *place* and their relationships that are important for the establishment of the basic functions of the model, i.e. access to the *collection*, records (metadata) of *items* gathered in the *collection* and finally, the *items* themselves that are the subject of users’ interest.

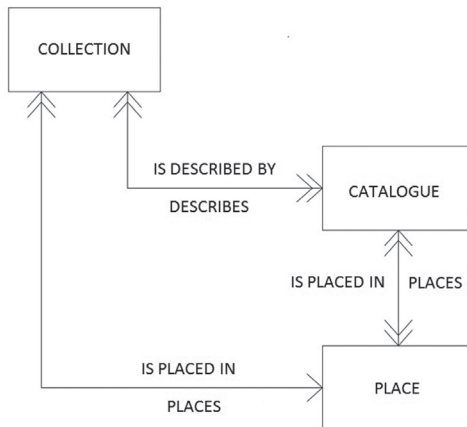


DIAGRAM 4.

The basic model for description of written heritage collections

The *collection* can be accessed in two ways – indirectly and directly. Indirect approach is realised through the *catalogue*, and if the *collection* has no *catalogue* it is directly accessed through *place*.

Diagram 5 represents the full model. In the upper part of the diagram in the rectangle marked by a broken line two classes of bibliographic entities are shown – *objects* (*content, item and collection*) and *agents* (*person, family and corporate body*) and their relationships, that are necessary for collection description. In the lower part of the diagram the entities: *agency* and *rules* are added that give the model the management dimension, i.e. function. Following this addition the full model is based on the entities: *collection* [*objects, agents*], *catalogue*, *place*, *agency* and *rules*.

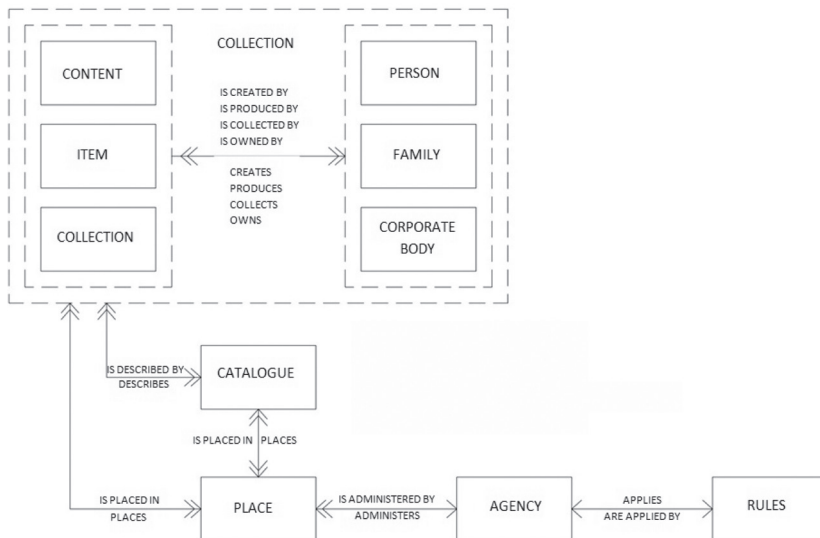


DIAGRAM 5.
The full model for description of written heritage collections

Definitions of entities

Definitions of entities are cited according to *An Analytical Model of Collections and their Catalogues, Pravilnik i priručnik za izradbu abecednih kataloga*¹⁸ (*The Code and Manual for Compiling Alphabetical Catalogues*), FRBR and FRAD.

18 Verona, Eva. *Pravilnik i priručnik za izradbu abecednih kataloga. Prvi dio: Odrednice i redalice. 2. izmijenjeno izd.* Zagreb : Hrvatsko bibliotekarsko društvo, 1986.

Content

An intellectual creation, without reference to any instantiation of it.

[*An Analytical Model of Collections and their Catalogues*]

Note: Definition of *content* is an abbreviated variant of the definition of *work* in FRBR.

Item

A single exemplar of a *manifestation*.

[FRBR]

Collection

An aggregation of physical and /or electronic *items*.

[*An Analytical Model of Collections and their Catalogues*]

Note: In this model a simple definition of *collection* from *An Analytical Model of Collections and their Catalogues* is taken with a slight modification. The definition includes all types of *collections*, both organised and those that still have to be identified and organised.

Catalogue

Catalogue is a list of library materials located in a library, a special collection or a library department, or in several libraries, and it is organised according to one or more criteria. *Catalogues* exist in print (card catalogues – general, special, in the form of a book) and in electronic media.

[*The Code and Manual for Compiling Alphabetical Catalogues*]

Note: According to the classification of finding aids in *An Analytical Model of Collections and their Catalogues*, library catalogues are identified with analytical finding aids or the description of collection that contains data on individual items in the *collection* and their *content*. This entity will, given the specific quality of heritage *collections*, include other bibliographic aids, for example, inventory and the like.

Place

The *place* (identified physically or electronically) where a *collection* is held.

[*An Analytical Model of Collections and their Catalogues*]

Note: Modified from *An Analytical Model of Collections and their Catalogues* where it stands for entity: *location*.

Agency

The *agency* is responsible for the application and interpretation of the rules it creates and/or uses.

[FRAD]

Note: It stands for the entity: *administrator* in *An Analytical Model of Collections and their Catalogues*.

Rules

A set of instructions relating to organisation of access and collection management.

[FRAD]

Note: An *agency* manages the *place* and *collection* on the basis of a set of laws and regulations. Management of library heritage collections is based on two basic laws: the general *Law on Libraries* and *Law on the Protection of Cultural Assets* and the regulations following from them. The entity also includes *rules* for bibliographic control.

Person

Person is an individual or identity established or adopted by an individual or group.

[Modified from FRAD]

Family

Family consists of two or more *persons* linked by birth, marriage, extra-marital relations, adoption, or some other legal status or who present themselves as a *family* in some other way.

[FRAD]

Corporate body

Corporate body is an organisation or a group of *persons* or organisations identified by a name and acting together.

[FRAD]

Relationships

Four categories of relationship are established in the model: “collection-catalogue-place-agency-rules”; “object-agent”; “object-object” and “agent-agent”. Relationship “collection-catalogue-place-agency-rules” is developed at the model level, thus representing its function-

ality as a whole, and relationships “object-agent”, “object-object” and “agent-agent” at the collection level, thus representing the links established between bibliographic entities that make up the *collection*.

Relationships “collection-catalogue-place-agency-rules” (1)

Diagram 5 shows basic logical relationships between entities at the highest level of generalisation, i.e. in what way is the *collection* linked with the *catalogue*, *catalogue* with *place*, *place* with *agency*, *agency* with *rules* and *collection* with *place*. Each of the basic relationships operates between one pair of entities, and their definition is an integral part of definitions of entities included into relationship. In the same way, they can be one-way or reciprocal, simple and multiple.

The relationship “collection-catalogue” indicates that the *collection* “is described by” the *catalogue*, and the other way round, that the *catalogue* “describes” the *collection* so that the *collection* “can be described” in one or more *catalogues* and that the *catalogue* “can describe” one or more *collections*.

The relationship “catalogue-place” indicates that the *catalogue* “is placed” in the *place* and the other way round, that the *place* “places” the *catalogue*. Similarly, *catalogue* “can be placed” in one or more *places* (physical or electronic), and *place* “can place” one or more *catalogues*.

The relationship “place-agency” is also reciprocal, i.e. the *place* “is administered by” the *agency* and, vice versa, the *agency* “administers” the *place*. This is a multiple relationship only in one direction, i.e. the *agency* “can administer” several *places*, while the *place* “can be administered by” only one *agency*.

The relationship “agency-rules” shows that *rules* “are applied” by the *agency* and the other way round, that the *agency* “administers” *place* and through *collection* and *catalogue* “applies” *rules*.

The relationship “collection-place” designates that the *collection* “is placed” in the *place* and, vice versa, that the *place* “places” the *collection*.

Relationships “object-agent” (2)

At the collection level, action between *objects* and *agents* is expressed in the model by relationships: “creation”, “production”, “collecting” and “holding” (Table 1).

Type of entity: object	Relationship	Type of entity: agent
content	Creation	person, family, corporate body
item	Production	person, family, corporate body
collection	Collecting	person, family, corporate body
	Holding	person, family, corporate body

TABLE 1.

Relationships between objects (content, item, collection) and agents (person, family, corporate body)

Relationships “object-object” (3)

At the collection level, different combinations of relationships between special instances of entities from the class of entities: **objects** (*content*, *item* and *collection*) are possible. The most frequent is the hierarchical relationship “whole-part (has part – is part of)” and, vice versa, “part-whole (is part of – has part)” that is realised directly or indirectly, and horizontal relationship “whole-whole” (Table 2).

Indirect hierarchical relationship, for example, is established between the entities: *content* and *collection* through the entity: *item*. This relationship can be established if one takes into account the fact that *content* or in FRBR terminology, *work*, together with *expression*, *manifestation* and *item* logically act as an unbroken chain. This means that the relationship between *work* and *expression* leads to the relationship between *expression* and *manifestation*, and these two relationships then lead to the relationship between *manifestation* and *item*. All the listed relationships lead to the relationship *item* and *collection*. In other words, the *work*, i.e. *content* is linked through all these relationships with the entity: *collection*.

Type of entity	Relationship
content-item	whole-part
item-collection	part-whole
content-collection	part-whole
content-content (part)	whole-part ¹⁹
item-item (part)	whole-part ²⁰
collection-collection	whole-whole

TABLE 2.

Relationships between content, item and collection

19 The relationships are identical to the relationships “whole-part” at the *work* level in FRBR.

20 The relationships are identical to the relationships “whole-part” at the *item* level in FRBR.

The relationship “whole-whole” can be equivalent (“has a digital version”, “has a facsimile”, “has a reprint”), the relationship of affinity (“has a complementary collection”), descriptive relationship (“has a bibliographic aid”) and associative relationship (“has a linked publication”).

Relationships “agent-agent” (4)

Different combinations of relationships are possible at the collection level between entities: *person*, *family* and *corporate body* from the class of entities: agents (Table 3). Most often they are used to express property-rights relationship linked for example with the transfer of author and ownership rights, inheritance of author and ownership rights, issuing powers of attorney and so on.

Type of entity	Relationship
person-person	transferring author rights
family-family	retaining author rights
corporate body-corporate body	inheriting author rights
person-family	inheriting ownership rights
person-corporate body	sale, gift
family-corporate body	power of attorney

TABLE 3.

Relationships between persons, families and corporate bodies

User tasks

Description of heritage collections based on the presented model is targeted for:

- institutions that manage collections at local, regional and national level and
- end users of heritage collections who want data on basic entities: *collection*, *catalogue* and *place* and direct or indirect access to the *collection* and/or *items* in the *collection*.

With that goal in mind both types of users follow four general tasks: 1. *find* entities or groups of entities that correspond to user’s search criteria, 2. *identify* entities, or confirm that the found entity corresponds to the searched entity, 3. *select* entities that correspond to user’s needs and 4. *obtain* access to entity.

Type of entity	User tasks	Attributes
COLLECTION	find identify select	metadata about collection
CATALOGUE	find identify select	metadata about item
PLACE	obtain	metadata about place and access conditions

TABLE 4.
Users' tasks

To achieve the full functionality of the model, three users' tasks – *find*, *identify* and *select*, will be successively performed first on the *collection* level and then on the *catalogue* level. The fourth one – *obtain* access to the item, will be realised on the *place* level (Table 4).

Conclusion

The concept of collection level description, although it was created in the library community, has aroused great interest, and even application in other heritage institutions – archives and museums. In the library community, the concept brings a new approach to the role of collection in organisation and management structure in traditional, as well as in digital libraries. It first of all points to the need of a more functional deconstruction of the entire holdings (or a collection) to sets of hierarchically connected collections to ensure a higher quality access and more efficient management of collections.

Although a collection can be described in the form of an unstructured text, the advantage of a structured, standardised and computer readable description is indisputable. Such a description, namely, enables controlled search that progressively leads the user to finding and locating appropriate collections, searching its bibliographic aid, and finally, finding and accessing the desired item.

Consistent and computer readable description at the collection level, i.e. creation of unique bibliographic finding aid is guaranteed by the conceptual model and schemes for its application in the information environment. The described model first of all brings a new approach to organisation of information on written heritage in tradition-

al and electronic environments. It can be expected that its application will confirm the following hypotheses:

- application of description at the collection level is the optimal way to make data about collections and their content available to users, and improve management;
- introduction of description at the collection level can overcome to a great degree the problems of lack of description or inadequate description of resources, as well as lack of the presence in the web environment of Croatian collections of old books caused by insufficient financial resources, staff and equipment;
- identification of collections and their affirmation through common information systems (at national and international levels) can take forward their protection and preservation in all segments and especially through different cooperative programmes (physical protection, union catalogues, portals etc.) and accordingly improve access.

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Biographical sketch

Dr. Tinka Katić has been working in the National and University Library in Zagreb, Croatia since 1988. Until 2003 she worked as rare book specialist in the Department of Rare and Old Books. During those 15 years, among other things, she intensively dealt with old material, especially in the domain of standardisation of automated cataloguing. She also started several projects of retrospective cataloguing and retrospective conversion, which would serve as a basis for the future integrated Croatian retrospective bibliography. From 2003 to 2007 she worked as a chief cataloguer maintaining and editing Library's bibliographic and authority databases (online catalogue). Since 2007 she has been working as a consultant for heritage collections in the Library's Croatian Institute for Librarianship. In December 2009 she was appointed as head of the Institute.

KONCEPTUALNI MODEL ZA OPIS ZBIRKI PISANE BAŠTINE

Sažetak

Pisana baština dospjela je do nas u različitom opsegu te stupnju očuvanosti i pristupačnosti. Kako bi se ovakvo stanje prevladalo, nužno je povezati strategije zaštite i očuvanja kroz učinkovit sustav organizacije informacija za upravljanje i pristup baštinskim zbirka. Stoga je glavni cilj ovoga rada predstaviti model za opis baštinskih zbirki koji je uspostavljen po uzoru na *An Analytical Model of Collections and their Catalogues* te slijedi metodologiju entitet-odnos FRBR-a i FRAD-a. Funkcionalnost modela određena je postupcima korisnika: *pronalaženje, identifikacija, odabir i dobivanje* pristupa jedinici građe. Prihvaćanjem koncepta zajedničkog informacijskog okruženja, predstavljeni model može se primijeniti ne samo u hrvatskoj knjižničnoj zajednici, već i u srodnim zajednicama, poput arhivske i muzejske, osobito za identifikaciju i evidenciju svih zbirki pisane baštine na svim fizičkim i digitalnim mjestima.

Ključne riječi: zaštita i očuvanje baštine, upravljanje i komuniciranje baštine, organizacija informacija za upravljanje i pristup zbirka, opis na razini zbirke, model entitet-odnos