Summer School in the Study of Historical Manuscripts

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Summer School in the Study of Historical Manuscripts

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Introduction

The Summer School in the Study of Historical Manuscripts (Zadar, Croatia, 26th – 30th September 2011) was the second in the series of summer schools organised by the Department of Information Sciences, University of Zadar. In its concept and organisation, it was the continuation of and complementary to the Summer School in the Study of Old Books that was held in Zadar in 2009.

The main goals of the Summer School were to acquaint the participants with the most recent developments and newly emerged concepts in the fields of historical methods and epistemology, research in historical manuscripts, bibliographic information organisation and its relation to the archival context, conservation and preservation but also to provide practical introduction to historical collection management and contemporary approaches to digitisation. The Summer School also provided the participants with an insight into current research of Croatian, but also of other historical manuscripts in the region, and raised the participants' awareness of rich and technologically advanced research information sources.

In these Proceedings seventeen delivered lectures are published together with a student's essay supervised by a lecturer. The papers are divided into four thematic sections: cultural history, information organization, conservation and preservation, and collection management.

The first thematic section deals with cultural history, in respect of historical manuscripts as a research topic. The papers in this section broadly encompass several approaches in research of historical manuscripts. The opening paper introduces key methodological approaches in Archival Science and Archival Studies, defining them and demonstrating how different methodologies and research designs can be employed within Archival Science (A. Gilliland). The paper is followed by three papers demonstrating the research results on manuscripts. The first deals with illuminated manuscripts made after Gutenberg's invention with examples of Croatian manuscripts (M. Pelc). A theoretical overview on mediaeval manuscripts used as prayer books is presented in the third paper, together with examples of the described genre (T. Csanády). The relation of two important manuscripts from the 13th and 16th centuries, *Historia Salonitana and Historia Salonitana Maior*, is described and demonstrated on several examples in the next paper of this section (N. Budak). Two papers dealing with fragments, one on the Austrian experience with projects concerning Armenian papers (E. Renhart) and the other one about the Croatian project dealing with parchment fragments of Glagolitic codices found on the covers of old books (A. Vlašić-Anić), their discovery, detachment, description, digitisation and presentation, give an insight into current research of Croatian and Austrian historical manuscripts, the research methods, their challenges and perspectives, and opens the field to further researches. The section closes with the paper which describes the methodologies for the research of digitised mediaeval material (M. Essert, B. Bosančić, M. Tomić, M. Lončarić).

The section on new conceptual models for information organisation opens with the paper on the improvement of the utility of metadata for manuscript resources by representation in RDF as linked data for the Semantic Web (G. Dunsire). The paper opens a number of questions for further study, research and application. The following paper gives an overview of the broad traditions of manuscript description and a detailed account of different types of manuscripts and their interlinking with general library collections (C. Fabian). The paper also considers the use of authority files, the impact of digitisation on manuscript cataloguing as well as the options for integrating existing material into modern internet architectures and presenting descriptions at different levels with regard to the audiences. The field of name authority control is also in the focus of the paper that aims to describe the process of representing FRAD conceptual model in RDF in order to research into the issues of its functionality in the Semantic Web and linked data environment (M. Willer). The paper is enriched with practical examples showing the issues of expressing authority data in RDF triples. Cataloguing of music manuscripts is presented in the next paper, in which the author gives an insight into the history of cataloguing of music manuscripts, and presents the issues concerning national catalogues and access points, precisely the role of the uniform title (M. Gentili-Tedeschi). The section closes with a paper by a Ph. D. student supervised by Professor A. Gilliland, on the conceptualisation of archival materials held in museums, presented in the pilot study on the example of Croatian Railway Museum (T. Štefanac).

The section on conservation and preservation of cultural heritage deals with several core aspects of this area of research. The first paper presents the methodology of work used in the research of mediaeval stiff board bindings on Slovenian mediaeval manuscripts and closes with observations and conclusions drawn from the analysis of Slovenian collections of codices with stiff board bindings (J. Vodopivec). The possibilities to treat ink corrosion in a bound book with the method which allows the treatment of manuscripts without opening and destroying their historical bindings, on the example of the precious Armenian manuscripts in Yerevan is described in the next paper (G. Eliazyan, P. Engel). The last paper in this section is concerned with the ethics in the conservation of mediaeval codices; precisely, by observing several manuscript collections from the Balkans which reveal the conservation approaches used in the past, the author stresses the importance of minimal intervention in order to preserve the original structure of a mediaeval codex (R. Decheva).

The last section is devoted to the historical manuscript collection management and it opens with the paper on the Lithuanian approach to the creation of integrated cultural heritage content and providing access to it (R. Varnienė-Janssen, J. Juškys). This paper elaborates on the issue of designing a conceptual approach for the creation of seamless content of the digital cultural heritage in Lithuania. The lessons learnt from the initiatives by the Martynas Mažvydas National Library of Lithuania and nine other memory institutions related to the creation of seamless content of the cultural heritage are described. 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 is described in the next paper (T. Katić). The model proposed in this paper 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. The Proceedings close with the paper which sets out how the curating of manuscripts is integrated into a modern library and information network and describes the tasks implied by the curation of a manuscript collection in a research library (C. Fabian).

Manuscripts and manuscript collections are elaborated from different perspectives and by researchers from different fields, providing a plastic picture of potentials, challenges, obstacles and new perspectives in detecting, describing, digitising, protecting, conserving and presenting those precious collections. Most importantly, the papers published in the Proceedings give an overview of what was done in the past, present contemporary approaches and open the field for researchers from a number of disciplines by asking new questions that are to be answered in the future. We are sure that those are the requirements and warranties for a fruitful development of the discipline.

Editors

I.

Cultural History
Historical Manuscripts
as a Topic for Research

DEVELOPMENTS IN METHODOLOGICAL APPROACHES TO ARCHIVAL RESEARCH

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Abstract
Archival theory, methodology, and practice together constitute Archival Science, a professional field that is based around several core concepts, including the Record, Recordkeeping, the Archive, Archives, Memory, Evidence, and Accountability. Archival Studies is a broader construct that refers to the rapidly growing multi- and transdisciplinary body of professional and disciplinary scholarship addressing these concepts, related concepts, and other aspects that pertain in some way to the construction, representations, roles, practices, technologies and metaphors of archives and the Archive in society. This paper provides an overview of some of the research frameworks, methods and study designs that have been or that might be employed to identify, explain and examine these concepts and other phenomena within the increasingly complex world of Archival Science and Archival Studies more broadly.

Keywords
analytical frameworks, archival studies, research design, research methods

Introduction

Nineteenth century British author and politician, Edward Bulwer-Lytton once remarked that "Art and science have their meeting point in method." In other words, these fields, and indeed all areas of scholarship have questions they wish to examine, and their own methodological and practical approaches they tend to draw upon; and the need for appropriate methodologies, is universal, regardless of disciplinary or professional differences in emphases and approaches. In the twentieth century, however, as education, research and practice became more specialized, professionalized, and theorized, different areas of research inquiry often became very separate and distinct. By the latter half of the twentieth century, it was becoming apparent that research questions or needs often touch upon the interests of more than one disciplinary area, or sometimes they are just too multi-faceted to be fully addressed using only one out of the panoply of analytical, speculative, critical or empirical methods employed by scholars across the humanities, social sciences, sciences and technology. In such cases, researchers, either solo or in collaboration with others, began to apply multi-method research designs that went beyond mixing quantitative and qualitative methods native to their own fields, to drawing upon methods and incorporating additional researchers from very different fields - a process that can be both illuminating and challenging.

This is the context within which research in Archival Science is situated in the twenty-first century. There is a growing realization that research and collaboration are necessities if the field is to progress in a healthy and informed way into the future. The archival profession has been struggling to understand and cope with the impact of increasing complexity, uncertainty and technologically-driven change in all facets of its activities and practices, underscoring the need for new knowledge about the application of digital technology by both the creators of archival materials and by archivists themselves. At the same time, those very activities and practices and underlying archival ideas, as well as the critical notion of the Archive in a societal and human sense have come under intense scrutiny by scholars in the humanities and social sciences stirring a desire among archivists and scholars of archival science to respond to and interface with disciplinary, trans-disciplinary, and other professions' studies of topics relevant to archival ideas, roles and interests.

In 2004, Gilliland and McKemmish identified several factors that have contributed to the burgeoning research impetus in the archival field:

> "growth in doctoral education, forums for presenting and publishing research, the numbers and size of graduate archival education programs, availability of diverse funding for research, transdisciplinary and international research collaborations, and application of innovative research methods and tools appropriate for investigating increasingly complex and wide-ranging research questions."[1]

1 Gilliland, Anne J.; Sue McKemmish. Building an infrastructure for archival research. // Archival science 3-4(2004), 149.

Indeed, rapidly growing numbers of academics in Archival Science, working over the past two decades in partnership with as well as independently of practitioners, have been building an exciting new corpus of research that seeks to address these concerns, and to develop the kinds of knowledge needed to arrive at more nuanced definitions of central archival concepts and further explicate the world of archives and recordkeeping. Thinking about historical and contemporary records, recordkeeping, and archives has expanded and become significantly more sophisticated over the past two decades archives have found themselves in the center of intellectual, social, and technological, as well as historical and cultural discourses and developments. What has resulted is an intensified focus on research, not just by historians, philologists, lawyers and literary, liturgical and music scholars, but also by anthropologists and scholars in cultural, ethnic, gender and other transdisciplinary studies areas. The outcome is a cornucopia of interests, theories, systems and needs, all needing to be examined, analyzed and tested; and an abundance of ideas about the optimal methodological approaches to do so.

Such abundance, however, also necessitates close contemplation of and innovation in the intellectual and analytical frameworks and methods to be applied. This paper will first define and discuss several concepts that are central to the theory and practices of the professional field of Archival Science and as such have been major objects of study: Record, Recordkeeping, the Archive, Archives, Memory, Evidence, and Accountability. It will then identify and illustrate how different methodologies and research designs can be employed within Archival Science and Archival Studies more broadly, especially in order to investigate research questions that invoke these concepts.

Defining central concepts

What distinguishes Archival Science from other information and evidence-based professional fields is its role as the profession of the record. In the narrowest sense, the *record* is what is generated as a by-product or as documentation of bureaucratic activity. By creating reliable and usable records through systematic *recordkeeping* regimes, transparency is assured and administrations can be held *accountable* for their actions. By identifying records that have long-term legal, fiscal, administrative and research value, and preserving and disseminating them under trustworthy circumstances, be those traditional or digital, archives ensure the continuing accountability of the creators, and also that important *evidence* of decision-making, policies and programs endures. In the more expansive sense that is increasingly employed by diverse socio-cultural and scholarly communities, the *record* could be any trace that is left behind by any human activity, not just by bureaucratic activities. This would include, for example, many kinds of manuscripts, personal papers, music scores, photographs and moving image materials, oral histories and even artifacts that are often found in library special collections as well as in archives. It would also include born-digital primary source materials such as electronic mail, social media, blogs and mashups. In order to ensure that that evidence is trustworthy, *archives*, the repositories that hold accumulations of inactive but still valuable records, place a premium in all their activities (especially preservation, description, and user access) on ensuring the continued physical and intellectual integrity of those records.

Historically, archives were concerned with textual records, but since the early twentieth century they have inevitably had to incorporate documentation that has been created in other forms, including oral traditions and objects of material culture. However, challenges today include determining where the purview of the archive might end; where that of some other field that also deals with forms of evidence, for example, museology, anthropology, archaeology, or data curation might begin; or even, what it might mean if such distinctions between fields, or between phenomena, were not so sharply drawn.

The modern Archival Science paradigm, which emerged in eighteenth and nineteenth century Western Europe, "studies the characteristics of records in their social and cultural contexts and how they are created, used, selected and transferred through time".[2] It is based around historical, legal and professional practice-based concerns, principles and techniques, and is especially concerned today with the implications of pervasive digitality for records and archives. From the eighteenth century onwards, modern archivists, often trained to be scholars in ancillary fields rather than specifically to be archival practitioners, predominantly applied historiographical, philological, and bibliographic methods to the study of archival content. And indeed, in that sense, archival work was very scholarly work, influenced by the En-

2 Ketelaar, Eric. Time future contained in time past : archival science in the 21st century. // Journal of the Japan Society for Archival Science 1(2004), 20-35.

lightenment's emphasis on reason, science, and proof, and the growth of secular humanism. At the same time, however, the archival enterprise became a central part of the bureaucratic machinery of emergent nation states, colonial administration and missionary and mercantile expansion, and archivists were also hard at work devising organizational and descriptive practices that supported that machinery as well as the emergent field of professional historical scholarship.

In the latter half of the twentieth century, as more professionally trained archivists who were not necessarily scholars of archival content began to enter the field and the field itself became more standardized and responsive to user demands, there was a growing realization that there needed to be research and assessment of archival practice and emerging phenomena such as those relating to users and usage, preservation needs, and technological implementations. In shifting their objects of study from content to processes, practices and use, archivists, an increasing number of whom had been trained in library and information science programs, applied survey and case study methods imported from the social sciences. Perhaps because of the autonomy and idiosyncracies of individual archives, this research rarely resulted in significant breakthroughs or the development of benchmarks for assessing archival programs and practices, however, since it tended to focus on specific instances and settings with little regard for generalizability or replicability. There were also few instances of a sustained trajectory of inquiry into a particular issue or phenomenon that might result in some substantive knowledge building or awareness of the impact of change over time. Nevertheless, from the 1980s onwards, there has been considerable convergence also between the archives, library and museum fields around issues of preservation, information description and access, and professional ethics, even as each field remains responsible for particular approaches to materials, to knowledge development, and to the communities that created, collected or use those materials and knowledge.

Questioning the traditional archival paradigm

The developments discussed up until this point have both broadened and led to a questioning of the traditional archival paradigm. The communities from which these questions emanate, and the kinds of questions being raised can be loosely grouped as follows:

a) *Archival practitioners*: e.g., What are the conceptual continuities/discontinuities in the field in early modern, modern, and post-modern times, especially given political and intellectual shifts?
What are the continuities/discontinuities in professional practices over the same period, especially given technological change? In what ways does the archives' profoundly physical paradigm translate (or fail to translate) into a virtual world? How effective are archival techniques, programs and services? How might those techniques be enhanced to address the impact or potential of new technologies on records creation, management, dissemination and use? What metadata frameworks and practices might be most effective? Who are archival users, what are their needs, and how can their use experiences be made most effective? Are there communities whose needs are not being met by archival programs and services and if so, how might they be better addressed? What kinds of legal and ethical frameworks need to support efficient, effective, and ethical recordkeeping and archival endeavors?

b) *Data and digital curation*: e.g., What are effective and appropriate cyberinfrastructure mechanisms for identifying, validating, describing, preserving, declassifying, and curating digital documentation and data, and can archival ideas and practices help? What role do records and archives play in the conduct of science? How do data and records creators think about and use their data/records? What might be secondary uses for those materials? Which digitally generated research materials should be retained and in what ways might they need to be manipulated in the future? What might be ethical, legal, human rights or technical considerations for repatriating, or digitally repatriating research data to the communities to which it pertains?

c) *Post-modern and post-colonial challenges from scholars in various humanities and social science fields calling for a major reconsideration of the nature and role of the archive and of traditional archival theory and practices*: e.g., How do records and archives support individual, collective and national identity formation and assignment? How are records and archives implicated in dominant power structures? How have they been implicated in colonization, evangelism, warfare, or globalization? What is the nature of the post-colonial or the post-conflict archive? What role have records and archives played or what role might they play in supporting marginalization, exclusion, oppression, empowerment and reconciliation? How can the traditional archival paradigm be pluralized?

d) *Communities historically disenfranchised or disempowered by, or underrepresented in traditional archives and recordkeeping practices*: e.g., What would be the scope and characteristics of a "participatory" or democratized archive? How can small, local or disadvantaged communities preserve their own records? What are the effects of removal of records from those communities? What are the outcomes of physical or digital repatriation of records by or about communities? How might archival description best support or liberate multiple narratives about the creation and nature of records they hold? What might a legal framework supporting co-creator rights in records, e.g., addressing access, intellectual property, preservation and description practices, look like? To what extent might different cultural protocols and regimes for managing archives and records be reconcilable within a single, or overlapping jurisdictions?

When we take into consideration this universe of areas that are preoccupied with questions about archives and their role in society, it becomes clear that many extend well beyond the traditional purview of Archival Science and that there is a need for an extended rubric under which to place these considerations. Archival Studies is the term increasingly favored because it occupies a broad, disciplinarily and methodologically diverse intellectual territory located at various nexuses between:

- "*texts* (regardless of their media and format) that serve to record, document, narrate, educate, and entertain;
- *axiomatic constructs* such as evidence, memory, culture, identity, accountability, trust, ethics, spacetime, enterprise, and power relations;
- *processes* such as testifying, remembering, forgetting, representing, interpreting, investigating, adjudicating, storytelling, and believing;
- *technologies* for communicating, recording, creating, disseminating, retrieving, socializing, monitoring, and controlling; and
- *structures and surrogates* that summarize, represent, and interpret information content, contexts, behaviors, and requirements".[3]

3 White, Kelvin; Anne Gilliland. Promoting reflexivity and inclusivity in archival education, research and practice. // Library quarterly 80, 3(2010), 231-248.

Historically, there was an absence of scholarly forums where those working in these nexuses could come together and present, debate, or publish their work. This situation too is changing. More journals and conferences are interested in these topics both within and external to the field. International and transdisciplinary summer schools for archival doctoral students in Marburg, archives, library and museum doctoral students in Finland, and rare book, manuscripts and archives students in Zadar are all examples of how this need has been identified and is being met. The annual Archival Education and Research Institutes (AERI) in the United States, that bring together international faculty and doctoral students in Archival Studies is another example.

Designing archival research

Archival research today, as already stated, is increasingly collaborative across institutions, fields, and academy/practice, as well as across jurisdictions and national domains. Moreover, it might be argued that because the nature and role of records and archives have been topics of widespread debate and scholarship outside the field, much contemporary research, even when very applied and focused on recordkeeping processes and practices, has a greater sensitivity to societal motivations and implications than might previously have been the case.

Because of the diversity of influences and considerations that swirl around Archival Science today, it would be hard to point to a single method, or epistemological or analytical framework and assert that that is *the* preferred approach for the field today. In fact, based upon data gathered by AERI, it would appear that research archival science employs, repurposes, and adapts positivist or interpretivist and quantitative or qualitative methods from an unusually diverse range of fields. Although new researchers often fall into the trap of wishing to apply the method they know or like best in their research, that is probably not the best way to embark upon research. There are, in fact, many components that go into a successful *research design* and each requires careful contemplation before and during the research endeavor:

a) *The research question(s)*: No matter what the disciplinary background of the researcher, or the method being applied, there should be at least some *a priori* articulation of the question or phenomenon being investigated. There are, of course, degrees of closeness with which this might be specified, ranging from the rigorously stated empirical hypothesis to the ethnographer's initial curiosity about an environment, behavior or phenomenon. It is important, however, that the kind of question or inquiry in which one is interested drives the selection of the method, rather than *vice versa*. It is also important that research questions are of appropriate scope and "do-ability" for the proposed length and resources available for the research study.

b) *Significance of the research*: There are many reasons for undertaking research in a particular area, including personal curiosity, programmatic exigency, or the identification of an issue of concern by a professional or scholarly body, national or international government funding agency, or corporate or private entity. However, the archival field is still one of low research visibility, and is poorly understood and undervalued in the wider world. It is important, therefore, to be able to state both persuasively and succinctly, the reasons why the research one is undertaking is significant and why others should care.

c) *Epistemological stance and positionality*: Empirical research that applies the scientific method in order to explain and predict phenomena, values objectivity as a hallmark of one's ability to stand apart from the phenomena being studied, and to promote the replicability, reliability and validity of the research. In the social sciences, however, positivistic stances have become less favored as the use of methods that promote the importance of reflection and intuition when examining the human experience has increased. As a result, the researcher's epistemological stance (in other words, how one approaches or thinks about knowledge) and sometimes even personal background have become more epistemologically as well as ethically central to many kinds of qualitative research, and should be declared in advance of undertaking the research, and also contemplated as an active factor in that research as it is carried out. For example, since the 1980s, oral historians have been acknowledging that there are two parties in any oral history - the narrator and the interviewer, where the interviewer is the person who shapes the resulting narrative through his or her "motives for doing the project, feelings about the narrator, interviewer's reaction to the narrator's testimony, and intrusion of the interviewer's assumptions and of the interviewer's self-schema into the interviewing and interpretive processes";[4] ethnographers have to declare their positionality, and then continuously reflect upon both how they might

4 Yow, Valerie. 'Do I like them too much?' : Effects of the oral history interview on the interviewer and vice-versa. // The oral history reader / edited by Robert Perks and Alistair Thompson. London : Routledge, 1998. P. 55.

be changing the environment that they are studying through their presence, as well as how that environment and their observations of it might be affecting or changing them; and action researchers participate directly in collaboration with those in the environment or the community of practice they are studying, with the goal of improving their condition or practices in some way. They continuously have to monitor and declare the balance between their twin motivations - research and action or activism, as well as the participatory nature of their research. In light of recent critiques of the ways in which archives, archival practices and archivists themselves have been integral in shaping historical narratives and the cultural record, it would seem that it is especially important for contemporary archival researchers to be explicit about their backgrounds, perspectives, beliefs and motivations before, during and after the research.

d) *Conceptual framework*: As already stated, there is a wealth of recent research in fields such as cultural, ethnic, gender, media and other interdisciplinary studies, critical theory, literature, anthropology and management that has provided new lenses, conceptualizations, models and frameworks through which a research question might be articulated, modeled or viewed. While not every research undertaking either needs or fits within such a framework, they can be useful in order to provide an explanatory set of ideas, to delineate relevant conceptualizations or establish a vocabulary, to delineate the various dimensions or aspects of the question or problem being tackled, to place the proposed research within a context of prior or similar research, or simply to serve as a "straw man" - a model that can be tested and then either refined or discarded depending upon the outcomes of the research.

e) *Research method(s)*: As already mentioned, the choice of research method or methods will depend upon the nature of the question(s) to be investigated as well as the epistemological stance of the researcher. The method(s) chosen must be capable of yielding the data or insights necessary to answer the question(s) being asked. If one is investigating a complex phenomenon, then it is quite likely that one will need to use multiple methods, each capable of yielding a different kind of data or insight, and then, in one's analysis, to correlate or *triangulate* those data. This can be a messy process, with data of different types and granularities that can be hard to interface or reconcile. However, irreconcilability of certain aspects of different data sources may be a finding in itself, since often the messiness or difficulties in working with all the different data inputs serve as indicators of the complexities of the situation being studied. The need to apply different methods in different research situations presents us with another practical problem, however, and that is how to ensure competency in the method(s) being applied. This is where collaborative research can be helpful - allowing for the participation of others who might be better versed not only in the application, but also in the underlying epistemological purpose of, as well as the analysis of data generated through, a particular method.

Which methods are best suited to address which kinds of archival questions?

It is possible to discern at least five primary lineages for methods currently being employed in archival research, and within them are a variety of methods that have either adopted, sometimes directly, and sometimes after some adaptation to tailor them to the archival domain. This final section describes salient aspects of those lineages and some of the methods that have been invoked. It also includes some examples of how the methods have been applied either singly, or in combination with other methods, in archival research:[5]

1. *Diplomatic science, modern scientific history, and legal theory* (e.g., contemporary archival diplomatics, Critical Race Theory (CRT), digital forensics): Viewed by many as the inter-related epistemological lineage within which Archival Science is most closely situated, this grouping comprises methods that have a close focus on the actual materials held in archives, in terms of what can be determined from their content, various contexts, and structure. These methods also have the capacity to speculate from surviving partial evidence; identify established record forms, documentary and bureaucratic conventions, and narratives promulgated by records; and establish critical absences and deviations from those conventions.

   Examples:

a) *Diplomatics*: A body of techniques, theories, and principles for analyzing the form, function and genesis of documents originating in eighteenth century Europe, with a particular view to establishing the authenticity (lineage related to legal science, philology and historiography) as well as analyzing changes and continuities

5 Descriptions of methods are drawn in part from Gilliland, Anne J.; Sue McKemmish. Building an infrastructure for archival research. Op. cit.

in document forms such as medieval charters, manuscripts, even photographs over time.[6] *Contemporary archival diplomatics* is an extension of diplomatics developed in recent years to address not only individual documents but also archival accumulations of records, especially those that are digitally born, and how their reliability and authenticity can be ascertained and preserved over time. The most prominent example of this research has been the ongoing series of InterPARES (International research on Permanent Authentic Records in Electronic Systems) projects,[7] which focused on the identification of ideal record types and used these as templates to assess actual manifestations in digital systems.[8]

b) *Critical Race Theory (CRT)*: An approach that emanated in the 1980s out of the American race relations and civil rights context, and with roots not only in history and law (e.g., critical legal studies), but also anthropology, education, sociology, philosophy, and politics, it challenges dominant narratives with counter-narratives, and points out the many "micro-aggressions" that together can cumulate into a bigger picture of racism and oppression. According to Delgado and Stefancic, CRT's "challenge to racial oppression and the status quo sometimes takes the form of storytelling in which writers analyze the myths, presuppositions and received wisdoms that make up the common culture about race and that invariably render blacks and other minorities one-down. Starting from the premise that a culture constructs its own social reality in ways that promote its own self-interest, these scholars set out to construct a different reality. Our social world, with its rules, practices, and assignments of prestige and power, is not fixed; rather, we construct it with words, stories, and silence".[9] Aspects of CRT have been applied by archival researchers to examine the role of records in oppressing specific groups or in promoting dominant narratives, as well as by information studies researchers who have been working to develop a critical theory of information.[10]

6 Duranti, Luciana. Diplomatics : new uses for an old science. Lanham, MD : Society of American Archivists ; Association of Canadian Archivists ; Scarecrow Press, 1998.

7 International research on Permanent Authentic Records (InterPARES) [cited: 2012-18-01]. Available at: http://www.interpares.org

8 MacNeil, Heather. Contemporary archival diplomatics as a method of inquiry : lessons learned from two research projects. // Archival science 4, 3-4(2004), 199-232.

9 Delgado, Richard; Jean Stefancic. Critical race theory : the cutting edge. 2nd ed. Philadelphia : Temple University Press, 1999. P. xvii.

10 Dunbar, Anthony W. Introducing critical race theory to archival discourse : getting the conversation started. // Archival science 6(2006), 109-129.

2. *Library and information science* (e.g., bibliometrics, surveys, case studies, interviews and focus groups): Archival science adopted many of the methods commonly employed by library and information science, which in turn had adopted them from other social science fields, to examine practice-related phenomena such as use and users. The exception is bibliometrics, a sibling method to sociometrics.

Examples:

a) *Surveys*: Written or oral surveys are designed to produce systematic, representative qualitative and quantifiable data based on responses provided by individuals within a targeted population to a predetermined set of closed and/or open-ended questions. Archival research applications include identifying archival personality types;[11] and studying graduates of a museum studies program.[12]

b) *Bibliometrics*: "The use of statistical methods in the analysis of a body of literature to reveal the historical development of subject fields and patterns of authorship, publication, and use. Formerly called statistical bibliography".[13] This method has been used to examine growth, obsolescence, scattering and influences and influencing in the archival literature relating to particular topics;[14] and to track "invisible college" or social network phenomena among archival practitioners or researchers.[15] In information studies more broadly, it has been extended as webmetrics and applied to examine patterns and linkages on the World Wide Web.

11 Craig, Barbara L. Canadian archivists : What types of people are they? // Archivaria 50(Fall 2000), 79-92.; Pederson, Ann. Understanding ourselves and others : archives at risk. // Accountability, vulnerability and credibility : proceedings of the 1999 Conference and Annual General Meeting of the Australian Society of Archivists Inc., Brisbane, Queensland, 29-31 July 1999 / edited by Kate Crowley, John McDonald, Shauna Hicks. Canberra : Australian Society of Archivists Inc., 2002. Pp. 61-93.

12 Duff, Wendy M.; Joan M. Cherry; Rebecka Sheffield. 'Creating a better understanding of who we are' : A survey of graduates of a museum studies program. // Museum management and curatorship 25, 4(2010), 361-381.

13 The American Library Association. Glossary of library and information science. Chicago : American Library Association, 1983.

14 Gilliland-Swetland, Anne J. Archivy and the computer : a citation analysis of north American periodical articles. // Archival issues 17, 2 (1992), 95-112; Cox, Richard J. Searching for authority : archivists and electronic records in the New World at the Fin-de-Siecle. // First Monday 5, 1(2000).

15 Anderson, Kimberly. Appraisal learning networks : how university archivists learn to appraise through social interaction. Ph.D. Dissertation. Los Angeles, CA : University of California, 2011.

3. *Business administration and computer science* (e.g., business process analysis, systems analysis, and metadata modeling): The influence of methods from both of these fields is most notable in research relating to digital systems and interface design and development, electronic recordkeeping, and descriptive standards development.

Examples:

a) *Recordkeeping and Archival Systems Analysis*: Analysis and evaluation of activities, processes, and functions in complex institutional, human and technological systems. In archival research, these approaches have been used to examine functional, business, and workflow analysis in recordkeeping;[16] building or adapting systems to meet electronic recordkeeping and archival requirements;[17] identifying how records are created and used within recordkeeping systems; and in macroappraisal.[18]

b) *Model Building*: Use of formal activity, entity-relationship, concept, role and data modeling techniques in iterative, exploratory processes, enabling precise description and structuring of functions, processes, information flows, concepts, etc. of records, archives and metadata in their societal, business and documentary contexts. In archival research this has been used to analyze recordkeeping and archival practices and workflow;[19] metadata schema analysis such as that undertaken in the development of MADRAS;[20] and developing conceptual/theoretical models such

16 National Archives of Australia. Designing and implementing recordkeeping systems (DIRKS) manual [cited: 2012-18-01]. Available at: http://www.naa.gov.au/records-management/publications/dirks-manual.aspx; Bantin, Philip C.; Gerald Bernbom. The Indiana University Electronic Records Project : analyzing functions, identifying transactions, and evaluating recordkeeping systems : a report on methodology. // Archives and museum informatics : cultural informatics quarterly 10(1996), 246-266.

17 International research on Permanent Authentic Records (InterPARES). Op. cit.

18 Cook, Terry. Appraisal methodology : macro-appraisal and functional analysis. Part B: Guidelines for performing an archival appraisal on government records (2001) [cited 2012-18-01]. Available at: http://www.collectionscanada.gc.ca/government/disposition/007007-1041-e.html; Cook, Terry. Macro-appraisal and functional analysis : documenting governance rather than government. // Journal of the Society of Archivists (UK) 25, 1(2004), 5-18.

19 International research on Permanent Authentic Records (InterPARES). Op. cit.

20 Gilliland, Anne J.; Nadav Rouche; Joanne Evans; Lori Lindberg. Towards a twenty-first century metadata infrastructure supporting the creation, preservation and use of trustworthy records : developing the InterPARES2 Metadata Schema Registry. // Archival science 5, 1(2005), 43-78.

as the records continuum model,[21] and the development of the Recordkeeping Metadata Schema.[22]

c) *Systems Design and Development Prototyping*: "a developmental and engineering type of research ... development is always associated with exploration, advanced application and operationalization of theory." In archival research, as well as in information studies more broadly, these approaches have been used in the development of prototypes, demonstration, or working versions of systems either as proof of concept or as the basis of ongoing research. Prominent recent examples include the metadata broker developed by the Clever Recordkeeping Metadata Project,[23] and MADRAS (metadata registry and analysis system).[24]

4. *Anthropology and cultural studies* (e.g., ethnography, ethnology, actor-network theory):

Examples:

a) *Ethnographic Approaches*: These approaches, which also include autoethnography, are characterized by their systematic contextual and reflexive descriptions of individual cultures and practices. The goal is to understand the insider's (*emic*) view of his/her world and at the same time to exercise reflexivity about one's own (i.e., the researcher's) positionality and reactions to what is being observed and experienced. While a rather new methodological approach in archival research, it has been applied by prominent anthropological researchers such as Ann Laura Stoler in their expositions of colonial archival practices and ideas,[25] and has found considerable favor as a way to obtain a more in-depth and well-rounded sense of archival activities,

21 Upward, Frank. Structuring the records continuum. Part one: Postcustodial principles and properties. // Archives and manuscripts 24, 2(1996), 268-285; Upward, Frank. Structuring the records continuum. Part two: Structuration theory and recordkeeping. // Archives and manuscripts 25, 1(1997), 10-35.

22 McKemmish, Sue; Glenda Acland; Nigel Ward; Barbara Reed. Describing records in context in the continuum : the Australian Recordkeeping Metadata Schema. // Archivaria 48(Fall 1999), 3-43.

23 Evans, Joanne; Sue McKemmish; Karina Bhoday. Create once, use many times : the clever use of recordkeeping metadata for multiple archival purposes. // Archival science 5, 1(2005), 17-42.

24 Gilliland, Anne J. [et al.]. Towards a twenty-first century metadata infrastructure supporting the creation, preservation and use of trustworthy records. Op. cit.

25 Stoler, Ann Laura. Colonial archives and the arts of governance. // Archival science 2(2002), 87-109.

experiences, motivations, and so forth. Three kinds of applications in particular have been named as specific adaptations of ethnographic approaches for the field: *ethnography of recordkeeping*, *archival ethnography*, and *ethnography of the archive* and have been applied in in-depth studies of recordkeeping and archival practices, historically and contemporarily in different national, cultural, governance, institutional and personal contexts. Examples include recordkeeping and radiology;[26] scientific recordkeeping practices;[27] and film preservation decision-making;[28] archival reference.[29]

b) *Ethnology*: Cross-cultural, comparative study of the everyday beliefs and practices of contemporary or past cultures. In particular, the study of the ways in which people use social interaction to make sense of, or understand their situation and create their own reality. Applications include the study of cultures of documentation, the forms of records and archives, the recordkeeping and archival processes that shape them, the worldviews made manifest in their systems of classification, the power configurations they reflect, and associated memory and evidence paradigms. An example of the use of ethnology is Trace's work examining how recordkeeping ideas and practices and inculcated in young schoolchildren.[30]

5. *Literature and critical studies* (genre theory, rhetorical and narrative analyses, textual analyses, postmodern and postcolonial analyses):

   Example:

a) *Theory-building*: Systematic building and exposition of new theory, drawing on existing theories, concepts and models; observation; scholarly communication; data derived from other methods; and characterized by reflection, deep thought and a process

26 Yakel, Elizabeth. The social construction of accountability : radiologists and their recordkeeping practices. // The Information Society 17(2001), 233-245.

27 Shankar, Kalpana. Scientists, records, and the practical politics of infrastructure. Ph.D. Dissertation. Los Angeles : University of California, 2002.

28 Gracy, Karen F. The imperative to preserve : competing definitions of value in the world of film preservation. Ph.D. Dissertation. Los Angeles : University of California, 2001.

29 Trace, Ciaran B. For love of the game : an ethnographic analysis of archival reference work. // Archives and manuscripts 34, 1(2006), 124-143.

30 Trace, Ciaran B. Documenting school life : formal and informal imprints of a fifth-grade classroom. Ph.D. Dissertation. Los Angeles : University of California, 2004.

of gestation of ideas.[31] Theory-building has been used in archival research to reflect upon and augment archival theory and to develop new theories and theoretical models. The pre-eminent example would be Upward's records continuum theory, which was heavily influenced by Giddens' articulation of structuration theory, that recognizes the interplay of both structures and human agency.[32]

References

The American Library Association. Glossary of library and information science. Chicago : American Library Association, 1983.

Anderson, Kimberly. Appraisal learning networks : how university archivists learn to appraise through social interaction. Ph.D. Dissertation. Los Angeles, CA : University of California, 2011.

Bantin, Philip C.; Gerald Bernbom. The Indiana University Electronic Records Project : analyzing functions, identifying transactions, and evaluating recordkeeping systems : a report on methodology. // Archives and museum informatics : cultural informatics quarterly 10(1996), 246-266.

Cook, Terry. Appraisal methodology : macro-appraisal and functional analysis. Part B: Guidelines for performing an archival appraisal on government records (2001) [cited 2012-18-01]. Available at: http://www.collectionscanada.gc.ca/government/disposition/007007-1041-e.html

Cook, Terry. Macro-appraisal and functional analysis : documenting governance rather than government. // Journal of the Society of Archivists (UK) 25, 1(2004), 5-18.

Cox, Richard J. Searching for authority : archivists and electronic records in the New World at the Fin-de-Siecle. // First Monday 5, 1(2000).

Craig, Barbara L. Canadian archivists : What types of people are they? // Archivaria 50(Fall 2000), 79-92.

Delgado, Richard; Jean Stefancic. Critical race theory : the cutting edge. 2nd ed. Philadelphia : Temple University Press, 1999.

Duff, Wendy M.; Joan M. Cherry; Rebecka Sheffield. 'Creating a better understanding of who we are' : A survey of graduates of a museum studies program. // Museum management and curatorship 25, 4(2010), 361-381.

Dunbar, Anthony W. Introducing critical race theory to archival discourse : getting the conversation started. // Archival science 6(2006), 109-129.

Evans, Joanne; Sue McKemmish; Karina Bhoday. Create once, use many times : the clever use of recordkeeping metadata for multiple archival purposes. // Archival science 5, 1(2005), 17-42.

31 Lynham, Susan A. The general method of theory building in applied disciplines. // Advances in developing human resources 4, 3(2002), 222-241.; Williamson, Kirsty. Research methods for students, academics and professionals : information management and systems. 2nd edition. Wagga : Charles Sturt University, 2002.

32 Upward, F. Structuring the records continuum. Part one. Op. cit.; Upward, F. Structuring the records continuum. Part two. Op. cit.

Duranti, Luciana. Diplomatics : new uses for an old science. Lanham, MD : Society of American Archivists ; Association of Canadian Archivists ; Scarecrow Press, 1998.

Gilliland, Anne J.; Sue McKemmish. Building an infrastructure for archival research. // Archival science 3-4(2004), 149-199.

Gilliland, Anne J.; Nadav Rouche; Joanne Evans; Lori Lindberg. Towards a twenty-first century metadata infrastructure supporting the creation, preservation and use of trustworthy records : developing the InterPARES2 Metadata Schema Registry. // Archival science 5, 1(2005), 43-78.

Gilliland-Swetland, Anne J. Archivy and the computer : a citation analysis of north American periodical articles. // Archival issues 17, 2(1992), 95-112.

Gracy, Karen F. The imperative to preserve : competing definitions of value in the world of film preservation. Ph.D. Dissertation. Los Angeles : University of California, 2001.

International research on Permanent Authentic Records (InterPARES) [cited: 2012-18-01]. Available at: http://www.interpares.org

Ketelaar, Eric. Time future contained in time past : archival science in the 21st century. // Journal of the Japan Society for Archival Science 1(2004), 20-35.

Lynham, Susan A. The general method of theory building in applied disciplines. // Advances in developing human resources 4, 3(2002), 222-241.

MacNeil, Heather. Contemporary archival diplomatics as a method of inquiry : lessons learned from two research projects. // Archival science 4, 3-4(2004), 199-232.

McKemmish, Sue; Glenda Acland; Nigel Ward; Barbara Reed. Describing records in context in the continuum : the Australian Recordkeeping Metadata Schema. // Archivaria 48(Fall 1999), 3-43.

National Archives of Australia. Designing and implementing recordkeeping systems (DIRKS) manual [cited: 2012-18-01]. Available at: http://www.naa.gov.au/records-management/publications/dirks-manual.aspx

Pederson, Ann. Understanding ourselves and others : archives at risk. // Accountability, vulnerability and credibility : proceedings of the 1999 Conference and Annual General Meeting of the Australian Society of Archivists Inc., Brisbane, Queensland, 29-31 July 1999 / edited by Kate Crowley, John McDonald, Shauna Hicks. Canberra : Australian Society of Archivists, 2002. Pp. 61-93.

Shankar, Kalpana. Scientists, records, and the practical politics of infrastructure. Ph.D. Dissertation. Los Angeles : University of California, 2002.

Stoler, Ann Laura. Colonial archives and the arts of governance. // Archival science 2(2002), 87-109.

Trace, Ciaran B. Documenting school life : formal and informal imprints of a fifth-grade classroom. Ph.D. Dissertation. Los Angeles : University of California, 2004.

Trace, Ciaran B. For love of the game : an ethnographic analysis of archival reference work. // Archives and manuscripts 34, 1(2006), 124-143.

Upward, Frank. Structuring the records continuum. Part one: Postcustodial principles and properties. // Archives and manuscripts 24, 2(1996), 268-285.

Upward, Frank. Structuring the records continuum. Part two: Structuration theory and recordkeeping. // Archives and manuscripts 25, 1(1997), 10-35.

White, Kelvin; Anne Gilliland. Promoting reflexivity and inclusivity in archival education, research and practice. // Library quarterly 80, 3(2010), 231-248.

Williamson, Kirsty. Research methods for students, academics and professionals : information management and systems. 2nd edition. Wagga : Charles Sturt University, 2002.

Yakel, Elizabeth. The social construction of accountability : radiologists and their record-keeping practices. // The Information Society 17(2001), 233-245.

Yow, Valerie. 'Do I like them too much?' : Effects of the oral history interview on the interviewer and vice-versa. // The oral history reader / edited by Robert Perks and Alistair Thompson. London : Routledge, 1998. Pp. 54-72.

Biographical Sketch

Dr. Anne J. Gilliland is Professor and Director of the Archival Studies specialization in the Department of Information Studies, and Director of the Center for Information as Evidence, at the Graduate School of Education & Information Studies, University of California, Los Angeles (UCLA), U.S.A. She is also a faculty member in the UCLA School of Theatre, Film and Television and Graduate School of Education & Information Studies inter-departmental M.A. Program in Moving Image Archive Studies. Her teaching and research interests relate to the design, evaluation and history of recordkeeping, cultural and community information systems, digital curation, metadata creation and management, community-based archiving, and the use of digitized primary sources in K-12 education. A highly published author, she is currently completing a monograph *Telling Stories About Stories: The Archive in a Digital Age*. Professor Gilliland is a Fellow of the Society of American Archivists.

RAZVOJ METODOLOŠKIH PRISTUPA ARHIVSKIM ISTRAŽIVANJIMA

Sažetak

Arhivska teorija, metodologija i praksa zajedno čine Arhivsku znanost, stručno područje koje se temelji na nekoliko ključnih pojmova, uključujući: Zapis, Čuvanje zapisa, Arhiv, Arhivi, Memorija, Dokaz i Odgovornost. Pojam Arhivske studije šira je složenica koja se odnosi na brzorastući multi- i tansdisciplinarni sklop stručnog i disciplinarnog znanja koje se bavi ovim i povezanim pojmovima i drugim aspektima koji se na bilo koji način odnose na izgradnju, prikaze, uloge, prakse, tehnologije i metafore arhiva i Arhiva u društvu. Daje se pregled nekih istraživačkih okvira, dizajna metoda i studija koji su bili korišteni ili bi se mogli koristiti za identifikaciju, objašnjenje i analizu tih pojmova i ostalih fenomena u sve složenijem svijetu Arhivskih znanosti i Arhivskih studija općenito.

Ključne riječi: analitički okviri, arhivske studije, dizajn istraživanja, metode istraživanja

MINIATURES AFTER GUTENBERG IN CROATIA

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Abstract

The post-Gutenberg tradition of the illuminated book across Western Europe may be a well-researched topic, but far less is known about its Croatian counterpart. This article focuses on books with miniatures after Gutenberg that are related to Croatia. Some of these books were made in Croatia, and some were brought in for the benefit of Croatian users and patrons from production centres further afield, mostly those in Italy – although this is something that cannot be determined with certainty for each individual case. At any rate, all but a few of the books discussed are today kept in Croatia. The material is primarily divided into two large groups. The first group comprises illuminated incunabula which combined the new technology of the movable type press with the traditional technology of decoration and illustration by hand. The other group covers hand-crafted books (codices) featuring illuminations and decorations also done by hand. The production until as late as the 18th century is followed, observing examples which reflect the style of the period and the spirit of their native environment.

Keywords

Croatia, miniatures, illuminated incunabula, illuminated codices

It is common knowledge that the movable type press was "invented" by Johannes Gutenberg in Germany, around 1450. This was a groundbreaking discovery for mankind's future history, but its contemporaries were not fully aware of the impact. The coexistence of manuscript and printed book continued throughout Europe for almost another century, until printing eventually prevailed. Besides, it is well-known that printed books attempted to copy the standard form of manuscript books, including decoration. Scribes and miniaturists continued their work almost as if nothing had happened, so that the late 15th century is remembered as one of the most glorious periods in the history of illumination. Let us remember the illuminated codices created in Florence and Buda, commissioned by Matthias Corvinus in the 1480s! It was not until the beginning of the 16th century that commissions began to dwindle to an appreciable degree, but even then there were still a number of renowned miniaturists operating, such as the Croatian-born Giulio Clovio, whose fame had begun to spread throughout Europe's aristocratic circles by the middle of the 16th century.

It was as a result of the wishes and needs of specific patrons that illuminated manuscripts continued to be made in Europe, and of course in Croatia, during the 17th and 18th centuries, but with decreasing intensity, and only for very specific purposes. Unlike the printed book, emerging on a broad and rather anonymous market, the illuminated manuscript is a unique product requiring an individual or corporate patron commissioning a certain type of more or less expensive hand-made book for his own pleasure or practice.

Nonetheless, there was a short period during which many copies of printed books, thanks to their layout with miniatures, achieved a high level of individuality. Miniaturists continued to illuminate printed books for buyers who wanted specially decorated copies. This transitional period, spanning about fifty years, during which a great number of incunabula mimicked the layout of manuscript codices, is one of the most exciting in the history of the old media. Illuminated incunabula, belonging to the world of typography and manuscript, deserve special attention. Their market waned dramatically at the beginning of the 16th century. Printed illustration became a part of the printed book, because it was technically the soundest method of inserting images into the text, while any additional manual interventions by the miniaturist were soon to be discarded for not being cost-effective. Of course, compared with miniature, the printed picture has many other advantages, especially in the field of early scientific illustration, but that is another story.

The post-Gutenberg tradition of the illuminated book across Western Europe may be a relatively well-researched topic, but far less is known about its Croatian counterpart. It is for this reason that this presentation focuses on books with miniatures after Gutenberg that are related to Croatia.[1] Some of these books were made in Croatia,

1 The practice of hand-making books in Croatia after Gutenberg's invention is most thoroughly described in Stipčević, Aleksandar. Socijalna povijest knjige u Hrvata : od glagoljskog prvotiska (1483) do Hrvatskog narodnog preporoda (1835). Zagreb : Školska

and some were brought in for the benefit of Croatian users and collectors in the centuries past. At any rate, all but a few of the books we shall be talking about are in some way connected with patrons and artists from Croatia. Most of them are kept in public or Church collections in Croatia. The material is primarily divided into two large groups. The first group comprises illuminated incunabula, while the other, much larger, covers manuscripts featuring illuminations and decorations. We shall be following their production until as late as the 18th century, observing examples which reflect the style of the period and the spirit of their native environment. In many cases it will become apparent that the miniaturists creating these books were in no position to ignore the emergence of the printed book and the printed image in their various incarnations.

Illuminated incunabula

In the beginning, the printed book may have posed a danger to scribes, but not to miniaturists. American specialist in Venetian early Renaissance illumination, Lilian Armstrong, highlights the fact that the new printing industry provided miniaturists with increased opportunities for work. Some of the finest illuminators were drawn to Venice in the 1470s on the account of the extraordinary growth of the printing trade in the area.[2] It was, above all, in Venice, at the time the European printing capital and political "mistress of the Adriatic", that patrons from Croatia had an opportunity to commission printed books. One of the earliest commissions was made by Osvald Thuz, the Bishop of Zagreb. It was a breviary: *Breviarium Zagrabiense*, printed in the workshop of Erhard Radtoldt in 1484 (Figure 1).

knjiga, 2005. Pp. 67-78. However, his review of this "sociological" phenomenon in the history of the print comprises transcripts of all sorts of books, mostly those that did not feature miniatures. The catalogue overviews of illuminated manuscipts in Croatia, like Folnesics, Hans. Die illuminierten Handschriften in Dalmatien. Leipzig : Karl W. Hiersemann, 1917, and Badurina, Anđelko. Iluminirani rukopisi u Hrvatskoj. Zagreb : Kršćanska sadašnjost ; Institut za povijest umjetnosti, 1995 do not register illuminations in incunabula, or those in codices of the 16th, 17th and 18th centuries (except for the codex of Fra Bono Razmilović). The compilation of a critical catalogue of Croatian illuminated incunabula and codices featuring miniatures in the period between the 16th and 18th centuries is the outstanding task.

2 See Armstrong, Lilian. Studies of Renaissance miniaturists in Venice. London : Pindar, 2003. Introduction.

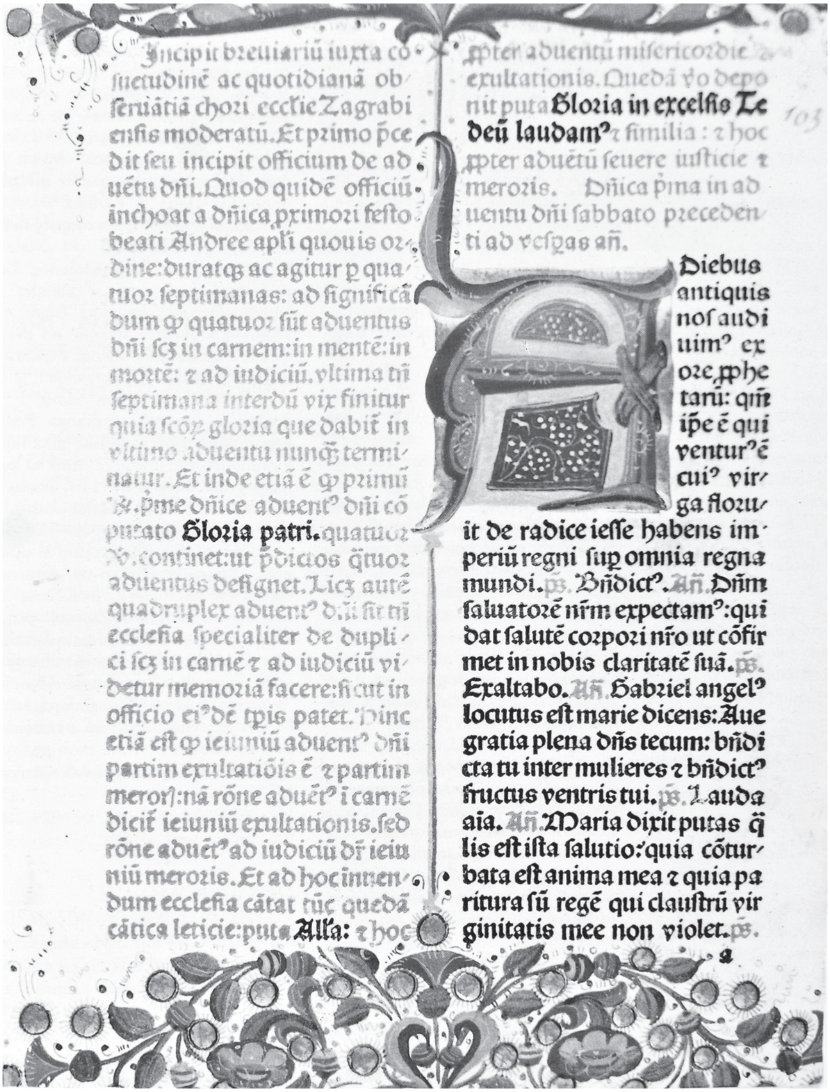


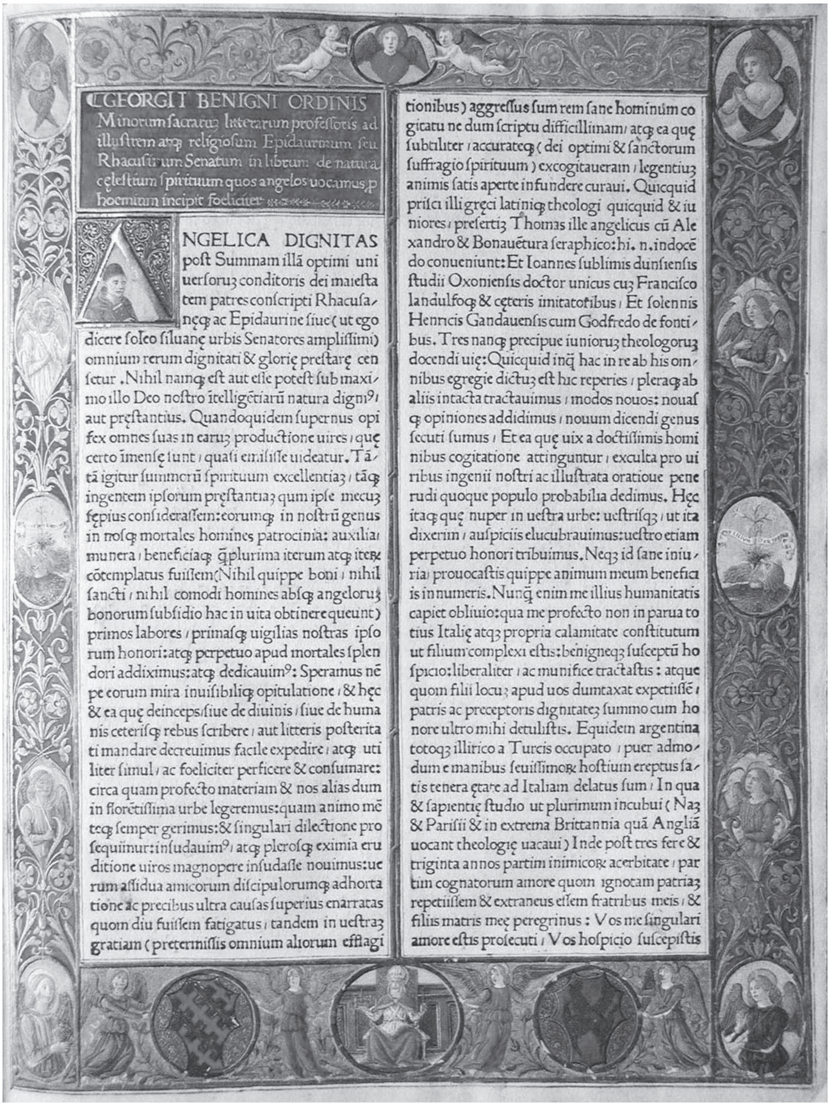
FIGURE 1.
Breviarium Zagrabiense, Venice, E. Radtoldt, 1484, Budapest, National Széchény Library

Only two copies have come down to us, one is kept in the Vatican Library, the other in Budapest (in the National Széchény Library). The Budapest copy was printed on parchment, many of its initials were hand-made, and the starting page margins of each of the chapters were decorated with floral patterns.[3] The initials and decorations were apparently made for a printer in Venice, who in turn delivered the finished copies to the patron in Zagreb. The artwork itself is routine and perfunctory: clearly the work of a mediocre illuminator. An entirely different story is the copy of the *Opus de natura caelestium spirituum quos angelos vocamos*, a book written by Franciscan priest and Neoplatonic theologist Georgius Benignus (Juraj Dragišić, around 1455 -1520), published in Florence in 1499 (Figure 2).[4]

Dragišić became a Master of Theology in Florence in 1485, and later on professor of theology and philosophy. He stayed in Dubrovnik between 1495 and 1500 without severing his ties with the Florentine intellectual circles. The book, written in Dubrovnik in 1498, is dedicated to the Senate of Dubrovnik, as we read in the first paragraph of the *incipit*. The incipit page of the copy, preserved today in the Research Library in Dubrovnik , is richly illuminated, with the initial portraying the author wearing a Franciscan habit. The lower margin depicts St. Blaise, the patron saint of Dubrovnik, holding the model of the town in one hand and a candle in the other (distinguishing him from the patron saint of throat ailments). On the left side is the coat of arms of the Florentine patrician family Salviati, which Dragišić was given upon becoming Minister Provincial of the Franciscan Province in Tuscany. On the right we find the old coat of arms of the Bosnian Dragišić family (a pair of crossed bear paws). Symmetrically straddling the vertical axis of the decorative frame to the left and right, we observe Dragišić's own *impresa*: a "barbarian's" head capped by a fleur-de-lys and a motto reading "SICVT LILIVM INTER SPINAS". The frame also features figures of

3 The contents of the breviary are described in detail by Razum, Stjepan. Osvaldo Thuz de Szentlászló vescovo di Zagabria, 1466-1499 : [doctoral dissertation]. Rome ; Zagreb : Stjepan Razum, 1995. Pp. 105 -111. Razum alleges that the Vatican copy is more complete since it also contains a calendar, whereas the Budapest copy is more ceremonial since the initials are made in colour (p. 105). For a description of the Budapest copy see: Pelc, Milan. Tiskane liturgijske knjige. // Sveti trag : devetsto godina umjetnosti Zagrebačke nadbiskupije 1094-1994. Zagreb : Muzej Mimara, 1994. Pp. 471-480, specifically p. 479.

4 The printer was Bartholomaeus de Libris. The copy is kept in Dubrovnik, Znanstvena knjižnica, call number: R 45-Ink. See Urban, Mirjana. Juraj Dragišić (Georgius Benignus de Salviatis) u hrvatskoj literaturi od 16. do 20. stoljeća. Dubrovnik : Dubrovačke knjižnice, 1998.



ℂGEORGII BENIGNI ORDINIS
Minorum ſacrarum litterarum profeſſoris ad
illuſtrem atq; religioſum Epidaurinum ſeu
Rhacuſinum Senatum in librum de natura
cęleſtium ſpirituum quos angelos uocamus p
hoemium incipit foeliciter

ANGELICA DIGNITAS
poſt Summam illã optimi uni
uerſoruʒ conditoris dei maieſta
tem patres conſcripti Rhacuſa‑
nęq; ac Epidaurine ſiue (ut ego
dicere ſoleo ſiluanę urbis Senatores ampliſſimi)
omnium rerum dignitati & glorię preſtarę cen
ſetur. Nihil namq; eſt aut eſſe poteſt ſub maxi‑
mo illo Deo noſtro ĩtelligẽtiarũ natura dignꝰ,
aut pręſtantius. Quandoquidem ſupernus opi
fex omnes ſuas in earuʒ productione uires, quę
certo ĩmenſę ſunt, quaſi emiſiſſe uideatur. Tã‑
tã igitur ſummorũ ſpirituum excellentiaʒ, tãq;
ingentem ipſorum pręſtantiaʒ quum ipſe mecuʒ
ſępius conſideraſſem: eorumq; in noſtrũ genus
in noſq; mortales homines patrocinia: auxilia,
munera, beneficiaq; q̃plurima iterum atq; iterꝝ
cõtemplatus fuiſſem (Nihil quippe boni, nihil
ſancti, nihil comodi homines abſq; angeloruʒ
bonorum ſubſidio hac in uita obtinere queunt)
primos labores, primaſq; uigilias noſtras ipſo
rum honori: atq; perpetuo apud mortales ſplen
dori addiximus: atq; dedicauimꝰ: Speramus nẽ
pe eorum mira inuiſibiliq; opitulatione, & hęc
& ea quę deinceps, ſiue de diuinis, ſiue de huma
nis ceteriſq; rebus ſcribere, aut litteris poſterita
ti mandare decreuimus facile expedire, atq; uti
liter ſimul, ac foeliciter perficere & conſumare:
circa quam profecto materiam & nos alias dum
in florẽtiſſima urbe legeremus: quam animo mẽ
teq; ſemper gerimus: & ſingulari dilectione pro
ſequimur: inſudauimꝰ, atq; pleroſq; eximia eru
ditione uiros magnopere inſudaſſe nouimus: ue
rum aſſidua amicorum diſcipulorumq; adhorta
tione ac precibus ultra cauſas ſuperius enarratas
quom diu fuiſſem fatigatus, tandem in ueſtraʒ
gratiam (pretermiſſis omnium aliorum efflagi
tionibus) aggreſſus ſum rem ſane hominum co
gitatu ne dum ſcriptu difficillimam, atq; ea quę
ſubtiliter, accurateq; (dei optimi & ſanctorum
ſuffragio ſpirituum) excogitaueram, legentiuʒ
animis ſatis aperte infundere curaui. Quicquid
priſci illi gręci latiniq; theologi quicquid & iu
niores, preſertiʒ Thomas ille angelicus cũ Ale
xandro & Bonauẽtura ſeraphico: hi. n. indocẽ
do conueniunt: Et Ioannes ſublimis dunſienſis
ſtudii Oxonienſis doctor unicus cuʒ Franciſco
landulfoq; & cęteris imitatoribus, Et ſolennis
Henricis Gandauenſis cum Godfredo de fonti‑
bus. Tres nanq; precipue iunioruʒ theologoruʒ
docendi uię: Quicquid inq̃ hac in re ab his om‑
nibus egregie dictuʒ eſt hic reperies, pleraq; ab
aliis intacta tractauimus, modos nouos: nouaſ
q; opiniones addidimus, nouum dicendi genus
ſecuti ſumus, Et ea quę uix a doctiſſimis homi
nibus cogitatione attinguntur, exculta pro ui
ribus ingenii noſtri ac illuſtrata oratioue pene
rudi quoque populo probabilia dedimus. Hęc
itaq; quę nuper in ueſtra urbe: ueſtriſqʒ, ut ita
dixerim, auſpiciis elucubrauimus: ueſtro etiam
perpetuo honori tribuimus. Neqʒ id ſane iniu‑
ria, prouocaſtis quippe animum meum benefici
is innumeris. Nunq̃ enim me illius humanitatis
capiet obliuio: qua me profecto non in parua to
tius Italię atqʒ propria calamitate conſtitutum
ut filium complexi eſtis: benigneqʒ ſuſceptũ ho
ſpicio: liberaliter, ac munifice tractaſtis: atque
quom filii locuʒ apud uos dumtaxat expetiiſſẽ,
patris ac preceptoris dignitateʒ ſummo cum ho
nore ultro mihi detuliſtis. Equidem argentina
totoqʒ illirico a Turcis occupato, puer admo‑
dum e manibus ſeuiſſimorꝝ hoſtium ereptus ſa‑
tis tenera ętate ad Italiam delatus ſum, In qua
& ſapientię ſtudio ut plurimum incubui (Naʒ
& Pariſii & in extrema Brittannia quã Angliã
uocant theologię uacaui) Inde poſt tres fere &
triginta annos partim inimicorꝝ acerbitate, par
tim cognatorum amore quom ignotam patriaʒ
repetiiſſem & extraneus eſſem fratribus meis, &
filiis matris meę peregrinus: Vos me ſingulari
amore eſtis proſecuti, Vos hoſpicio ſuſcepiſtis

figure 2.
Juraj Dragišić, *Opus de natura caelestium spiritum*, Florence, B. de Libris, 1499, Dubrovnik, Znanstvena knjižnica

various angels, whose nature is the topic of Dragišić's work. The book contains numerous hand-illuminated initials. Although about twenty copies have been preserved, this appears to be the only one featuring an illuminated *incipit* page. Judging by the style of the miniatures, which is meticulous and consistent with other Florentine works of the time, it is safe to assume that the copy was made for the Dubrovnik Senate, which is known to have previously approved a 30-florin grant toward the publication of the book. Nevertheless, it is the way the book eventually reached Dubrovnik that deserves our attention: it arrived as late as 1932, as a gift from the famous archaeologist Sir Arthur Evans, whose dedication note can be found on the frontispiece, and who had himself purchased the book in Florence.[5]

This copy of Dragišić's work is perhaps the most beautiful illuminated incunabulum preserved in Croatia. Considering the quality of the illumination, as well as the way in which the decorations are shaped and arranged, it seems almost certain that the miniature was made in the workshop of Attavante degli Attavanti (1452-1525), who ranked among Italy's most renowned miniaturists of the late 15th century. His Florentine studio provided miniatures for both codices and printed books. A large number of codices were, for example, illuminated for Matthias Corvinus. For instance, if we look closely at the painted incipit of Lucian's (Lucianus Samosatensis) incunabulum *Dialogi, Epistole* printed in Lorenzo d'Alopo's Florentine workshop in 1496, we can observe a number of similarities to Dragišić's frontispiece.[6] For example, the ornamented horizontal and vertical stripes, reminiscent of regular woodcut patterns; the way the golden foliate tendrils are thrown into relief against a flatly coloured background; the erotes bearing a coat of arms; the portrait of the author inside a letter featuring a monochromatic background with golden tendrils etc. Hence, it is our opinion

5 It should be noted that this particular copy was bound in brown leather, the binding sporting decorative features in gold press. The front and back covers feature centrally positioned medallion reliefs of the head of Hercules.

6 Lucian's frontispiece is reproduced in: Inconaboli ed edizioni rare : la collezione di Angelo Maria D'Elci : exhibition catalogue / edited by Dillon Bussi, Angela [et al.]. Florence : Biblioteca medicea laurenziana, 1989, no. 84. For comparison, we also cite several codices with miniatures attributed to Attavante and his Florentine workshop, made for the Hungarian king Matthias Corvinus in Csapodi, Csaba; Klára Csapodi-Gárdonyi. Bibliotheca Corviniana : Die Bibliothek des Königs Matthias Corvinus von Ungarn. Budapest : Corvina Kiadó : Helikon Kiadó, 1982, esp. no. 3, 33, 78, 85, 130, 137, 161, 182 and other. These miniatures evidence a higher level of artistic quality than those in Dragišić's book, but they show the same workshop style.

that this miniature may represent yet another addition to the extensive family of miniatures known or assumed to have been issued from Attavante's workshop.[7]

Time does not allow us to deal with the illuminated incunabula preserved in Croatia in a more comprehensive manner. We do, nevertheless, believe that it would be ill-advised not to mention the copies originating from the printing workshops of two printers of Croatian origin, who worked in Venice and elsewhere in northern Italy in the late 15th century. One of them, Andrija Paltašić, was born in Kotor (today in Montenegro). The National and University Library in Zagreb is home to his 1487 illuminated edition of Catullus' *Carmina* (Figure 3).[8]

Quite noteworthy is the judicious arrangement of the decorations on the *incipit* page, with the text optically protruding, and the background revealing a piece of architecture *all'antica* with the corresponding decorative motifs: putti with coat of arms, sphinxes, dolphins, medallions with portraits, vases, garlands, and of course, the famous Lesbian sparrow on the top of ornamented frame. This is typical of early Renaissance illumination in Venice, calling to mind in particular the style of an artist to whom L. Armstrong refers to as the Pico Master. [9] We shall return to him later on.

The other important Croatian-born printer in the period of incunabula was Dobrić Dobričević (Boninus de Boninis), born on Lastovo, an island under the jurisdiction of the Republic of Ragusa at that time. It was in Verona in 1481 that he printed the famous humanistic

7 Croatian libraries are home to a number of illuminated incunabula, produced in a number of different printing centres, most of them Italian. Most were previously kept in the historic libraries of their original Croatian patrons. Among those artistically most elaborate is the *Ponitificalis liber*, a ritual book printed in Stephanus Plannck's Roman workshop in 1485, the printer himself signing the colophon as *clericus Pataviensis, eiusdem artis expertissimus*. The margins on the incipit page are completely covered with a thick and lavish vegetable ornament (only the left margin was left unfinished). The initial **P** is designed as a *littera historiata,* featuring a priest (pontifex) administering Confirmation to a boy, anointing him with consecrated oil on the forehead. Some relevant sources assume that the copy was made for Bishop Osvald but the coat of arms at the bottom of the page does not belong to him. See Dobronić, Lelja. Renesansa u Zagrebu. Zagreb : Institut za povijest umjetnosti, 1994. P. 34.

8 See Slika u knjizi : iluminirani kodeksi i ilustrirane knjige od XI. do XVI. stoljeća : iz riznica Metropolitane i Nacionalne i sveučilišne biblioteke u Zagrebu / exhibition edited by Dražen Budiša, Vladimir Magić, Milan Pelc. Zagreb : Nacionalna i sveučilišna biblioteka, 1987. No. 49 (R I-4°- 24).

9 Armstrong, L. Op. cit., 233 pp. Researchers often named unknown miniaturist after their best works: e.g., the Pico Master, the Master of the Putti and the London Pliny Master. For these, compare Mariani Canova, Giordana. La miniatura Veneta del Rinascimento 1450-1500. Venice : Alfieri, 1969.

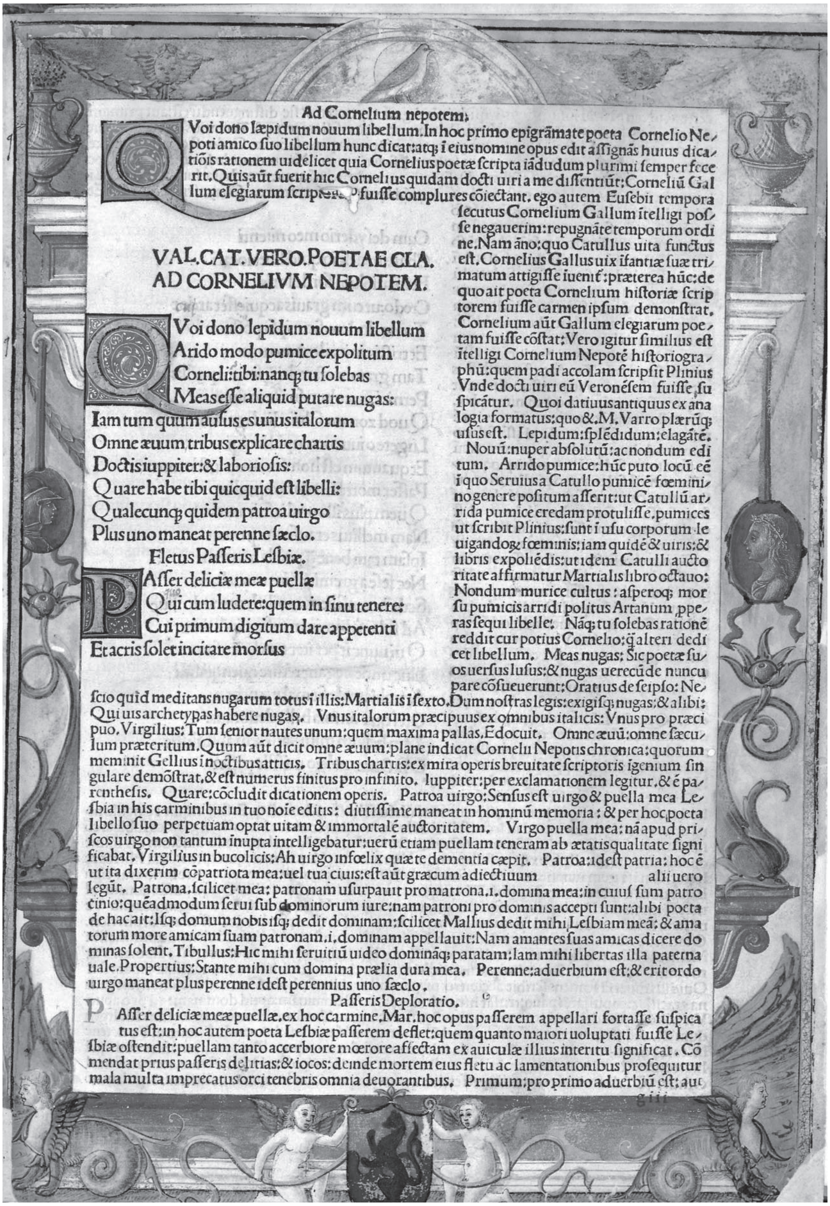


FIGURE 3.
Catullus' *Carmina*, Venice, A. Paltašić, 1487, Zagreb, National and University Library

manifesto *Roma instaurata* by Blondus Flavius.[10] The *incipit* page of the copy preserved in Zagreb has simple decorations, an ornamented initial, foliate tendrils on the margins, and an unclaimed coat of arms topped by a cardinal's hat.

One of the things revealed by these examples is, of course, the existence of a lively communication between Croatian patrons, authors and intellectuals with printing centres of Italy, where books were not only printed, but also illuminated. Illuminated incunabula originating from Northern Europe are rarely found in Croatian collections and often severely damaged. We shall mention here only one characteristic example. It is the famous 48-line Bible, printed in the Mainz workshop of Johann Fust and Peter Schöfer. It was produced as early as 1462: the earliest period of book printing.[11] Four loose pages from a copy of that Bible are kept in Zadar, in the Franciscan library, which may be assumed to have owned an integral copy of the Bible at some point.[12] These pages display modest handmade initials painted in red and clearly modelled on printing type, as their shapes indicate. This is an interesting and important feature which leads to the conclusion that the initials were inserted routinely, but with great care. We cannot know if the whole copy of the Bible was this modest or if it had individual illuminated pages with more elaborate initials and miniatures, as is the case with a number of other copies preserved in libraries across the world.[13]

Illuminated codices

As seen from these examples of illuminated incunabula, normally the margins of the *incipit* pages were decorated, and sporadically also some bigger initial letters within the text: the Juraj Dragišić book provides an excellent example. However, at the same time, elaborate and fully illuminated codices were produced, which will be addressed in the following part of the paper. We shall speak about codices made in Croatia, or made for Croatian patrons, from the late 15th to the 18th century.

10 See description in Badalić, Josip. Inkunabule u Narodnoj Republici Hrvatskoj. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1952. No. 217 (a copy is kept in Zagreb, National and University Library in Zagreb, R I - 4° - 57).

11 For details on this Bible, see: König, Eberhard. *Biblia pulcra* : Die 48zeilige Bibel von 1462 : Zwei Pergamentexemplare in der Bibermühle. Ramsen, Schweiz : Antiquariat Bibermühle ; Rotthalmünster : Antiquariat Heribert Tenschert, 2005.

12 Described in Badalić, J. Op. cit., no. 188, with reproduction.

13 Two copies printed on parchment from the collection of Heribert Tenschert in Biebermühle are reproduced and described in full detail in König, E. Op. cit.

The Zagreb codices

It is no surprise that Zagreb, being the centre of the largest Croatian diocese, has managed to preserve the most valuable store of mediaeval illuminated codices, many of which were, however, produced in post-Gutenberg times. Near the end of the 15th century, the Zagreb Episcopal See was occupied by the aforementioned bishop Osvald (1466-1499), a church dignitary with a humanistic background and one of the greatest promoters of culture in the spirit of the Early Renaissance in Northern Croatia. In the latter, he very much took after his patron and ruler, king Matthias Corvinus. It was for this very bishop who had, as we have pointed out, commissioned for his diocese its first printed breviary from Venice, that a few outstanding illuminated codices were made. Canon Toma Kovačević, a 17th century chronicler of the diocese and Bishop Osvald's biographer, notes that the bishop commissioned many books to be written. The remark bears witness to the peaceful coexistence of handwriting and typography at the time – just like the parallel courses of digital and printed publishing that we witness today.

This is no place to discuss at length Zagreb's illuminated codices from the period, but we must mention at least the three most important ones. The first is the *Antifonarium* (MR 10), nowadays in the Metropolitan Library of the Zagreb Archbishopric, the illumination of which was never completed (Figure 4).[14]

On one page, one discerns a preparatory sketch featuring the bishop's coat of arms as part of a scene depicting the consignment of the book. The scene is somewhat unclear. It seems that the monk, who was probably the copyist of the text, is handing the book to the bishop, who is himself not completely discernible, as the upper portion of the sketch is cut off. At the same time, the bishop can be seen again in the lower part of the scene, next to the coat of arms, holding a book in one hand and a mitre in the other, an attendant angel carrying his crosier. Apart from unfinished sketches, which shed light on the very beginning of the illuminating process, the *Antifonarium* also contains miniatures, such as the portrait of the bishop in ceremonial apparel, pointing his right index finger at the initial letter **A**. The portrait also remained unfinished, since the crosier in the Bishop's left hand is missing.[15]

14 See Razum, S. Op. cit., p. 111 etc.

15 In his dissertation about Bishop Osvald and his activities, S. Razum states that the miniaturist was probably a man named Ivan Prebičević *(Joannes Prebicheuich),* who left his signature on one of the decorative flowers constitutng the initial **S** (fol. 143v and 163v). Razum believes this to be the signature of the illuminator, not the copyist (notary, calligrapher) of the codex.

FIGURE 4.
Antifonarium MR 10, about 1495, Zagreb, Library of the Zagreb Archbishopric

At the same time, Juraj of Topusko, a Cistercian abbot, commissioned two sumptuously illuminated missals, which were made in Zagreb.[16] The *Missale Georgii de Topusco* (MR 170), kept in the Metropolitan Library of the Zagreb Archbishopric, was copied by priest Matej of Miletinec, and its decoration was executed by two miniaturists, one of them assumed to be Master *Johannes Hans Almannus pictor* from Germany. The other remains unknown (Figure 5).[17]

16 Badurina, A. Op. cit., no. 230, 253.

17 See Kniewald, Dragutin. Misal čazmanskog prepošta Jurja de Topusko i zagrebačkog biskupa Šimuna Erdödy. // Rad Jugoslavenske akademije znanosti i umjetnosti 268(1940), 45-84, esp. pp. 56, 60, 66. Perhaps the second master was the aforementioned Ivan Prebičević, whose signature was found in the Antiphon of Bishop Osvald.

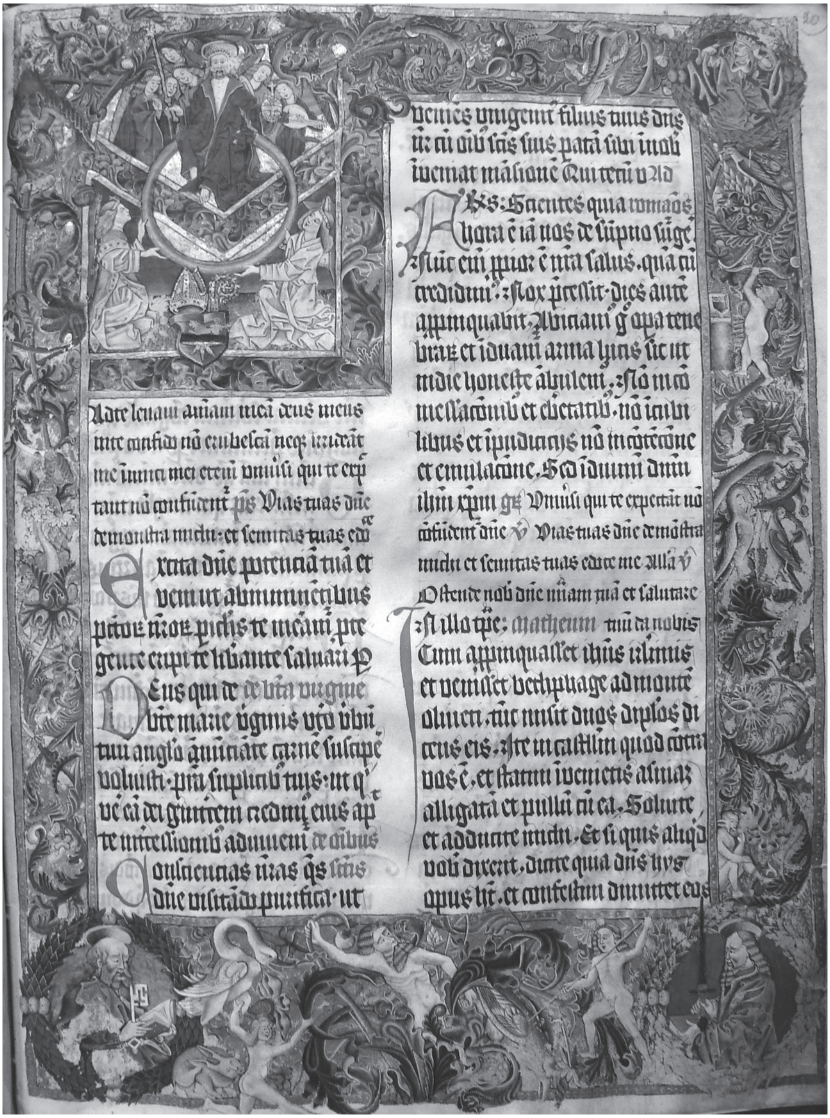


FIGURE 5.
Hans Almannus, *Missale Georgii de Topusco* MR 170. Zagreb, Library of the Zagreb Archbishopric

Hans Almannus is also mentioned in Zagreb documents from 1503, when he was paid for the illumination of a calendar and parts of a missal.[18] As demonstrated by the style and execution of the illuminations, he took over, but never completed, the illumination of Abbot Juraj's second missal, kept in the treasury of the Zagreb Cathedral (No. 354). The missal was later probably taken to Buda, where its illuminations were completed by one of the miniaturists working for Cardinal Toma Bakač. Given the pronounced Renaissance spirit of some scenes and motifs, such as putti, grotesque motifs etc., it was believed that the miniaturist involved may have been Giulio Clovio, who was staying at the Hungarian court in Buda in the years preceding the battle of Mohács.[19] In all likelihood, though, it was not Clovio, but another miniaturist, known as Bakač's monogrammist.[20] He was probably of Northern Italian origin, and stayed in Buda some time around 1520 to illuminate the *Graduale* for Cardinal Bakač, as well as a number of charters featuring coats of arms that were issued at the time.[21]

Be that as it may: the fact is that both missals commissioned by Juraj of Topusko sport elaborate illuminations. In the first missal, they are Late Gothic with early Renaissance details. In the other, as has been mentioned, some pages are painted in the Renaissance style. In both cases, the exuberant ornamental page frames, often taking over the whole margin and penetrating the text itself, display plenty of curious figures, fantastic creatures, comic scenes (in the second missal, for instance, we come across a scene showing a group of rabbits roasting the hunter on a spit), minuscule hunting scenes, and various ornaments. It is noteworthy that many of the motifs and entire compositions are modelled on contemporary prints. Hence, we are witnessing yet another instance of the modernisation of artistic procedures going hand-in-hand with the new media production technology. Hans Almannus

18 Painter Hans is mentioned in a Zagreb decree dated 8th March 1504, whereby prince John Corvinus grants him a plot of land on Gradec, see Tkalčić, Ivan Krstitelj. Povjestni spomenici slob. kralj. grada Zagreba. Zagreb : Brzotiskom K. Albrechta, 1896. Vol. 3, document no. 25. However, we cannot be certain whether this *Hans pictor* was the same person that painted the aforementioned codices, although this appears very likely.

19 Kniewald D. Op. cit., p. 54 etc, p. 66 etc.

20 See Árpad, Mikó. Illuminated grants of arms of King Louis II : art historical questions linked to a specific form of heraldic representation in the Hungary of the late Jagiellon period. // Mary of Hungary : the Queen and Her Court 1521-1531. Budapest : Budapest History Museum, 2005. Pp. 81-95.

21 See Matthias Corvinus, the King : tradition and renewal in the Hungarian Royal Court 1458-1490. Budapest : Budapest History Museum, 2008. No. 575.

used mostly prints by the Master ES, the Master of the Playing Cards, and those by Israhel van Meckenem.[22] In the *Missal* from Cathedral Treasury the most impressive feature is a miniature that covers a whole page, showing St. George slaying the dragon, its composition based on an engraving by the Dutch Master of Zwolle.

The Zadar codices

While a workshop featuring a leading German miniaturist called Hans Almannus was active in Zagreb in the late 15th century, patrons along the Adriatic coast were still commissioning illuminated codices from Venice. The most important group was commissioned by the abbot of the Benedictine abbey in Zadar, Deodat Venier. We are familiar with four codices belonging to his commission, illuminated with miniatures displaying a preponderance of early-Renaissance formal features and *all'antica* motifs blending with Late Gothic floral ornament (Figure 6).[23]

The elaborately illuminated Missal from 1480 was stolen from Zadar in 1921 to disappear without a trace. The *Epistolarium* and the *Evangelistarium* both commenced in 1479, bought from a Zadar nobleman in 1830, are kept in the Austrian National Library in Vienna. Only the mutilated *Rituale*, begun in the same year, is kept in Zadar. The most prestigious piece of illumination work was lavished on the lost Venier missal. Fortunately, its illuminated pages are known from the reasonably good photographs in H. Folnesics's catalogue.[24] The upper part of the *incipit* page depicts the patron saint of Zadar, St. Grisogonus, on horseback amid a landscape, with a partial view of the city in the background. The margin is decorated with floral and figural patterns. There are also inserted medallion portraits *all'antica* and depictions of animals in foliage wreaths.

The *Epistolarium* appears to be finished during Venier's lifetime, unlike the *Evangelistarium*. Following the abbot's death, it was left to Bernardo Rossi of Parma, the then Bishop of Belluno and Commendator of the Zadar abbey, to see to its completion. The calligra-

22 See Quien, Enes. Minijature gotičkoga stila u Misalima Zagrebačke nadbiskupije : magistarski rad. Zagreb : E. Quien, 2002. Pp. 47-59, with older references.

23 Kolanović, Josip. Liturgijski kodeksi svetokrševanskog opata Deodata Venijera. // Radovi Instituta za povijesne znanosti JAZU u Zadru 29-30(1982-1983), 57-84, esp. p. 61 etc.; see also Hilje, Emil; Radoslav Tomić. Slikarstvo : umjetnička baština Zadarske nadbiskupije. Zadar : Zadarska nadbiskupija, 2006. Pp. 190 etc. Conte Giovanni Battista da Ponte from Zadar sold the codices for 20 gulden each to the Vienna library in 1830.

24 Folnesics, H. Op. cit., p. 3 etc.

figure 6.
Pico Master, Missal for abbot Deodat Venier, 1480 (After Folnesics)

pher who finished it, Albertus Borgondiensis, left his signature and the date, 15th July 1491, on two of the initial letters (folio 108 and 113). He is, however, unlikely to have authored the high-quality miniatures on the starting pages of this and other codices. The incipit page of the *Evangelistarium* is probably the work of a skilled Venetian miniaturist influenced by Mantegna and Gentile Bellini. [25] As a matter of fact, it could be the miniaturist Leonardo Bellini, who lived in Venice and Padua at that time, and his style was indeed influenced by both of the mentioned painters. On the other hand, the illuminations in the *Epistolarium* and in the lost missal bear a pronounced resemblance to the style of the aforementioned Pico Master.[26] There are similarities both in terms of style and motif between the miniatures of the two Zadar codices and the miniatures which L. Armstrong attributes to the Pico Master, leading to an identification of this miniaturist and his workshop as the probable author of illuminations in these two manuscripts.[27] These works substantially amplify the catalogue of miniatures attributed to the Pico Master.

25 For descriptions of both codices from Austrian National Library in Vienna see Hermann, Julius Hermann. Die Handschriften und Inkunabeln der italienischen Renaissance. // Beschreibendes Verzeichnis der illuminierten Handschriften in Österreich. 2. Oberitalien : Venetien. Leipzig : Hiersemann, 1931. Nos. 97, 98.

26 The figure of St. Grisogonus on horseback can be compared with the figure of St. George in his miniature on the incipit of Pliny the Elder's *Historia Naturalis*, printed in 1469 in Johannes de Spyra's Venetian workshop. The rabbits painted both left and right in the wreaths in the lower margin can be compared to those found in the lower margin of Peter de Abano's *Expostitiones problematum Aristotelis*, Venice, Johannes Herbort, 1482. The floral ornament featuring miniscule pearl motives is consistent with that found in the Latin Bible printed the same year, 1480, in Franciscus Renner's workshop in Venice. According to L. Armstrong, all these incunabula were illustrated by the Pico Master. Although the pearl motif also appears in the work of other illuminators, such as Girolamo da Cremona, the remaining stylistic features display a marked proximity to those seen in the Pico Master's miniatures. For example, from Girolamo da Cremona's work, compare Petrus de Abano, *Expositiones* from 1482, fol. 2, in Armstrong, L. Op. cit, ill. 28. See also Mariani Canova, G. Op. cit., ill. 21, with plenty of pearl beads. For pearl ornaments from the Pico Master, compare also the work of Pliny the Elder, *Historia naturalis*, 1481. It is kept in Venice, The National Library of St. Mark's, MS Lat., VI, 245 [=2976], book 1, fol, 3, reproduction in Armstrong, L. Op. cit., ill. 1 – this is the very same codex that was in Pico della Mirandola's possession, and after which the master was named.

27 For comparison see frontispice miniature in Petrus de Abano, *Expositiones* from 1482 (Den Haag, National Library of the Netherlands), esp. similarities between the landscapes, like for example the motif of tree stumps dispersed on the ground as a kind of personal signature of the Master. See about this my forthcoming article: Picov Majstor i kodeksi opata Veniera. // Radovi Instituta za povijest umjetnosti 35(2011).

The Glagolitic codices

When discussing miniatures in Croatian codices from the second half of the 15th century, no historical perspective is complete without the inclusion of important handwritten and decorated Glagolitic books. As is known, local communities, priests and noblemen, on whose land liturgy was celebrated in the vernacular, commissioned copies of liturgical books, mostly missals and breviaries, in Glagolitic script. A large number of such codices from the late middle Ages have been preserved, some of them elaborately illuminated, such as the famous 1404 *Missal of Duke Hrvoje*. The tradition of producing such books was not disrupted by Gutenberg's novel printing technology, although the oldest Croatian printed book happens to be the *Missal*, printed in Glagolitic script in 1483. Priests throughout the territories where the vernacular liturgy prevailed remained, as it were, on the cutting edge of these developing technologies. Proof is offered by the only printing house known with certainty to have been operating in Croatia during the incunabula period. It was located in Senj, at the time the seat of a diocese and the principal port of the Kingdom of Hungary. The printing house was founded by Blaž Baromić, a Senj-based canon, who had previously worked as proof-reader for a Glagolitic edition of the breviary printed in Torresani's printing house in Venice in 1493. There can be no doubt that Baromić brought back from Venice a printing press and typographic equipment, which allowed him, along with his associates Silvestar Bedričić and Gašpar Turčić, to undertake the printing of the Glagolitic edition of the Senj Missal in 1494. The Senj printing house went on to publish a few more books for the Glagolitic priests, and remained in operation until 1508.[28]

Canon Baromić was born in Vrbnik on the island of Krk, one of North Adriatic's chief centres for the copying of Glagolitic codices. As far as this period is concerned, we shall refer to an important missal, copied in Vrbnik in 1462, featuring an elaborately decorated incipit page and some *littera figurata*, initials similar to those on the starting page. However, the *littera figurata* evidently feature a style that is entirely different from that seen in the more modest Glagolitic initials in the same book. The letter is Latin, not Glagolitic, and its design reveals a Veneto influence. The same can be said of the crucifixion page, torn out and now kept in Princeton (Figure 7).[29]

28 See Bošnjak, Mladen. Slavenska inkunabulistika. Zagreb : Mladost, 1970. Pp. 67-73.

29 Description of Missal in Badurina, A. Op. cit., p. 181.; See also Bratulić, Josip; Stjepan Damjanović. Hrvatska pisana kultura : izbor djela pisanih latinicom, glagoljicom i ćirilicom od VIII. do XXI. stoljeća. 1. svezak : VIII. - XVII. stoljeće. Križevci ; Zagreb : Veda, 2005. P. 150; for visual comparison see Bellini's Crucifixion in Mariani Canova, G. Op. cit., ill. to p. 18.

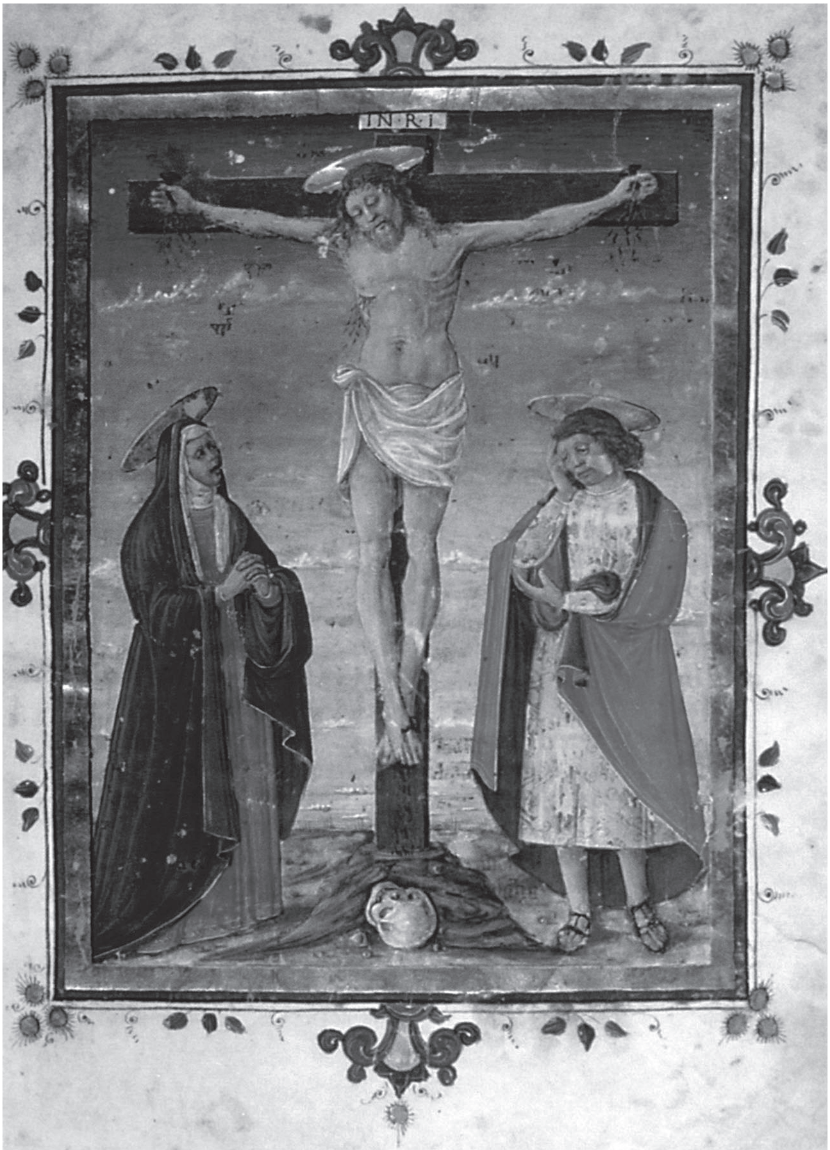


FIGURE 7.
The Second Vrbnik Missal, 1462 (crucifixion page), Princeton University Library

One can assume that, once the copying work had been completed, the book was sent to Venice or another place in the Veneto, where it was decorated and illuminated, thus acquiring its eventual prestigious appearance.

At a time when many priests were already using printed Glagolitic breviaries and missals, others were diligently copying Glagolitic codices. Among those the best known is the so-called The Second Novljanski Breviary (*Drugi novljanski brevijar*) which was copied in 1495 by a priest named Martinac for a Pauline convent in Osap, near Novi Vinodolski.[30] In addition to some Glagolitic *littera historiata*, the breviary also contains a large number of vegetal and wattle-style decorations redolent of both the traditional flourished penwork motifs (*fleuronné*) and the then fashionable Italian white tendrils known as *bianchi girari*. These under-researched initials are exceptionally interesting, bearing witness to an elaborate Glagolitic decoration style that appears to have gained ground among the scribes and calligraphers across the North Adriatic during the 15th century. The fusion of different ornamental systems enabled the illuminators to create their own decorative idiom which proved compatible with the "rustic" forms of Glagolitic letters. However, as demonstrated by the example of the *Vrbnik Missal*, in the case of more demanding commissions, books would normally be sent to professional miniaturists somewhere in Venice or across the Veneto for the finishing touches in both miniatures and decoration.[31]

Father Bonaventura Razmilović and choir books

Our presentation so far has focused on books with miniatures during the transition from a manuscript-based culture to a typographic one. Now, we shall fast forward for more than a century and focus our attention on an extraordinary figure in the world of illumination, born at a time when typography completely superseded the manuscript. As if out of the blue, a Franciscan from a convent in Poljud, a district in Split, going by the name of Father Bonaventura or Fra Bono Razmilović (1626-1678), copied on parchment and hand-decorated two volumes of a great *Psalter* used by the convent's friars for the joint choir prayer (Figure 8).

30 For description, see Badurina, A. Op. cit., no. 103.
31 It is less probable and as yet unconfirmed that such miniaturists appeared in small towns on Croatian side of the North Adriatic.

FIGURE 8.
Fra Bonaventura Razmilović, *Psalterium diurnum*, 1670, Split, Poljud, Franciscan convent

The first of these, the *Psalterium diurnum*, running into a total of 109 folios, was completed in 1670, and the other, the *Psalterium nocturnum,* comprising 82 folios, five years later. Thus, we can safely assume that the making of both volumes took over ten years. The abundance of illuminations and their demanding execution offer a clear indication that a prolonged, patient, and meticulous effort on the part of the artist was required. Apart from the two Split books, Bono Razmilović also illuminated the second part of the *Graduale et*

Antiphonarium de sanctis for Franciscan convent in Hvar, its earlier part dating back to the late 15th century.[32]

From the perspective of art history, Bono Razmilović is seen as a conservative, if sincere and endearingly backward, provincial miniaturist who, locked away in his convent cell and "isolated from the dominant visual trends of his time", as was said about him, upholds the – by this point lifeless – mediaeval discipline of book illumination.[33] From the perspective of book history, his *Psalterium* in Split is described as "the most unnecessary manuscript to appear during that period", since priests could by now just as well make use of printed books.[34] Nevertheless, neither had Father Bono Razmilović, as A. Stipčević suggests, "completely lost contact with the world and all things happening in it", nor is it true that copying and book illumination had by that time ceased to exist. The great codices continued to be used and copied until well into the modern era in a number of monasteries where joint choir services were performed.[35]

Some monasteries continued to make copies of such psalters even as late as the 17th century. In Croatia, a copy has come down to us of a *Graduale et vesperale* from the Franciscan convent on the island of Cres, which was also copied and illuminated in the 17th or even 18th century (Figure 9).

Naturally, the Franciscans were well-acquainted with printed books and were using them. Nonetheless, it was for the purposes of their choir prayers that they still produced manuscript codices, sometimes using and imitating printed models in the process. The Cres copy is a clear evidence of this: the letter type mimics the printed antiqua.

32 For basic description, see Badurina, A. Op. cit., no. 76, 145 and 146. Split Psalters also described in Jakšić, Nikola. Iluminirani korali. // Milost susreta : umjetnička baština Franjevačke provincije sv. Jeronima. Zagreb : Galerija Klovićevi dvori, 2010. Pp. 230-260, IR/11 and IR/12. On Bono Razmilović See Prijatelj, Kruno. Barok u Dalmaciji. // Barok u Hrvatskoj / A. Horvat, R. Matejčić, K. Prijatelj. Zagreb : Liber : Odjel za povijest umjetnosti Centra za povijesne znanosti : Društvo povjesničara umjetnosti Hrvatske : Grafički zavod Hrvatske : Kršćanska sadašnjost, 1982. Pp. 864-868.

33 Prijatelj, K. Op. cit., p. 864.

34 Stipčević, A. Op. cit., p. 76.

35 Just this spring, Munich's Bavarian State Library drew on its own collections to mount an exhibition showcasing an exquisite selection of elaborately illuminated Psalter manuscripts spanning the range between the 11th and the 16th centuries. The late end of the show's timeline is marked by a monastic psalter from Ottobeueren that was made in 1583: thus, quite late in the 16th century. Its scribe was a Benedictine priest named David Aichler, while Johann Werle, a painter, is assumed to have executed the illuminations. See the catalogue Gemalt mit lebendiger Farbe : Illuminierte Prachtpsalterien der Bayerischen Staatsbibliothek vom 11. bis zum 16. Jahrhundert / Leitung Claudia Fabian. Luzern, 2011. Pp. 112 etc.

FIGURE 9.
Graduale et vesperale, 17/18 ct. Cres, Franciscan convent

The same goes for the overall page design – an illusion is created that leaves the book look like a "printed" codex. In Gutenberg's time, it was the printed books that mimicked the codices, whereas now the codices started mimicking the printed books! The Zagreb Cathedral canons also continued to have their choir books copied up until the end of the 18th century.[36] Choir codices, as such, constitute a special chapter in the history of the manuscript book: a peculiar manuscript format that long outlived Gutenberg.

All these as well as numerous other examples of book copying in Croatia during the 17th and 18th centuries, which the shortness of time prevents us from dwelling on, point to the fact that the technology of handwriting and illuminating was by no means forgotten. Rather, it persisted in a number of small niches of users, mostly members of the clergy and nobility, who cherished it for their own peculiar and pragmatic reasons. In this regard, we would also like to mention a few Franciscan manuscript songbooks dating back to the beginning of the 18th century and originating from the North of Croatia. These were written on paper, the margins of the cover and specific pages adorned with ornamental drawings. Particularly interesting from a purely visual perspective are the songbooks of the Franciscan friar Filip Vlahović Kapošvarac (around 1700-1755). Their margins are graced with interlacing ornament reminiscent of that used by Bono Razmilović.[37] There is no doubt that, in many cases, the Franciscans – and, occasionally, other clerical users, found it most practical and cheaper to transcribe codices to serve the needs of a large convent or choir, rather than to order the required quantity of printed copies.[38]

In his capacity as copyist and illuminator, Father Bono Razmilović is not an isolated figure in the 17th century Croatia. Despite this, he stands apart because of the extraordinary complexity of the illuminations in his codices. The richness of illuminations in Bono Razmilović's codices is outstanding: he even portrays himself on an elaborately decorated page of the *Split codex*. He depicts himself kneeling, quill in hand,

36 See many examples in Kniewald, Dragutin. Iluminacija i notacija zagrebačkih liturgijskih rukopisa. // Rad Hrvatske akademije znanosti i umjetnosti 279(1944), 5-108. The special rite of the Zagreb diocese was abolished 1788.

37 See Kinderić, Petar-Antun; Marija Riman. Glazba u franjevačkim samostanima kontinentale Hrvatske. // Mir i dobro : umjetničko i kulturno nasljeđe Hrvatske franjevačke provincije sv. Ćirila i Metoda. Zagreb : Galerija Klovićevi dvori, 2000. Pp. 119-125.

38 A number of examples and explanations of this custom is provided by Stipčević, A. Op. cit., pp. 72-78.

to receive divine inspiration for his copying work. His decorations are true virtuoso performances, which is particularly apparent in his decorative interlaces. The latter are redolent of arabesques or, indeed, of the kind of decoration that Albrecht Dürer, who used them for a series of six of his own virtuoso woodcuts, referred to as "knots" (*Knoten*) in the early days of the 16th century.[39] Amid an ever-evolving plethora of shapes, these types of ornament remained popular even during the Baroque, and Father Bono might have drawn on a number of different printed models or books for their creation. Indeed, Fra Bono was not a particularly skilful draughtsman of figures and figurative compositions. For that purpose, he would resort to templates, inserting them in appropriate places, and colouring them to resemble miniatures. The strategy is apparent in his rendition of the birth of Jesus, or, rather, King David, which can be seen on an elaborately decorated page containing the incipit of the First Psalm. In a reversal of the procedure used for decoration of incunabula, the printed image is now incorporated into the manuscript!

Father Bono's mastery of ornament and individual motif attains a high level of naturalistic plausibility. Moreover, following in the footsteps of Late Gothic illuminators, he depicts flowers of different kinds and shapes with a great deal of authenticity, throwing into the mix insects, butterflies, grasshoppers, crickets, bees, and especially flies, using the *trompe l'oeil* technique, so that these appear to be alive to the observer. While painting them, he must have had in mind Pliny's anecdotes about the painters of classical antiquity who used this technique to deceive the observer's eye, showing the onlooker just how far a master-painter could take the imitation of nature. Little is known about the training received by this gifted miniaturist and self-assured artist and monk: the sources and models he used in his work are yet to be researched. Among art historians, it was Kruno Prijatelj who penned the loveliest write-up: "Heir to a long-surviving tradition, Father Bono knew how to create works infused with a genuine lyricism: something that we so often fail to find in the work of some of his contemporaries whose fame is infinitely greater."[40]

39 Meder, Josef. Dürer-Katalog : Ein Handbuch über Albrecht Dürers Stiche, Radierungen, Holzschnitte, deren Zustände, Ausgaben und Wasserzeichen. Vienna : Gilhofer und Rauschburg, 1932. Pp. 274-279.

40 Prijatelj, K. Op. cit., p. 868.

The Mariegolas

So far we have tried to concisely present the most important groups of books with miniatures created after Gutenberg, each linked to Croatia in one way or another. Apart from the examples provided, there are a number of other books with miniatures which were created as individual commissions for different needs. In the field of religious book production, I wish to mention the important group of confraternity Mariegolas, their frontispieces usually featuring a miniature depicting their patron saint. Thus, the *Mariegola of Zadar Confraternity of Priests* from the second half of the 15th century features Virgin Mary, whereas the *Mariegola of the Confraternity of St. John* in Šibenik features St. John the Baptist (Figure 10).

Both miniatures are in a clumsy, rustic-amateurish idiom indicating the involvement of artists who were obviously no professional miniaturists or painters. It is assumed that the Šibenik Mariegola figure of St. John was painted by the local goldsmith Horacio Fortezza, who figured as the brotherhood's secretary from 1561 to 1569. It was not until much later, in 1592, that he also made silver reliefs for the cover of that same Mariegola.[41]

Some secular commissions

Finally, we must briefly consider some secular commissions of handwritten books with miniatures after Gutenberg. This group is, as is understandable, given the historical circumstances, much smaller than the group of clerical commissions. We shall mention here the statutes of two Croatian towns, written on parchment and containing pertinent illuminations executed by professional miniaturists. A note in the *explicit* states that it was Marko Navager (Marco Navagerio), Venetian governor of Pula, who commissioned a copy of the *Pula Statute* dating from 1500. The author of the copy was *friar Antonius de Lendenaria, ordinis minorum*, a Franciscan from a convent in the town of Lendinara, near Rovigo. The transcript was based on an older model from 1433. Facing the first page with the text, we find a high-quality (although severely damaged) whole-page miniature of the crucifix with an orna-

41 See Pelc, Milan. Horacije Fortezza, šibenski zlatar i graver 16. stoljeća. Zagreb : Institut za povijest umjetnosti ; Šibenik : Gradska knjižnica "Juraj Šižgorić", 2004. Pp. 20 and 91-95. For a mariegola with miniature from Poreč see Folnesics, Hans. Die illuminierten Handschriften im Österreichischen Küstenlande, in Istrien und der Stadt Triest. Leipzig : Karl W. Hiersemann, 1917. P. 45 etc.

FIGURE 10.
Mariegola of the Fraternity of St. John the Baptist attributed to Horatio Fortezza. Šibenik, Cathedral treasury

mental frame, clearly inspired by the "canon" crucifix found in missals. The style suggests that the author originated from a Northern Italian circle close to Foppa and Mantegna. The next page (f. 8r) reveals a large initial D, illuminated with the figures of Jesus and Doubting Thomas (also damaged), and the entire page has an ornamented frame, the lower part bearing the Pula coat of arms (Figure 11).[42]

An even more elaborate miniature can be found in the *Ilok Statute*, written in Buda in 1525, on the eve of the fatal battle of Mohács. It was the hand of a skilful miniaturist, working in a classical Renaissance idiom, that filled an entire page with the coat of arms of Hungarian King Louis II the Jagiellonian, surrounded it with an architectural frame, and lined up some putti to support the shield.[43] This elaborate coat of arms is attributed to the young Giulio Clovio, whose presence as a miniaturist at the Buda court from around 1520 to the battle of Mohács is reported by none other than Giorgio Vasari. The penultimate page of the Statute is a painting of the Ilok coat of arms. It is beautifully executed, with its two yellow-golden lions buttressing a grey tower on greenish-brown ground against a blue backdrop. Although many city statutes of that time were printed (for example, those of Šibenik and Zadar), such hand-written luxury examples, needless to say, held for their commissioners the special significance of prestigious originals.

Finally, we shall conclude the presentation with a manuscript written on paper, entirely dedicated to something that was quite rare in Croatia in the early modern period: a game book serving no other purpose but that of fun and pastime. It is a copy of a book called Sibila : knjiga gatalica (Sibyl : The Book of Divinations). It contains a social divination game with numbered dice and appropriate charts along with instructions on how to play and comments about the results of divination. According to the available documents, Katarina Zrinska, the wife of Petar Zrinski, Croatia's most prominent nobleman of the time, commissioned the book around 1660 at the family court in Čakovec.[44]

42 See Badurina, A. Op. cit., no. 122; Pulski statut / glavni i odgovorni urednik Davor Mandić. Pula : Grad Pula ; Povijesni muzej Istre, 2000.; Pelc, Milan. Renesansa. Zagreb : Naklada Ljevak, 2007. P. 546 etc.

43 The description of the manuscript in Unterkircher, Franz. Inventar der illuminierten Handschriften, Inkunabeln, und Frühdrucke der Österreichischen Nationalbibliothek. Teil 1 : Die abendländischen Handschriften. Wien : Prachner, 1957. P. 122.

44 See Bartolić, Zvonimir. Sibila : knjiga gatalica zrinskoga dvora u Čakovcu. Čakovec : Matica hrvatska, Ogranak "Zrinski" ; Zagreb : Metropolitana, 2007. [Commented facsimiles with transcripts of texts.]

FIGURE 11.
Ilok Statute - Coat of arms of Louis II Jagiello, 1525, Vienna, Österreichische Nationalbibliothek

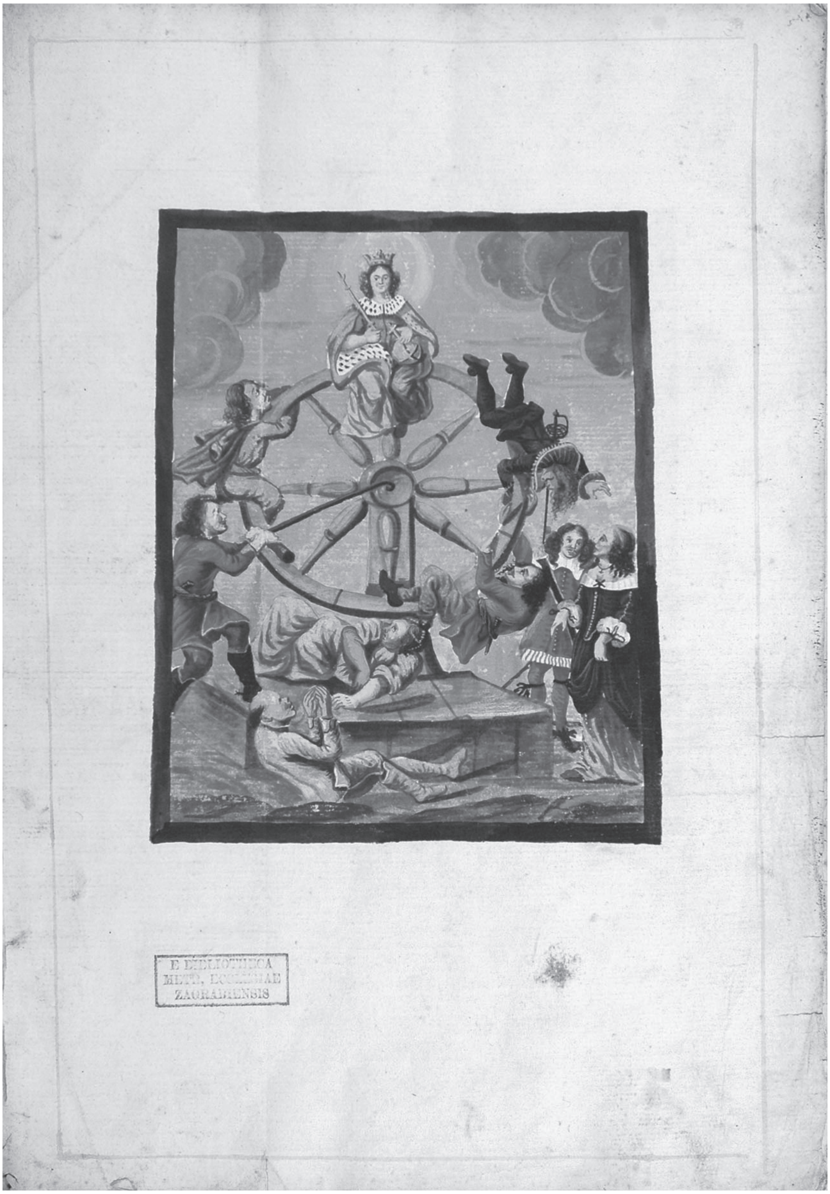


FIGURE 12.
Sibila: knjiga gatalica (Sibyl: The Book of Divinations), around 1660, Zagreb, Library of the Zagreb Archbishopric

The book takes up a late Mediaeval tradition of making "manuals" for games to be played by the nobility. The most beautiful pieces in the book are two miniatures (actually watercolour illustrations on paper) featured at the beginning of the volume. The first is mediaeval in inspiration and depicts the goddess of fortune on the wheel of destiny, with figures of earthly mortals carried up and then falling off the wheel (Figure 12).

The other is a Renaissance *Fortuna*, blindfolded and floating on a shell, her sail billowing, with Eros, her escort, hovering behind her, he too blindfolded. Those two images convey at least two eternal truths to past and present readers: the former avers that fortune is fickle, while the latter concedes that fortune and love are blind. And, indeed, some ten years later, Petar Zrinski was charged with conspiracy, sentenced to death, and executed in Wiener Neustadt. Katarina, his wife, spent the rest of her life abandoned and indigent. Her Book of Divinations remains a crucial testimony documenting the culture of the high nobility of Croatia in the Baroque period.

Translated by Tvrtko Černoš

References

Armstrong, Lilian. Studies of Renaissance miniaturists in Venice. London : Pindar, 2003.

Árpad, Mikó. Illuminated grants of arms of King Louis II : art historical questions linked to a specific form of heraldic representation in the Hungary of the late Jagiellon period. // Mary of Hungary : the Queen and Her Court 1521-1531. Budapest : Budapest History Museum, 2005.

Badurina, Anđelko. Iluminirani rukopisi u Hrvatskoj. Zagreb : Kršćanska sadašnjost : Institut za povijest umjetnosti, 1995.

Badalić, Josip. Inkunabule u Narodnoj Republici Hrvatskoj. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1952.

Bartolić, Zvonimir. Sibila : knjiga knjiga gatalica zrinskoga dvora u Čakovcu. Čakovec : Matica hrvatska, Ogranak "Zrinski" ; Zagreb : Metropolitana, 2007.

Bošnjak, Mladen. Slavenska inkunabulistika. Zagreb : Mladost, 1970.

Bratulić, Josip; Stjepan Damjanović. Hrvatska pisana kultura : izbor djela pisanih latinicom, glagoljicom i ćirilicom od VIII. do XXI. stoljeća. 1. svezak : VIII. - XVII. stoljeće. Križevci ; Zagreb : Veda, 2005.

Csapodi, Csaba; Klára Csapodi-Gárdonyi. Bibliotheca Corviniana : Die Bibliothek des Königs Matthias Corvinus von Ungarn. Budapest : Corvina Kiadó : Helikon Kiadó, 1982.

Dobronić, Lelja. Renesansa u Zagrebu. Zagreb : Institut za povijest umjetnosti, 1994.

Folnesics, Hans. Die illuminierten Handschriften in Dalmatien. Leipzig : Karl W. Hiersemann, 1917.

Folnesics, Hans. Die illuminierten Handschriften im Österreichischen Küstenlande, in Istrien und der Stadt Triest. Leipzig : Karl W. Hiersemann, 1917.
Gemalt mit lebendiger Farbe : Illuminierte Prachtpsalterien der Bayerischen Staatsbibliothek vom 11. bis zum 16. Jahrhundert / Leitung Claudia Fabian. Luzern, 2011.
Hilje, Emil; Radoslav Tomić. Slikarstvo : umjetnička baština Zadarske nadbiskupije. Zadar : Zadarska nadbiskupija, 2006.
Hermann, Julius Hermann. Die Handschriften und Inkunabeln der italienischen Renaissance. // Beschreibendes Verzeichnis der illuminierten Handschriften in Österreich. 2. Oberitalien : Venetien. Leipzig : Hiersemann, 1931.
Inconaboli ed edizioni rare : la collezione di Angelo Maria D'Elci : exhibition catalogue / edited by Dillon Bussi, Angela [et al.]. Florence : Biblioteca medicea laurenziana, 1989.
Jakšić, Nikola. Iluminirani korali. // Milost susreta : umjetnička baština Franjevačke provincije sv. Jeronima. Zagreb : Galerija Klovićevi dvori, 2010.
Kinderić, Petar-Antun; Marija Riman. Glazba u franjevačkim samostanima kontinentale Hrvatske. // Mir i dobro : umjetničko i kulturno nasljeđe Hrvatske franjevačke provincije sv. Ćirila i Metoda. Zagreb : Galerija Klovićevi dvori, 2000.
Kniewald, Dragutin. Misal čazmanskog prepošta Jurja de Topusko i zagrebačkog biskupa Šimuna Erdödy. // Rad Jugoslavenske akademije znanosti i umjetnosti 268(1940), 45-84.
Kniewald, Dragutin. Iluminacija i notacija zagrebačkih liturgijskih rukopisa. // Rad Hrvatske akademije znanosti i umjetnosti 279(1944), 5-108.
Kolanović, Josip. Liturgijski kodeksi svetokrševanskog opata Deodata Venijera. // Radovi Instituta za povijesne znanosti JAZU u Zadru 29-30(1982-1983), 57-84.
König, Eberhard. *Biblia pulcra* : Die 48zeilige Bibel von 1462 : Zwei Pergamentexemplare in der Bibermühle. Ramsen, Schweiz : Antiquariat Bibermühle ; Rotthalmünster : Antiquariat Heribert Tenschert, 2005.
Mariani Canova, Giordana. La miniatura Veneta del Rinascimento 1450-1500. Venice : Alfieri, 1969.
Matthias Corvinus, the King : tradition and renewal in the Hungarian Royal Court 1458-1490. Budapest : Budapest History Museum, 2008.
Meder, Josef. Dürer-Katalog : ein Handbuch über Albrecht Dürers Stiche, Radierungen, Holzschnitte, deren Zustände, Ausgaben und Wasserzeichen. Vienna : Gilhofer und Rauschburg, 1932.
Pelc, Milan. Horacije Fortezza, šibenski zlatar i graver 16. stoljeća. Zagreb : Institut za povijest umjetnosti ; Šibenik : Gradska knjižnica "Juraj Šižgorić", 2004.
Pelc, Milan. Picov Majstor i kodeksi opata Veniera. // Radovi Instituta za povijest umjetnosti 35(2011). (In print)
Pelc, Milan. Renesansa. Zagreb : Naklada Ljevak, 2007.
Pelc, Milan. Tiskane liturgijske knjige. // Sveti trag : devetsto godina umjetnosti Zagrebačke nadbiskupije : 1094-1994. Zagreb : Muzej Mimara, 1994. Pp. 471-480.
Prijatelj, Kruno. Barok u Dalmaciji. // Barok u Hrvatskoj / A. Horvat, R. Matejčić, K. Prijatelj. Barok u Hrvatskoj. Zagreb : Liber : Odjel za povijest umjetnosti Centra za povijesne znanosti : Društvo povjesničara umjetnosti Hrvatske : Grafički zavod Hrvatske : Kršćanska sadašnjost, 1982.
Pulski statut / glavni i odgovorni urednik Davor Mandić. Pula : Grad Pula ; Povijesni muzej Istre, 2000.

Quien, Enes. Minijature gotičkoga stila u Misalima Zagrebačke nadbiskupije : magistarski rad. Zagreb : E. Quien, 2002.

Razum, Stjepan. Osvaldo Thuz de Szentlászló vescovo di Zagabria, 1466-1499 : [doctoral dissertation]. Rome ; Zagreb : Stjepan Razum, 1995.

Slika u knjizi : iluminirani kodeksi i ilustrirane knjige od XI. do XVI. stoljeća : iz riznica Metropolitane i Nacionalne i sveučilišne biblioteke u Zagrebu / exhibition edited by Dražen Budiša, Vladimir Magić, Milan Pelc. Zagreb : Nacionalna i sveučilišna biblioteka, 1987.

Stipčević, Aleksandar . Socijalna povijest knjige u Hrvata : od glagoljskog prvotiska (1483) do Hrvatskog narodnog preporoda (1835). Zagreb : Školska knjiga, 2005.

Tkalčić, Ivan Krstitelj. Povjestni spomenici slob. kralj. grada Zagreba. Zagreb : Brzotiskom K. Albrechta, 1896.

Unterkircher, Franz . Inventar der illuminierten Handschriften, Inkunabeln, und Frühdrucke der Österreichischen Nationalbibliothek. Teil 1 : Die abendländischen Handschriften. Wien : Prachner, 1957.

Urban, Mirjana. Juraj Dragišić (Georgius Benignus de Salviatis) u hrvatskoj literaturi od 16. do 20. stoljeća. Dubrovnik : Dubrovačke knjižnice, 1998.

Biographical sketch

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MINIJATURE NAKON GUTENBERGA U HRVATSKOJ

Sažetak

Tradicija iluminiranja knjiga u razdoblju nakon Gutenbergova pronalaska tiska u Zapadnoj Europi realtivno je dobro istražena, no kad je riječ o Hrvatskoj o njoj se još uvijek razmjerno malo zna. Ovaj članak fokusiran je stoga na knjige s minijaturama povezane s Hrvatskom nastale nakon Gutenberga. Neke su od njih nastale u Hrvatskoj, a neke su za potrebe naručitelja i korisnika iz Hrvatske bile nabavljene iz središta njihove proizvodnje u drugim zemljama, ponajviše Italije – što nije uvijek moguće odrediti s potpunom preciznošću. U svakom slučaju, gotovo sve ovdje prikazane knjige danas se čuvaju u Hrvatskoj. Građa je primarno razdijeljena u dvije velike skupine. Prva skupina obuhvaća iluminirane inkunabule u kojima se tehnologija tiska pokretnim slovima povezuje s tradicionalnom tehnologijom ručnog ukrašavanja. Druga skupina obuhvaća ručno izrađene knjige (kodekse) u kojima su iluminacije i ukrasi također izrađeni rukom. Njihovu ćemo proizvodnju pratiti sve do kasnog 18. st., služeći se izabranim primjerima koji odražavaju stil razdoblja i kulturno raspoloženje okruženja u kojem su knjige nastajale.

Ključne riječi: Hrvatska, minijature, iluminirane inkunabule, iluminirani kodeksi

DIFFERENT KINDS OF MEDIEVAL MANUSCRIPTS USED AS PRAYER BOOKS

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Abstract
In the Middle Ages the official prayer of the Catholic Church, nowadays commonly known as *liturgia horarum* or Liturgy of the Hours, consisted of a collection of handwritten sources, which were used by monks, nuns or clerics as an aid to memory. This essay will describe the history of these prayers – the Office – from the very beginning to the High Middle Ages in the Latin dominated Western World and will also describe important information carriers which were necessary to perform these prayers (antiphonals, collectars, hymnals, psalters, etc.). Furthermore this essay will explain the inner structure and elements of these liturgical manuscripts in some detail.

Keywords
Liturgy of the Hours, history of the Office, Western liturgical manuscripts

Introduction

The study of medieval manuscripts, which were used as prayer books, inevitably raises the question about the definition of the term *liturgy*. Prayers as a fundamental source of the Christian belief can be performed in different forms, such as free forms "in spirit and in truth" (see the gospel of Saint John 4:23) or in structured forms like those of the liturgy of Mass or the Divine Office.

This essay will provide information about the latter, the Liturgy of the Divine Office, nowadays commonly known as the Liturgy of the Hours (lat. *liturgia horarum*).[1] This prayer is given the term "Liturgy of the Hours", because it is structured and divides the daily lives of religious men and women or clerics into various specified hours of the day.

1 In the days before Vatican II, and this since the Early Middle Ages, terms like *Officium* or *Officium divinum* were used.

The different texts of the liturgy were originally collected in a variety of different types of manuscripts (directories, hymnals, collectars, lectionaries, legendaries, psalters, antiphonals etc.), which were used by different people for different purposes. The prayers were collectively practised by a community of different people having different tasks and followed a fixed order. Over time the congregational prayer became the prayer of the individual and the texts, originally collected in different books, were combined to form of a single book – the breviary.[2] Nevertheless, the structure of the prayers has surprisingly remained nearly unchanged until now.

This development affected books for the clergy and monasticism as well as the prayer books for the laity: breviaries, books of hours and psalters. In this context one type of prayer book will not be mentioned: the *liber precatorum* (common prayer book). The texts in this type of books are too diverse as they pertain to the individual needs of their owners.

The first part of the following summary will provide a short historical overview of the development of the Office until the High Middle Ages. The second part will provide information about the different types of manuscripts which were necessary for conducting the Office. The last part of this essay will describe the structure and elements of the prayer.

Historical overview from the beginning of the Office until the High Middle Ages

In order to understand the description of medieval manuscripts which acted as the foundation of the liturgical prayers the next few chapters will provide an overview of the historical development of these prayers.

Biblical roots and the Early Church

Large efforts have been made in the past to clarify the history of the Office in the East as well as in the West. Even though this essay mainly describes Western traditions, it also has to be mentioned here, that the effort of researchers in recent years has also led to a deeper knowledge about the beginning of the Office.[3] It is widely accepted that most of

2 See Meßner, Reinhard. Einführung in die Liturgiewissenschaft. Paderborn [etc.] : Schöningh, 2001. P. 49.

3 See Palazzo, Eric. A history of liturgical books from the beginnings to the thirteenth century / translated by Madeleine Beaumont. Collegeville, MN : The Liturgical Press, 1998. P. 114.

the liturgical traditions at the beginning of Christianity were based on Judaism. As Christ and the first Christians were Jews themselves this would be a logical consequence. Nevertheless, it still remains debatable exactly which Jewish-liturgical traditions influenced early Christianity and during which time frame this took place.[4] The development of the Liturgy of the Hours reaches back to the time of the New Testament or of early Judaism, where religious ceremonies were mainly performed in the temple, synagogue and in private homes.[5] The ritual of daily, public prayers at specific hours of the days during the time of Jesus and his disciples still remains debatable as prayers on a regular basis were performed privately.[6] In more recent Judaism, morning and evening Offices were characterized by proclamation and indoctrination as well as invocations and praise. These basic types are also described in the New Testament, where they are extended to "pray without ceasing" (Thess 5:17). "Unceasing prayer on a daily basis, such is the spiritual goal of the Liturgy of the Hours, is a goal suggested by the New Testament."[7] The texts concerning prayer can be classified into the following issues: 1) references to Jesus (and others) being at prayer; 2) invitations to prayer; 3) instructions on the manner of praying; 4) texts of hymns and prayers.[8]

The Jewish morning and evening Offices were adapted by the Old Church. These prayers together with the Eucharist built up the center of the church Office.[9] From the very beginning, Christian prayer claimed to be a new christological and eschatological reality.[10]

4 Texts from Judaism date back to more recent times. See Rouwhorst, Gerard. Identität durch Gebet : Gebetstexte als Zeugen eines jahrhundertelangen Ringens um Kontinuität und Differenz zwischen Judentum und Christentum. // Identität durch Gebet : Zur gemeinschaftsbildenden Funktion institutionalisierten Betens in Judentum und Christentum / Herausgegeben von Albert Gerhards [et al.]. Paderborn [etc.] : Schöningh, 2003. Pp. 37-55, p. 44.

5 See Gerhards, Albert. Stundengebet : I. Geschichte. // TRE 32(2001), 268-276, 268-269.; Palazzo, E. Op. cit., p. 115.

6 See Bradshaw, Paul F. The search for the origins of Christian worship : sources and methods for the study of early liturgy. Trowbridge, Wiltshire : The Cromwell Press, 2002. Pp. 39-40.

7 Palazzo, E. Op. cit., pp. 113-114.

8 See Taft, Robert F. The liturgy of the Hours in East and West : the origins of the Divine Office and its meaning for today. Collegeville, MN : The Liturgical Press, 1986. Pp. 4-5.

9 See Taft, Robert F. "Thanksgiving for the Light" : toward a theology of vespers. // Diakonia : A quarterly devoted to advancing Orthodox-Catholic dialogue 13/1(1978), 27-50, 31-32.

10 See Klöckener, Martin. Im Wandel der Generationen : Vom Beten in der Freiheit des Geistes zum individualisierten Pensum. // Ringseisen, Paul. Morgen- und Abendlob mit der Gemeinde : Geistliche Erschließung, Erfahrungen und Modelle : Mit einem Beitrag von Martin Klöckener. Freiburg i. Br. [etc.] : Herder, 1994. Pp. 98-122, p. 99.

The daily morning prayers had the characteristics of praise (*laudes matutinae*).[11] The evening prayers were characterized by penitential liturgy which is expressed by text references such as "the evening sacrifice" (Psalm 141). It still remains unclear if the threefold praying of the Lord's Prayer was part of the daily prayer routine of early Christianity or if it was related to early Jewish praying routines as is widely hypothesized. The references of this routine in the Didache (The Teaching of the Twelve Apostles) which originated in the first century AD in Antioch and represents a church order, thus a normative text, does not give evidence for its daily use.[12] Nevertheless, a daily prayer routine consisting of different prayers can be suspected.[13] Judaism as well as Greek-Roman heathenism were both characterized by a prayer routine: "Seven times a day do I praise thee because of thy righteous judgments" (Ps 119:164). The third, sixth and ninth hour of the day was of special importance in the Greek-Roman culture. It can be expected that this daily rhythm was also adapted by the early Christian church.

In the New Testament two different types of prayers can be identified: a) On one hand, prayers were performed in the mornings and evenings which were not completely unstructured even though they were characterized by a free and charismatic order. On the other hand, hourly prayers were also performed, based on the call of Jesus to be vigilant (e.g. Mk 14:38) and in expectation of the Return of Jesus Christ (e.g. 1 Petr 4:7).[14] In the early period of the church the daily prayer routine remains unclear due to the lack of references. First references appeared in the 3rd century AD such as the *Traditio Apostolica* (TA), which is available in different copies and probably originated around 215/12.[15] In this document morning and evening congregations are mentioned which point out the importance of the hourly prayer as a primary element of church community.

In the 2nd century AD and the beginning of the third, information is available on various occasions. "In Egypt, in the beginning of

11 See Gerhards, Albert. "Benedicam Dominum in omni tempore" : Geschichtlicher Überblick zum Stundengebet. // Lebendiges Stundengebet : Vertiefung und Hilfe / Herausgegeben von Martin Klöckener and Heinrich Rennings. Freiburg i. Br. [etc.] : Herder, 1989. Pp. 3-33, pp. 6-7.

12 See Bradshaw, Paul F. Paralleles between early Jewish and Christian prayers : some methodological issues. // Identität durch Gebet. Op. cit., pp. 21-36, p. 31.

13 See Palazzo, E. Op. cit., p. 114.

14 See Gerhards, A. "Benedicam". Op. cit., pp. 8-9.

15 See Traditio apostolica – Apostolische Überlieferung / Übers. und eingel. von Wilhelm Geerlings. // Didache – Zwölf-Apostel-Lehre / Übers. und eingel. von Georg Schöllgen. Freiburg i. Br. [etc.] : Herder, 1991. Pp. 141-358.

the 3rd century, Clement of Alexandria (C.150-C.215) insisted on fixed times of the day devoted to prayer: at the third, sixth, and ninth hours; it is also from him that we first hear of turning to the east when praying. In the first half of the 3rd century, Origen (C.185-C.254) repeats Clement and further introduces the practice of regularly saying certain psalms for a particular hour, for instance, Psalm 140 for the evening prayer. Tertullian (C.160-C.225) is the first to describe the pattern of daily prayer, a pattern which would become the rule by the end of the 4th century. In the middle of the 3rd century, St. Cyprian (d. 258), bishop of Carthage, confirms for the church of North Africa Tertullian's testimony on the structure of prayer."[16]

Public, daily meetings are assumed to occur in the 4th century AD, whereas before that similar meetings were rather practiced with family and friends.[17] Public meetings in the morning were characterized by indoctrination (*catechesis*) and preaching (TA 39),[18] whereas evening meetings focused on the agape (TA 25). Besides the public prayer meetings the private prayer played an important role in the morning (TA 35), at the third, sixth and ninth hour, as well as at bedtime, at midnight and at cockcrowing (TA 41).[19] The focal points of collective praying remained the services at the beginning and the end of the days (‚symbolic moments'), where the symbol of light played a central role.[20] In addition to these prayers nightly Vigils (from lat. *vigilare*, to be awake) developed, in which the church asks that the nightly hours of this world, which meant misery and plight, might end.

The cathedral and the monastic Office in the Eastern and the Western

In further consequence the progression of the Liturgy of the Hours led to the development of two basic types of prayers which are barely described independently in the literature: 1) cathedral type with morning

16 Palazzo, E. Op. cit., p. 113f.

17 See Bradshaw, Paul F. The Divine Office : the first three centuries. // The study of liturgy. Revised ed. / edited by Cheslyn Jones [et al.]. London : SPCK; New York : Oxford University Press, 1992. Pp. 399-403, p. 400.; Bradshaw, Paul F. The origins of the daily Office. // Alcuin : The occasional journal of the Alcuin Club (1978), 3-4. ; Meßner, R. Op. cit., p. 242.

18 See Klöckener, M. Op. cit., p. 100.

19 See Taft, R. F. The liturgy. Op. cit., pp. 24-26.; Wegmann, Hermann A. J. Geschichte der Liturgie im Westen und Osten. Regensburg : Pustet, 1979. P. 29.; Klöckener, M. Op. cit., p. 100.

20 See Taft, Robert F. The theology of the liturgy of the Hours. // Handbook for liturgical studies. 5: Liturgical time and space / edited by Anscar J. Chupungco. Collegeville : Liturgical Press, 2000. Pp. 119-132, p. 123.

and evening prayers and 2) monastic type with various prayers spread across day and night (lat. horae, hours).[21]

The first type, with meetings in the morning and evenings, is characterized by eschatological perfection (Christ as the light that never disappears) which could be extended in the evenings towards the celebration of Vigilias. Whereas this type of liturgy is documented well in the East it could only be observed in the West in the Milanese, Gallican and Mozarabic liturgy.[22] Massive ethnic changes in Western Europe during the Migration Period which caused the destruction of city like structures led to the unnoticed disappearance of this type of liturgy in the West. Evidence can only be found in homilies of the Fathers of the Church, in hagiographic chronicles and occasionally in documents of the early councils.[23]

The second type, the monastic Office, is characterized by eschatological expectation. It was practiced in monastic communities with a stronger time structure.[24] This prayer is more widely known because it was passed down in many traditions during the 4th and 6th century. Different arrangements of the daily prayers (*cursus*) helped the monks to perform the *laus continua*.[25]

Originally, the psalms were the carrying elements of the Liturgy of the Hours.[26] They were not defined as songs of praise as they were in cathedral ceremonies, but as God's word. They were used for meditation before answering God in the form of a prayer.[27] The monks of the Egyptian desert spoke/sang[28] for example the psalms (*lectio*) which was then followed by extemporaneous prayers as an answer to these readings.[29]

The praying of the psalms in the West was structured differently by Benedict of Nursia (~480-547): the beginning was characterized by

21 To these two types see also Jungmann, Josef A. Liturgie der christlichen Frühzeit bis auf Gregor den Großen. Freiburg i. d. Schweiz : Universitätsverlag, 1967. Pp. 266-273.; Grisbrooke, W. Jardine. The Divine Office : the formative period : cathedral and monastic offices. // The study of liturgy. Op. cit., pp. 403-420, 404-406 (monastic office) and p. 406 (cathedral office).

22 See Gerhards, A. "Benedicam". Op. cit., pp. 12-16. The author describes the structure of the church service. See also Reynolds, Roger E. Divine Office. // DMA 4(1989), 221-231, 229.

23 See Palazzo, E. Op. cit., p. 115.

24 See Gerhards, A. Stundengebet. Op. cit., p. 270.

25 See Palazzo, E. Op. cit., p. 116.

26 See Gerhards, A. "Benedicam". Op. cit., p. 6.

27 See Taft, R. F. The liturgy. Op. cit., p. 364.

28 In ancient liturgical documents the terms *legein* (griech.), *dicere* (lat.), *emar* (syr.) do not refer to speaking or singing necessarily but define only that a matter has been expressed orally; see ibid., p. 50.

29 See Klöckener, M. Wandel. Op. cit., p. 101.

the singing of psalms which was followed by the readings. Therefore, psalms were used as an introduction to the following readings and lost their importance of being the Word of God, which were listened to first and then answered by prayers. Additionally, the performence by two semi-independent choirs in interaction with omission of personal prayers led to fundamental changes in monastic praying. The personal meditation element in prayer was exchanged by a penance owed to God. This behavior resulted in the development of the monastic prayer into a penance (*pensum*, *officium*) which had to be fulfilled by the individual whenever there was time.[30]

In the Christian East the development of the Liturgy of the Hours was associated with the cathedral office, even though Eastern monastical elements were blended in. In the Eastern tradition the Liturgy of the Hours was an important element of the common liturgical spirituality and was not exclusively used by clerics and monks.[31]

The Roman Office

In Rome in the 5th century three different types of office existed in parallel: First of all the monastic office which was practiced by monks in the large basilicas. Second the cathedral office which was practiced by the clergy at the major basilicas of Rome. Besides that a third type that was practiced by special clerics at certain times at the oratories of the early martyrs. Crucial for the development of the Roman office was the replacement of the cathedral by the monastic office.[32]

The liturgy at the Roman basilicas was now adapted by monks who performed their liturgical ministries in monasteries built as extensions to basilicas (e.g. Lateran or St. Peter in Rome).[33] These communities were characterized by monastical regulations such as the Rule of the Master or the rule of Saint Benedict of Nursia, which summarized former regulations. The rule of Saint Benedict replaced all established traditions among monks in Rome and also modified all existing elements of the cathedral liturgy. The primary elements of the Roman Liturgy of the Hours remained the same until nowadays, even though it was diversified throughout its history by many local mani-

30 See Angenendt, Arnold. Geschichte der Religiosität im Mittelalter. Darmstadt : Wissenschaftliche Buchgesellschaft, 1997. Pp. 482-483.

31 Gerhards, A. "Benedicam". Op. cit., p. 22.

32 See Crichton, J. D. The Divine Office : the office in the West : the Early Middle Ages. // The study of liturgy. Op. cit., pp. 420-429, p. 421.

33 See Wegmann, H. A. Op. cit., pp. 137-138.

festations or characteristics. It became widely spread by Benedictine monasticism in Middle and Northern Europe as well as Britain and erased almost all local tradition.[34] Its further development was characterized by an increase in prayer time which became unreasonable.[35] Through reform movements such as performed by Cistercians the Liturgy of the Hours was adjusted back to the scale of the Benedictine.

One important step of reform of the Roman breviary under Pope Innozenz III (1198-1216) was the spread of the Office of the Roman Curia through the Franciscan.[36] This reform was also an important step toward the stabilization of the private recitation of the Liturgy of the Hours which was accompanied by the development of parishes (Middle of the 12th century) and the isolation of the clergy.[37] At the end of the first millennium and the beginning of the second one Christianity was celebrated centrally within the cities. Weddings and baptisms were celebrated exclusively in Episcopal churches. A richer liturgical life was developing due to the higher demand for clerics. The secular priest was removed through reforms for clerics and their merging into communities of Canons Regular.[38]

This reform could also be followed by the development of the breviary: This book represents a collection of texts from various different liturgical manuscripts in only one codex. This ends the transition of the former communal liturgy into the private recitation of the office.[39]

34 See Van Dijk, Stephen Joseph Peter; Joan Hazelden Walker. The origins of the modern Roman liturgy : the liturgy of the Papal Court and the Franciscan Order in the thirteenth century. London : Darton [etc.], 1960. P. 18.

35 At the end of the 9th century, additional prayers (e.g. the Little Office of the Blessed Virgin Mary, the Office of the Dead, psalms at different occasions, etc.) had to be prayed beside the daily praying requirements of 138 psalms and the *Officium divinum*; see Angenendt, A. Op. cit., p. 483.; Schmidt, Albert. Zusätze als Problem des monastischen Stundengebets im Mittelalter. Münster; Westfalen : Aschendorff, 1986.; Van Dijk, St.; J. Walker. Op. cit., pp. 20-22.; The monastic breviary of Hyde Abbey, Winchester. 6: Introduction to the English monastic breviaries / edited by John Basil Lowder Tolhurst. London : Harrison 1942. Pp. 113-115 and 129-130.; Reynolds, R. E. Op. cit., p. 230.

36 See Van Dijk, St.; J. Walker. Op. cit.

37 See Gerhards, A. Stundengebet. Op. cit., p. 274. Already in the 8th century the rule of bishop Chrodegang of Metz arranged for the Canons Regular that the Office was prayed privately without a choir; see Salmon, P[ierre]. Das Stundengebet. // Handbuch der Liturgiewissenschaft / Herausgegeben von Aimé-Georges Martimort [et al.]. Freiburg i. Br. [etc.] : Herder, 1965. Pp. 324-422, 372-373.

38 See Gerhards, A. "Benedicam". Op. cit., p. 24.

39 See Klöckener, Martin. "Wenn der Herr das Haus nicht baut ..." (Ps 127,1) : Die Bedeutung der Liturgie für die mittelalterliche Stadt anhand des Beispiels Freiburg im Uechtland. // Stadtgründung und Stadtplanung : Freiburg/Fribourg während des Mittelalters = Fondation et planification urbaine : Fribourg au moyen âge / Herausgegeben von Hans-Joachim Schmidt. Wien [etc.] : Lit, 2010. Pp. 149-176, 155-156.; Meßner, R. Op. cit., pp. 47-48.

Liturgical books for the conduction of the Office

The main elements of prayers which were spread over different phases throughout the day and night, were the psalms with their antiphons. These prayers were followed by readings from the bible, by works of the Fathers of the Church, by the Lives of the Saints, hymns and prayers. In these times monks, nuns and clerics recited the majority of the psalter and of the readings. Special books were provided in the choir for specific functions of the clerics during the celebration of the Divine Office: psalters, antiphonals, lectionaries, hymnals, collectars, calendars, etc. The following second chapter gives a short description of the different categories in alphabetical order, as well as an overview of the different forms of the Book of Prayers such as the breviary (for clerics and members of religious orders) and the Book of Hours (for the lay people) which developed over the course of history.

Antiphonal (Liber Antiphonarius, Antiphonarium officii)

The antiphonal is a liturgical book of the Western Church, containing the parts that were sung during the liturgy.[40] The book originated most probably from services in Roman basilicas, but evidence for its existence in the Frankish empire can be found not until around 780. Originally, it was characterized as a collection of different texts. Starting with the ninth century it was supplemented with musical notations written in neume forms.[41] Two different types can be distinguished which obtained their final form in the Carolingian period: the antiphonary for the Mass (*Antiphonarium missae* or *Graduale*) and the antiphonal for the Office (*Antiphonarium officii* as a form for the *liturgia horarum*).[42] The latter is a collection of chants of the Western Office, based on the course of the church year.[43] They can be categorized in two groups: The antiphonals which were used by the canon of the cathedral chapters (secular) and the ones which were used by monastic communities (mo-

40 See Krochalis, Jeanne E.; E. Ann Matter. Manuscripts of the liturgy. // The liturgy of the medieval church / edited by Thomas J. Heffernan, E. Ann Matter. 2nd ed. Kalamazoo, MI : Medieval Institute Publications, 2005. Pp. 393-430, p. 395.

41 See Eham, Markus. Antiphonale = Antiphonar. // LThK^3 1(1993), 775.; Huglo, Michel. Liturgische Gesangbücher. // MGG^2 Sachteil 5(1996), 1412-1438. To the whole question see the publication of six volumes of the Corpus Antiphonalium Officii (CAO) by Réné-Jéan Hesbert.

42 See Klöckener, Martin; Angelus A. Häußling. Liturgische Bücher. // Divina Officia : Liturgie und Frömmigkeit im Mittelalter / Herausgegeben von Patrizia Carmassi. Wiesbaden : Harrassowitz, 2004. Pp. 341-372, p. 354.

43 See Stäblein, Bruno. Antiphonar (Antiphonale). // MGG 1(1949-1951), 545-549, 545.

nastic).[44] "The difference resides in the number of pieces at the night office (Vigils), the Little Hours (Prime, Terce, Sext, and None), and Vespers: for the secular, nine antiphons and nocturn responsories at Vigils, one brief responsory at the Little Hours, and five psalms at Vespers; for the monastic, twelve antiphons at Vigils, no brief responsory at the Little Hours, and four psalms at Vespers."[45]

The development of this book is not clearly resolved as it proceeded in parallel with the development of the *Antiphonarium missae*.[46] The Office antiphonal contains only texts and melodies which derived from antiphons and the responsorial of the Divine Office.[47] Originally, the term *antiphon* signified anthems performed by choirs, later the introductory, thematically and accentual texts before and after the psalms which determined the key of the eight ecclesiastical modes. The responsorial chant alternated between the soloist and the choir. In the Middle Ages the antiphonals defined a large-format choir book. The earliest sources known of the Office antiphonal are from the second half of the 9th century.[48] Corresponding to the segmentation of the Office into day and night liturgy, the antiphonal is separated into the *Antiphonarium diurnale* – the Office for the day – and the *Antiphonarium nocturnum* – the Office for the night. Often these two types are combined and can therefore seldom occur in pure form.[49]

Book of Hours (Livre d'Heures, Primer)

The breviary was the official book for the liturgical prayer. It followed a special scheme and used specific elements (antiphons, psalms etc.). Over time this prayer was enriched by different supplements brought in by the piety of monks or nuns which subsequently were regularly used by different communities and, in part, even by the Western church (e.g. the Hours of the Holy Virgin Mary or the Hours of the Dead).[50]

44 See Palazzo, E. Op. cit., p. 135.; Stäblein, B. Op. cit.
45 Palazzo, E. Op. cit., p. 135.
46 See Stäblein, B. Op. cit., pp. 546-547.
47 See Hughes, Andrew. Medieval manuscripts for mass and office : a guide to their organization and terminology. Toronto [etc.] : University of Toronto Press, 1995. Pp. 161-197. See also chapter *Responsorial*.
48 See Palazzo, E. Op. cit., p. 136.
49 See Hughes, A. Op. cit., p. 193.; Thiel, Erich Joseph. Die liturgischen Bücher des Mittelalters : Ein kleines Lexikon zur Handschriftenkunde. // Börsenblatt für den deutschen Buchhandel. Frankfurter Ausgabe 23/83(1967), 2379-2395, 2380.
50 See Beal, Peter. A dictionary of English manuscript terminology : 1450-2000. Oxford [etc.] : Oxford University Press, 2008. Pp. 47-48.; Wieck, Roger S. The Book of Hours. // The liturgy of the medieval church. Op. cit. pp. 431-468, 431-432.

The book of hours is a devotional book used by the laity (men and women) of the Roman Catholic Church, and is based on the official prayer books (breviaries) that were used ecclesiastically.[51] Similarly to the breviary it contains a short version of the Office following the eight canonical Hours (Matins, Lauds, Prime, Terce, Sext, None, Vespers and Compline) with only one form for the entire year. Books of hours were – as prayer books for the private devotion of rich people – carefully crafted and often richly decorated.[52]

The contents of the book follow both liturgical elements and elements of private devotion.

1) The elements of liturgy:

The calendar, the Little Office of the Blessed Virgin Mary or *Horae Beatae Mariae Virginis*, the Seven Pentitential Psalms (*Septem psalmi poenitentiales*)[53] and the Litany to all Saints, Suffrages (short prayers consisting of verses and orations dedicated to a special saint or occasion where the Office was commemorated) and the Office of the Dead (*Officium defunctorum*).

Besides these elements, additional texts could be added such as Gospel Lessons, Gradual Psalms[54] and the *Psalterium minus* of Saint Jerome or the Hours of the Holy Cross (*De sancta cruce*), Hours of the Holy Spirit (*De sancto spiritu*) or the Hours of Holy Trinity (*De sancta trinitate*).[55]

2) Elements of private devotion in the form of variable accessory texts:

Different prayers dedicated to the Virgin Mary, private prayers at the Holy Communion and different texts of catechistic character.[56]

51 Among others, a fundamental summary of the Book of Hours is provided by Victor Leroquais in his work on the Book of Hours of the Bibliothèque Nationale in Paris from the end of the 12th century to the era of Louis XIV.; see Leroquais, Victor. Les Livres d'Heures Manuscrits de la Bibliothèque Nationale. 1.–3. Paris, 1927. According to Leroquais, the Book of Hours was developed in the middle/end of the 12th century and was, at the beginning, often combined with Psalters. The Book of Hours differed from the Breviary as it was not part of a liturgical cycle – there was one consistent form for each day – as it was used by laity; see ibid., pp. 6–11. See Jungmann, J. A. Op. cit., p. 95.; Köstler, Hermann. Stundenbücher : Zur Geschichte und Bibliographie. // Philobiblon 28, 2(1984), 95–128, 97.

52 See Krochalis, J. E.; E. A. Matter. Op. cit., p. 397.

53 The sense of this prayer was to resist the Seven Deadly Sins. The name Penitential Psalms or Psalms of Confession dates from the 6th century given to Psalms 6, 32, 38, 51, 102, 130, and 143 (6, 31, 37, 50, 101, 129, and 142 in the Septuagint numbering), which are especially expressive of sorrow for sin.

54 These are fifteen psalms – namely, Psalms 119-133 (in Hebrew 120-134). They bear a Hebrew inscription which is rendered in the Vulgate as *canticum graduum*.

55 See Ochsenbein, Peter. Stundenbücher. // MarL 6(1994), 320-322, 320.; Thoss, Dagmar. Stundenbuch. // LMA 8(1997), 259.; Plotzek, Joachim M. Die Handschriften der Sammlung Ludwig. // Euw, Anton von; Joachim M. Plotzek. Die Handschriften der Sammlung Ludwig / Herausgegeben von Schnütgen–Museum d. Stadt Köln. Köln : Schnütgen–Museum der Stadt Köln, 1982. Pp. 25-26.

56 See Wieck, R. S. Op. cit., pp. 457-458.

In contrast to the assumption commonly found in literature that the book of hours derived from the psalter, it seems more accurate that additions to the breviary should be seen as the origin of this prayer book.[57]

The liturgically used elements in the books of hours are the same as the additions to the breviary which rendered the Office a prayer assignment which was difficult to manage both psychologically and time wise, until the High Middle Ages.[58] Laity which were in contact with different Orders were especially attracted by these particular prayers and made them their main prayers. This led to the development of the classic book of hours.[59] The book of hours became famous for its artistically exceptional appearance which reached its finest manifestations in the 15th century.[60]

Breviary (Breviarium, liber breviarius)

The breviary contained all liturgical texts of the office, which were necessary to fulfill the prayer commitment – either alone or by being part of a choir – of the secular clergy and the religious orders. Originally, *breviarium* described all forms of books which gave some kind of summary, even non-liturgical ones.[61] The application of this term for the official book of prayers derived from the Franciscan which used that term in the rule of 1223 which was approbated by Innozenz III. Since then such books of prayer often carried the title *breviarium*.[62] In the first breviaries different elements of the Office were grouped together similarly to what can be found in the missal (e.g. psalter, hymnal, antiphonal, lectionary, collectar and so on). This type was called *Liber officialis*.[63]

57 See Meßner, R. Op. cit., p. 273.

58 See Schmidt, A. Op. cit.

59 See Bishop, Edmund. Liturgica historica : papers on the liturgy and religious life of the Western Church. Oxford : Clarendon Press, 1918. Pp. 235-237.; Stadlhuber, Josef. Das Laienstundengebet vom Leiden Christi in seinem mittelalterlichen Fortleben. // ZKTh 72(1950), 282-325, 286.

60 See Plotzek, J. M. Op. cit., p. 33.

61 See Heinzer, Felix. Brevier // LGB² 1(1987), 544-545, 545.; Fiala, Virgil; Wolfgang Irtenkauf. Versuch einer liturgischen Nomenklatur. // Zeitschrift für Bibliothekswesen und Bibliographie : Zur Katalogisierung mittelalterlicher und neuerer Handschriften. Sondernummer 1(1963), 105-137, 116-118.

62 See Palazzo, E. Op. cit., p. 169.

63 See ibid., p. 170. Especially manuscripts from St. Gall are typical examples of this type; Huglo, M. Livres. Op. cit., p. 118.; Gy, Pierre-Marie. Les premiers bréviaires de Saint-Gall (deuxième quart du XIe s.). // Liturgie : Gestalt und Vollzug / Herausgegeben von Walter Dürig. München : Hueber, 1963. Pp. 104-113, p. 105.

In the 11th and 12th century there was a tendency towards reducing the extent of the books for practical reasons. Readings were reduced to a few lines,[64] so that the books could be taken on journeys. "The examination of the many manuscript sources from the eleventh and twelfth centuries leads to the conclusion that the breviary was regarded as a practical book."[65] The term *portiforium* was widely used in England. Due to their small size and low number of pages breviaries were often divided into two volumes (summer: *pars aestivalis* from Easter to Advent; winter: *pars hiemalis* from Advent to Easter).[66]

Further differentiation of the manuscripts can be made based on liturgical criteria and correlated to the different periods of the Church Year: *Proprium de tempore* (Advent, Christmastide, Lent, Easter etc.) and *Proprium de sanctis* (cycle of the saint´s days). Occasionally these books were also divided into volumes for the day (*diurnal*) and the night office (*nocturnal*).[67] The beginning of the book was often characterized by a liturgical calendar and tables needed to determine moving church festivals, and occasionally introductory rubrics. In contrast to the Liturgy of Hours of the laity, the breviary was barely elaborated upon artistically, and mainly used by the clerics as a common book for daily use.[68] The invention of the printing press allowed the production of large quantities of breviaries to be printed with the same layout and texts. The liturgical reform claimed by the council of Trent generated the *Breviarium Romanum* in 1568 by Pius V., which was in use for around four Centuries. Not until the Vatican II were new reforms of the breviary made.[69]

Calendar (Calendarium)

In the Roman-Catholic tradition the latin term *calendarium* is used as a liturgical term, which can be translated best by liturgical calendar and is based on the Julian calendar in its reformed Gregorian version.[70] It gives a list of the feasts of the church in daily and monthly

64 See Krochalis, J. E.; E. A. Matter. Op. cit., pp. 398-399.
65 Palazzo, E. Op. cit., pp. 171-172.
66 See Fiala, V.; W. Irtenkauf. Op. cit., p. 117.; Heinzer, F. Op. cit. p. 544.
67 See Fiala, V.; W. Irtenkauf. Op. cit., p. 120.
68 See Thiel, E. Op. cit., p. 2381.
69 See Heinzer, F. Op. cit. pp. 544-545.
70 See Harnoncourt, Philipp. Der Kalender. // Gottesdienst der Kirche. Handbuch der Liturgiewissenschaft. 6,1. Feiern im Rhythmus der Zeit 2/1 / Herausgegeben von Hans Bernhard Meyer [et al.]. Regensburg : Pustet, 1994. Pp. 9-63. Register 359-401, 44. ; Schuler, Peter-Johannes. Kalender = Kalendarium. I. Allgemein. // LMA 5(1991), 866.

order, and mostly contains a liturgical prefix of books such as the missal, breviary, psalter or the book of hours which was written for the laity to perform private prayers.[71] The *dies liturgicus* can be defined as the basic element of the liturgical calendar and lasts from midnight to midnight. Only on Sundays and special liturgical feasts does it start with the first Vesper of the previous evening of the respective day.[72]

Two types of church festivals can be differentiated in the calendar based on their contents. In liturgical books they appear at different positions. They are defined as:
1) *Temporale* (*Proprium de tempore*) for church celebrations in the course of the year such as Sundays or Weekdays or certain church feasts during the liturgical year (Advent, Christmas, Lent, Easter, etc.); and 2) *Sanktorale* (*Proprium de sanctis*) for celebrations based on Saint´s days or memorial days.[73] Further, moveable (Sun- and Weekdays, Easter with Eastertide) and stationary (Sanctoral Cycle, Christmastide, consecration of a church, etc.) feasts were differentiated, which led to the circumstance that the calendar had to be constructed annually.[74] Originally, every single church had its own calendar, the so called *depositiones martyrum*, in which the days of death of the martyrs were recorded in order to secure the remembrance of their memorial day.[75] Since the early Middle Ages these local characteristics of the calendar were slowly replaced by feasts which were of importance for the whole church: for example the worship of individuals of great importance in the New Testament (John the Baptist, Holy Mary, apostles, St. Stephen, etc.). The beginning exchange of saint´s relics subsequently caused the exchange of cults between local churches. Further, the calendar of the mother church was adopted by newly founded churches in the course of missionary work. The urban Roman liturgy and its calendar propagated through the Anglo-Saxon mission and the Frankish-Carolingian reform and obtained general recognition. Despite wide conformity of the different calendars they could still be considered as particular calendars since bishops and

71 See Fiala, V.; W. Irtenkauf. Op. cit., p. 133.; Krochalis, J. E.; E. A. Matter. Op. cit., p. 399.

72 See Harnoncourt, Ph. Op. cit., p. 45.

73 See ibid. Regarding feasts of the Saints the votive celebrations have to be considered (e.g., Virgin Mary on Saturday or on work days).

74 See ibid., 46.

75 See Auf der Maur, Hansjörg. Feste und Gedenktage der Heiligen. // Gottesdienst der Kirche. Op. cit., pp. 65-357. Register 359-401, 91-94 (These calendars smoothed the way for the development of martyrologies.); Adam, Adolf. Kalender. IV. Christlicher Kalender. // LThK[3] 5(1996), 1145-1147, 1145.

heads of monasteries were responsible for the arrangement of their own calendar until the Council of Trent.[76]

Calendars also provided an opportunity for book illuminations, which (e.g. the labours of the months in breviaries, missals or books of hours) are counted among the most important creations of book art. They primarily illustrate specific tasks of the month or year and the correlating astrological sign in form of lockets or rhombuses.[77]

Collectar (Liber Collectarius, Collectarium, Collectaneum, Orationale, Manuale)

This book of the celebrant includes all the elements necessary for the priest (*hebdomadarius*) to pray and sing at the office.[78] It contains mainly the daily orations (*collectae*), but also short biblical readings (*capitula*), sometimes a calendar, *preces*, benedictions, the *principia antiphonarum* etc.[79] The collectar can be seen in parallel to the sacramentary (the book for the celebration of the Holy Mass).[80]

Before the rise of collectars, sacramentaries were used in order to perform the required orations. Usually, the collect of the Mass of the day was taken. Sacramentaries of the 8th and 9th Centuries contained collects for Lauds and Vespers,[81] which were often arranged in groups. At the beginning (9th century) they contained only collects of the day for each liturgical hour, but soon *capitula* (readings) and other *preces* (a sort of oration) were added. Various forms of manuscripts existed: hymnal-(collectar)-psalters, antiphonal-collectars or benedictional-collectars. In the 11th and 12th Centuries even rituals were combined with the collectar. Overall, collectars were often books for the entire liturgical year.[82]

76 See Harnoncourt, Ph. Op. cit., pp. 48-49.

77 See Plotzek, Joachim M. Andachtsbücher des Mittelalters aus Privatbesitz : Katalog zur Ausstellung im Schnütgen-Museum. Köln : Schnützgen-Museum der Stadt Köln, 1987. Pp. 71-75 (Nr. 3), 73, pp. 80-82 (Nr. 6), 80 and pp. 85-86 (Nr. 9), 85 with figures on pp. 11 and 15.; Grams-Thieme, Marion. Kalender = Kalendarium. II. Kunsthistorisch. // LMA 5(1991), 866-867, 867.

78 See Meßner, R. Op. cit., p. 46.; see also Gy, Pierre-Marie. Collectaire, rituel, processional. // La liturgie dans l'histoire / Pierre-Marie Gy. Paris : Cerf, 1990. Pp. 91-126.

79 See Braun-Niehr, Beate. Liturgische Handschriften des hohen Mittelalters und ihre Ausstattung. // Romanik / Herausgegeben von Andreas Fingernagel. Graz : Akademische Druck- und Verlagsanstalt, 2007. Pp. 289-308, p. 292.

80 See Fiala, V.; W. Irtenkauf. Op. cit., p. 118.; Heinzer, Felix. Kollektar. // LGB^2 4(1995), 282.; Krochalis, J. E.; E. A, Matter. Op. cit., p. 399.

81 See Palazzo, E. Op. cit., pp. 145-146.

82 See ibid., p. 146. In this publication (pp. 147-148) one can find a short list of early manuscript collectars. See also Reynolds, R. E. Op. cit., p. 223.

Hymnal (Hymnarium)

"As early as the sixth century, the ancient monastic rules, in particular those of Benedict and Caesarius of Arles, mention the liturgical role of hymns and suggest that there existed repertories proper to the different Hours."[83] The hymnal represents a collection of hymns with or without notation. The oldest hymnal goes back Ambrosisus of Milan.[84] The earliest hymnals were written without notations and were copied into special *libelli*. In the 10th century first hymnals appeared with notations, and in the 12th century they were composed as fully neumed manuscripts. Usually only the first verse of the hymn was notated.

Starting with the 11th century hymnals were combined with psalters or with other liturgical books such as the breviary (e.g. hymnal-psalters or hymnal-lectionaries, hymnal-collectars etc.).[85] In connection with the *psalterium non feriatum,* the hymnal can be found at the end of the book in the form of an independent corpus. In this case the composition is separated into three parts: *Proprium de Tempore*, *Proprium Sanctorum* und *Commune Sanctorum*. In connection with the *psalterium feriatum,* the hymns are integrated in their proper liturgical places of liturgical meaning partly with antiphons.[86]

Lectionary (Lectionarium officii, Liber Lectionarius, Lectionale)

This book contains parts of the Holy Scripture or of the Church Fathers[87] which were used for readings (*lectiones*) during the Matins (therefore terms like *Nocturnale*, *Matutinale* were used) in contrast to the book which was used for readings during the Mass (*Lectionarium missae*). The book either contains the whole ecclesiastical year or only individual segments (*Pars hiemalis* or *aestivalis*, *Proprium de tempore*, *Proprium de sanctis* – the latter can also occur miscellaneously). The arrangement of readings is an important aid for the identification of manuscripts: 4, 8 and 12 readings for Sundays and feast days allow the association with the Benedictine tradition. Cathedral churches and other orders (Augustinians, Premonstratensians, Franciscans, Dominicans, etc.) arranged them in 3, 6 and 9 readings.[88]

83 Palazzo, E. Op. cit., p. 142.
84 See Huglo, M. Gesangbücher. Op. cit., pp. 1417-1418.; Thiel, E. Op. cit., p. 2387.
85 See Palazzo, E. Op. cit., p. 143.; Huglo, M. Livres. Op. cit., p. 116.
86 See Fiala, V.; W. Irtenkauf. Op. cit., p. 123.; Reynolds, R. E. Op. cit., p. 224.
87 Regarding the readings of the lives of the saints see chapters *Legendary* or *Passional*.
88 See ibid., p. 118.; Thiel, E. Op. cit., pp. 2387-2388.; Vogel, Cyril. Medieval liturgy : an introduction to the sources / revised and translated by William G. Storey and Niels Krogh Rasmussen. Washington, D.C. : The Pastoral Press, 1986.

Regarding the Office, we know three kinds of readings: scriptural readings, patristic and hagiographic ones. The books to serve this demand are the Bible, lectionaries, breviaries, sermonaries, homilaries, lists of readings, legendaries and passionals.

At first, most of these books were combined into the Office lectionary; later on, they were collected in the breviary along with other parts of the Office.[89]

The lectionary of the Office represents a collection of the readings for the Office (in form of the *incipit*) and outlined each celebration for the whole liturgical year. The Office lectionaries appeared first in the 10th century and was displaced starting with the 12th century by the breviaries.[90] The Office lectionaries were of local character as they were intended for *one* monastery or *one* religious order. "The great diversity existing in both the arrangement of the Office readings and the other elements of the Liturgy of the Hours prevented the emergence of a standard lectionary which would be authoritative throughout the whole West. An abbey or an order affirmed its identity in liturgical matters by establishing, among other things, its own original system of readings, the result of the combination of several homiliaries for instance".[91]

Legendary (Legendarium)

"Legendaries are collections of Lives of the saints, arranged according to the order of the liturgical calendar, used for lections on feasts of saints."[92] They contain collections of lives of the saints of all "nonmartyrs" which are proclaimed through feasts at the Matins office. "The early legendaries, whose production began in the 8th century and reached its climax in the eleventh and twelfth, were rarely intended for the celebration of the Office. Their liturgical structure suggests rather that they were used for the reading in the refectory or for personal meditation. Some medieval legendaries in which the texts are divided into three, six, nine, or twelve readings, were used in choir during the Office."[93]

89 For the different types of books see Palazzo, E. Op. cit., pp. 149-160.
90 See ibid., pp. 158-159.
91 Ibid., p. 159.
92 Krochalis, J. E.; E. A. Matter. Op. cit., p. 408.
93 Palazzo, E. Op. cit., p. 157.

Legendaries also incorporated fables in versified form from the Middle Ages. As a result, they stepped out of their rigorous liturgical function and became a book of folk tales.[94]

Passional (Passionale, Liber passionalis, Passionarius)

Starting from the 11th and 12th Centuries a great number of passionals are known. They contained the acts of the martyrs and, in the form of extension, any other hagiographic narrative. It is possible that they were used in liturgical celebrations, but there is no certain proof of this.[95] They belong to the *lectionarium matutinale* and were sometimes referred to martyrologies.[96] Passionals generally follow the order of the calendar or were organized by categories of personages (apostles, saints, confessors). The oldest passionals originated in the 7th century. The most famous one is the *Legenda aurea* by Jacobus de Voragine (~1230-1298).[97]

Psalter (Psalterium)

The psalter is the oldest of the liturgical books[98] and originated between the 10th to the 3rd century BC. The original text of the 150 psalms written in Hebrew was part of the Old Testament of the bible. It was translated into Greek and served as the foundation for the daily prayers of the oriental church. The psalms were finally translated from the Septuagint into Latin and were available to the different sections of the church in different versions.[99]

Depending on the version of the text they can be differentiated between *Psalterium Gallicanum*, which is based on the translation of the Greek Hexapla des Origen of Alexandria (C185-C254), the *Psalterium Romanum* (the Old Latin text version / *Vetus Latina*) which was mainly used in Rome, and the *Psalterium Hebraicum*, a direct translation of the psalms from Hebrew language into Latin. In addition the *Psalterium Ambrosianum* existed in Milan and the *Mozarabicum* in Spain.[100]

94 See Fiala, V.; W. Irtenkauf. Op. cit., p. 124.
95 See Palazzo, E. Op. cit., pp. 157-158.
96 See Krochalis, J. E.; E. A. Matter. Op. cit., p. 411.
97 See Fiala, V.; W. Irtenkauf. Op. cit., pp. 123-124.; Thiel, E. Op. cit., p. 2389.
98 See Huglo, Michel. Les livres de la chant liturgique. Turnhout, Belgium : Brepols, 1988. P. 116.
99 See Palazzo, E. Op. cit., p. 129.; Huglo, M. Gesangbücher. Op. cit., pp. 1416-1417.; Leroquais, Victor. Les psautiers manuscrits latins des bibliothèques publiques de France. 1. Paris, 1940/41, LI-LXII.; Euw, Anton von; Joachim M. Plotzek. Die Handschriften der Sammlung Ludwig / Herausgegeben von Schnütgen–Museum d. Stadt Köln. Köln : Bachem, 1979. Pp. 303-307.
100 See Euw, A.; J. M. Plotzek. Op. cit., p. 303.; Reynolds, R. E. Op. cit., pp. 223-224.

Historically, the psalter was used very early in the liturgy and dominated the Office during the Middle Ages in two forms: the Roman and the Benedictine form. Extant psalters from the early Middle Ages display great differences which help to depict the history of this liturgical book.[101] Since the High Middle Ages the church has differentiated between the liturgical and the biblical psalter. The latter kept its biblical structure and was divided into five books, whereas the liturgical psalter occurred in various different forms with subdivisions. The Fathers of the Church divided the psalter into three parts with 50 psalms each (1-50, 51-100, 101-150) and interpreted them Trinitarian.[102]

In the Roman liturgy the psalter was arranged in a form that allowed the use of the 150 psalms in the course of one week. The psalms were distributed in the Roman as well as the Benedictine *cursus* among the seven days of the week accordingly. Within the Roman *cursus* they were distributed in the following way:

Dominica	Ad matutinam: Pss 1-20	Ad vesperam: Pss 109-113
Feria II	Ad matutinam: Pss 26-37	Ad vesperam: Pss 114-120
Feria III	Ad matutinam: Pss 38-51	Ad vesperam: Pss 121-125
Feria IV	Ad matutinam: Pss 52-67	Ad vesperam: Pss 126-130
Feria V	Ad matutinam: Pss 68-79	Ad vesperam: Pss 131-136
Feria VI	Ad matutinam: Pss 80-96	Ad vesperam: Pss 137-142
Sabbato	Ad matutinam: Pss 97-108	Ad vesperam: Pss 141-150

Particular psalms were separated from this structure and prayed at special times. Pss 92, 99, 62, 66, 50, 5, 42, 64, 89, 142, 91, 148-50 were used for the morning prayer (Lauds); Pss 53, 117, 23-25, 22, 21, 118 were used for Prime, Terce, Sext and None; Pss 4, 30, (2-6), 90, 133 were used for the Compline (concluding prayer in the evening); and Ps 94 as the psalm of the *Invitatorium* at Matins.[103]

Within the psalter, the beginning of the first psalm of the Matins each day and the beginning of the Psalm of the Vesper (Ps 109) was highlighted with a special initial. [104] Such a psalter was called *Psalterium Romanum* as it was divided into eight parts by the Romans. The Early Christian in the East divided them into 15 groups with 10 psalms

101 See Palazzo, E. Op. cit., p. 129-130.

102 See Thiel, E. Op. cit., p. 2390.

103 See ibid.

104 Regarding the role of the illustrated appearance of liturgical books see Braun-Niehr, B. Op. cit., pp. 299-306.

each (the beginning of 15 psalms was highlighted). It was presumably spread by the Milanese liturgy to the liturgy of St. Gall (psalter of Wolfcoz, psalter of Folchard). The *Psalterium Aureum* of St. Gall finally combines the different types of divisions into one manuscript which led to an extraordinary precious decoration.[105]

The liturgical psalter occurred in three types: 1) *Psalterium non feriatum*. The psalms were listed without further supplements (Ps 1-150) according to their consecutive numbering. Larger initials arranged the psalms into groups as described above. 2) *Psalterium cum ordinario officii* corresponds to the first type with the difference that invitatories, antiphons, verses, short readings (*capitula*) and hymns were added. 3) *Psalterium feriatum* (*Psalterium per hebdomadam*, *Psalterium per ferias* etc): The biblical order remains, but the psalms are arranged according to the Liturgy of the Hours which means that each psalm is arranged according to its liturgical use. The *Ordinarium officii* is included into the psalter. Invitatories and antiphons are provided with neumes.[106] Psalters often occur in combination with other liturgical books such as hymnars, collectars, etc.

The psalter is considered the book of prayer of the Middle Ages par excellence, also for laity of higher rank.[107] For this reason psalters were frequently illustrated. The beginning of the psalter was often illustrated with a picture of David and the beginning words of the first psalm "*Beatus vir*" were preferably decorated on an initial page. Additionally, the principle of word illustration was widely used in psalters which meant that the language of the psalms which was rich in metaphors and pictures was transformed into (real) images.[108] The illustration of the psalter, especially those which covered full pages and contained decorative initials could be considered as the most appealing chapters of the history of art of the Middle Ages.[109]

Responsorial (Responsoriale)

Parallel to the multiplication of the different types of liturgical psalter and certain books of hours, the appearance of responsorials which are collections of the responsories contained in the antiphonals could be

105 See Euw, A.; J. M. Plotzek. Op. cit., p. 304.; Thiel, E. Op. cit., pp. 2391-2392.

106 See Fiala, V.; W. Irtenkauf. Op. cit., p. 121.

107 See Krochalis, J. E.; E. A. Matter. Op. cit., p. 415.

108 See Psalter [cited: 2011-11-30]. Available at: http://www.ub.uni-heidelberg.de/helios/fachinfo/www/kunst/digi/glossar/p-r.html#P.

109 See Palazzo, E. Op. cit., p. 132.

observed north of the Alps during the Middle Ages.[110] This type of liturgical book contained texts and music of both types of responsories: *Responsoria prolixa* (large responsories) for the night prayers and *Responsoria brevia* for concluding the *capitula*, which are short readings in diverse canonical hours.[111]

Sermonaries, Homilaries (Liber homilarius)

Homilaries and sermonaries were special forms of Office lectionaries, both containing a choice of patristic commentaries or homilies for the patristic reading at the Office of Matins.[112] "In the Middle Ages, the distinction between sermonary and homiliary was artificial even though in the Latin usage, the word 'homily' is reserved for the explanation of the Gospel."[113]

Both books contained texts of the Church Fathers, which were arranged in paragraphs of different lengths and according to their appearance in the liturgical year. [114] Similarly to the breviary, a division into winter (Advent to Easter) and summer (Easter to Advent) could be occasionally observed.[115] The patristic homilaries contained special patristic texts for the readings of monks in monasteries, whereas the Carolingian homilaries were like handbooks for the preaching ministry.[116] Homilaries, especially, were richly bound and illustrated.[117]

Conduction and structure of the church prayer

The third passage focuses on the conduction, structure and the elements of the Devine Office.[118] For conducting the prayer in choir form different books containing the necessary elements were used. As already mentioned, the monastic Office focused on the vigilance of Christianity.[119] Meetings were held several times during the day and also night in monastic communities in order to pray. These meetings were structured

110 See ibid.

111 See Fiala, V.; W. Irtenkauf. Op. cit., p. 123.; Thiel, E. Op. cit., p. 2392. See Krochalis, J. E.; E. A. Matter. Op. cit., p. 415.

112 See Heinzer, Felix. Homilar. // LGB^2 3(1991), 527.; Restle, Marcell St. Homilie = Homilar : illustrationen. // LMA 5(1991), 111-112. Evidence for the oldest homilaries of Western liturgy can be found in Dekkers, Eligius. Clavis patrum latinorum. // SE 3(1961), 451.

113 Palazzo, E. Op. cit., p. 153.

114 See Krochalis, J. E.; E. A. Matter. Op. cit., p. 417.

115 See Palazzo, E. Op. cit., p. 153.

116 See Longère, Jean. Predigt. // LMA 7(1995), 171-174, 172.

117 See Krochalis, J. E.; E. A. Matter. Op. cit., p. 406.

118 See Hughes, A. Op. cit., pp. 50-80.

119 See chapter *Historical overview.*

by a special scheme, the so called "Horenschema" (lat. hora = hour).[120]. The arrangement of the liturgical day in scheduled prayer meetings (*horae canonicae*), should have sanctified the daily routine. The following terms for these cycle of prayers were used: Matins (*Vigilia*, *Nocturna*), Lauds (*In matutinis laudibus*), Prime, Terce, Sext, and None (in manuscripts often referred to: I, III, VI und VIIII), Vespers (*ad vesperas*) and Compline (*ad completorium*).

It must also be mentioned that there was not a single perfect text or structure of the Office. Throughout the Middle Ages the performance of the Office varied from church to church. "Although there are definite groupings of Office performance according to religious order or geographical and ecclesiastical boundaries, no structural stability was found for the Office ... in the canon of the Roman Mass."[121] Nevertheless, elusive differences can be recognized between the monastic-Benedictine and the secular Office.

The *Liturgia horarum* contains elements such as psalms with antiphons, hymns, readings of texts from the Bible and the Church Fathers, responsories, canticles and prayers (orations, collects). These are assigned to their respective praying times according to the day of the week.

The structure of the Office for a liturgical day

For a long time, liturgists have been aware of the specificity of each Hour, of its character, of its spirituality, and have established a hierarchy regarding the Hours, in which Lauds and vesper services occupy an important place.[122] Since the liturgical day, as mentioned above, lasts from midnight to midnight[123] this overview about the hours of prayers of the Office begins with the description of the Night Office.

Matins (Vigil)

The Night Office contains Vigils,[124] whose structure varies, according to the day, from one Nocturn to three (on Sunday).[125] It is the longest of all Offices.[126] Meetings were held early in the morning in order to recite psalms. The Nocturn can be considered the core of the Matins which

120 See chapter *Cathedral and monastic office.*
121 Reynolds, R. E. Op. cit., p. 225.
122 See Palazzo, E. Op. cit., p. 122.
123 See chapter *Calendar*.
124 Vigils, sometimes called Matins, is the first office of the day to come and not the last of the preceding day.
125 See Palazzo, E. Op. cit., p. 123.
126 See Hughes, A. Op. cit., pp. 53-66.; Reynolds, R. E. Op. cit., p. 228.

consists of psalms and antiphons followed by readings and responsories. The Night Office invariably opens with a verse repeated three times, a hymn and a psalm – the so called Invitatory; the length of each Nocturn is variable, and the third on Sunday is the most developed.[127] A blessing is conducted ahead of the reading: *Iube, Domne, benedicere*. The number of Nocturns (1-3) depends on the rank of the day or feast. The end of the Matins is often marked by the "*Te Deum*" which builds the bridge to the Lauds. The Matins offers a good opportunity to differentiate the Benedictine and the secular Office.[128]

"The essential goal of Vigils is the fostering of watchfulness and the stimulation of the expectation of the Lord, who will come back at daybreak. The Easter Vigil, then, secondarily, various prayer meetings at night were probably at the root of the progressive evolution of the night office ..., initially for the big feasts of the Temporal and later for the celebrations of certain feasts of the saints, especially those held at their burial places."[129]

Lauds

The Office of Lauds follows after the Matins. Lauds and Vespers (morning and evening prayers) are of special theological significance as they were the central prayer meetings in the cathedral liturgy.[130] This service is much simpler than the Matins. It opens with an invariable versicle *Deus in adiutorium* and its response.[131] Every fifth psalm has its own antiphon, but it is also possible that only one antiphon is used for all five psalms. Most Sundays and church feasts have their own antiphons which are subsequently used in the following week as the only one. The reading is performed as a short reading from the Old or the New Testament and its end is confirmed with a *Deo gratias* from the choir.[132] The choice of readings and, in particular, of psalms is determined by the themes of setting and rising or references to the death and resurrection of Christ.[133]

127 See Palazzo, E. Op. cit., p. 123.
128 See Hughes, A. Op. cit., p. 54. Benedictine: six psalms and antiphons were used in the first two Nocturns, three *cantica* instead of psalms in the 3rd Nocturn and four readings in all Nocturns. The Matins of the secular clergy was arranged in the form of 12 psalms for the first Nocturn, three psalms for the second and third nocturne, and three readings for each Nocturn.
129 Palazzo, E. Op. cit., p. 123.
130 Nowadays the term cathedral would refer to a community corresponding to the size of a parish.
131 See Hughes, A. Op. cit., p. 66.
132 See ibid., p. 67.
133 See Palazzo, E. Op. cit., p. 122.

Hymn, versicles, and responsories change during the church year, and are omitted at *Easter Triduum* (three holy days at Easter) and in the week after Easter. The length and the text of the antiphon on *Benedictus*, as the laud of Zachariah (Lk 1: 68-79) is called, changes almost every day.

At octaves the same antiphon is used most of the time as on the feast day. The Lauds end with a type of blessing. They are supplemented with orations and other supplements, which were prayed with a few exceptions the whole year. Enrichments of the texts were achieved also through so called commemorations.[134] The formula *Dominus vobiscum* initializes the concluding prayer – an oration. The Service of the Lauds ends with the blessing *Benedicamus Domino* and the formula *Deo gratias*.

The Church Fathers of the 4th century already mention the topics of the morning prayer: Thanks to the Lord for the gift of salvation and the resurrection of Christ and request for his help for the coming day.[135] The Lauds remember the resurrection of Christ which defeated death for eternity. The praying person is invited to persevere in confidence that Christ will come "to give light to them that sit in darkness [in] the shadow of death" (Lk 1:79).

The Little Hours

Manuscripts often contain the term "*ad cursum*".[136] The canonical hours Prime, Terce, Sext and None are also referred to as "The Little Hours". They mainly consist of psalms followed by short readings and hymns, with versicles and prayers at the beginning and the end. The Prime vary more in the course of the church year than the other Little Hours. The reading is followed by a *responsorium breve* (short responsory), which is omitted only at *Triduum sacrum*.

The Little Hours can be found between Lauds and Vespers and are the deepest expression of the unceasing prayer of Christians. Their structure (nearly the same for the three Hours) remained unchanged during the Middle Ages.[137]

The hour of Prime was the last Hour in the history of the Office to be established. It was a very short office at the first hour of the day dating back to the 5th century, probably established to prevent monks

134 See Hughes, A. Op. cit., p. 68.
135 See Taft, R. F. Theology. Op. cit., pp. 125-126.
136 See Hughes, A. Op. cit., p. 75.
137 See Palazzo, E. Op. cit., pp. 122-123.

from going to sleep again. It was celebrated in the choir and followed by a sort of "supplement" to the office in chapter. This is a half-liturgical and a half-administrative office as matters concerning the life in the monasteries were addressed during its composition.[138]

Daily, Terce, Sext and None recall parts of the life and passion of Christ and lead to the center of the Christian faith.[139]

Vespers

The structure of Vespers is similar to the one of Lauds. Sundays and feasts contain two Vespers. The first Vesper on Sunday replaces the Vesper on Saturday which is also of lower rank.[140] Most of the time, only the first Vesper is mentioned, as it is the more important one. The first Vesper contains five antiphons, whereas the second one contains only one for the psalms. The oration (collect) is in most cases similar in the first and the second Vesper. Hymns, versicles and responsories vary according to the church year. The first and second Vespers are also different. The same is true for responsories, psalms and antiphons whereby the antiphon on the *Magnificat* is always independent. The readings are mostly from the New Testament except at the time of Advent. A special role is given to the Vesper at Easter, which has a completely different pattern – it corresponds to the Roman Vesper at Easter.[141]

The liturgy of the light (*lychnicon*, *lucernarium*) was a central element of the evening prayer of the traditional church and still plays these roles in the tradition of the Orthodox church.[142]. The aim of the Prayer of Thankfulness during Vespers is to express thanks for the ending day and to direct ones view to the end of all things and times. The church used the time of the lightning of the lamps to recall Christ as the savior with the image of the never ending setting sun.[143]

Darkness recalls the suffering and the death of Christ and reminds us of the mortality of all things on earth. The recurring light in the morning visualizes Christ as the light of the world (John 8:12), which

138 See ibid., p. 123.
139 See Braun-Niehr, B. Op. cit., p. 292.
140 See Reynolds, R. E. Op. cit., p. 229.
141 See Hughes, A. Op. cit., pp. 68-75.
142 See Plank, Peter. Stundengebet. IV. Orthodox. // RGG^4 7(2004), 1802.
143 See Taft, R. F. Theology. Op. cit., p. 126. The author refers to a prayer of thanksgiving during the bringing of the Light according to the apostolic tradition. See also Taft, R. F. Thanksgiving. Op. cit., pp. 37-41. In addition to the *lucernarium* the elements "light hymn", offering of frankincense and the raising of the hands according to Psalm 140:2 (141:2) also have to be listed.

will never set. The Litany of Intercession is prayed by the church for the whole world where it additionally asks for forgiveness of the sins of the day. This concept, which can be considered as a basic theme of the evening liturgy, motivated the Church Fathers to install Psalm 140 (141) as *the* psalm of Vespers.[144]

Compline

The service of Compline (a Night Office) ends the day, before all creatures are immersed in the silence of the night. In this service the praying people ask for a good and sheltered night for themselves and mankind. Compline is the stillest prayer meeting, which tries to lead towards the peace inside the heart, towards the silence of the night. Life is given into God's blessing.

Compline also belongs to the canonicle hours which rarely change within the year. The opening versicle *Converte nos* and *Deus in adiutorium* remain the same all year long. The four psalms are sung under one antiphon.[145] The reading from Jeremiah 14 is used all year long, which is followed by a responsory only during the fasting period. Subsequently a hymn (or a sequence) is sung which varies seasonally. "Like the antiphons for the other major canticle, the antiphon to the canticle *Nunc dimittis* is the most variable part of the service ... The liturgical greeting, *Oremus*, and ... the second liturgical greeting and *Benedicamus* formula are invariable ..."[146]

In historic manuscripts the Office of the Compline appears quite seldom as it is quite stable and rarely changes. It can be concluded that during the hourly prayers the praying people consistently turn towards God in all life situations according to the five categories of the biblical book of the Psalms.

The principal elements of the Office

Each Hour followed a certain structure and used special elements that are sometimes the same, sometimes not. Liturgical manuscripts generally indicate the different pieces or elements and Hours of the day in abbreviated forms. The service is presided over by the bishop (or a canon) in the cathedral Office and by the abbot or abbess in the mo-

144 See Taft, R. F. Thanksgiving. Op. cit., pp. 33-34. John Chrysostom says the service of forgiveness is the primary element of the evening prayer; see ibid., p. 34.

145 See Hughes, A. Op. cit., pp. 74-75.

146 Ibid., p. 74.

nastic Office. Their part was to recite the prayers and the reading of the Gospel. The assignment of any person in the community could be – as a rule – to be the reader at the Office for one week. The part of the whole community was the singing of the psalmody, generally divided into two choirs, mostly under the guidance of one or two soloists.[147]

Already in the ancient monastic rules, the psalmody plays an important role in the monk's prayer.[148] By adopting the principle of *lectio continua* prescribed in Benedict's Rule or by choosing psalms according to the time, one gets several forms of psalmody. 1) Direct psalmody in which one or several soloists sing the psalm *in directum* (straight through, without antiphons or refrains) in one melody and without interruption; 2) Responsorial psalmody, in which one or several soloists conduct the psalm verses, but at the end of each verse, the community takes up a brief responsory, a sort of refrain ranging from the simple word "*alleluia*" to part of a psalm verse or a whole verse; 3) Alternating psalmody, in which two choirs alternate the singing of the whole psalm without interruption, verse by verse or strophe by strophe.[149]

The chanting of the psalms at the Office is enriched by antiphons (from the Latin word *antiphona*), a kind of brief refrain generally sung at the beginning and the end of the psalm, or even between strophes.[150] On one hand, the function of antiphons is to frame the singing of each psalm and to indicate what psalm tone is to be used. On the other it is to highlight of the musical, lyrical, and spiritual meaning of the psalm. Originally, it was composed of one or two Scripture verses, generally drawn from the psalm it frames; in this case, it is called a Psalmic antiphon. Starting with the 5th century, non-biblical antiphons were created.[151]

The hymns (from the Latin *hymnus*) were always conducted by the soloist or soloists and the choir. They designate a lyrical chant in metric or rhythmic verses intended to enrich the spiritual power of the Office and express, in poetical terms, the mystery of the day. They were placed either in the beginning of the Office or after the reading and collected into hymnals to facilitate their diffusion.[152]

147 See Palazzo, E. Op. cit., p. 120.
148 See Hughes, A. Op. cit., pp. 23-33.
149 See Palazzo, E. Op. cit., pp. 120-121.
150 Ibid., p. 120. See Hughes, A. Op. cit., pp. 33-34.
151 See Palazzo, E. Op. cit., p. 120 and p. 125.
152 See ibid., p. 127.; see also Hughes, A. Op. cit., pp. 37-38.

The readings (from Latin *lectiones*) designate any liturgical reading done during the Office. There could be three kinds of readings: biblical, patristic, and hagiographic. The biblical reading (Old and New Testaments) is the oldest and most important; as a general rule, the proclamation of the Gospel is the abbot's or abbess's privilege. The reading of the Church Fathers and the hagiographic writings also appeared very early in the history of the Office, in Africa and the East, and greatly developed during the Middle Ages.[153]

A brief reading from Scripture is called *capitulum* ["chapter"]. A reading from the Fathers of the Church is called a homily or sermon[154], while the hagiographic readings are termed legends or passions (gathered in legendaries or passionals). The number and selection of lessons characterize the liturgical usages of a given tradition (monastic, Roman, and so on), a given Church, even a given diocese.[155]

Responsories (from the Latin *responsorium*) generally followed a reading.[156] The term derived from the psalmody since it was a psalm reduced to one or two verses, and it is characterized by the repetition of a limited number of psalm verses. "Later on, when the reading was excerpted from other books of the Old Testament, the responsory was also taken from the same text. In the Middle Ages, a given liturgical time, a given feast, had a common treasury of responsories from which each church drew to organize its own series. The study of responsories is one of the means of determining the liturgical use of a manuscript."[157]

Versicles (from the Latin *versus*) designate short sentences drawn from the Psalms or other parts of Scripture. There were versicles of introduction ("O God, come to my aid"), of conclusion ("Let us bless the Lord"), of transition, leading from the recitation of psalms to listening to the word of God or else from the reading to the oration.[158]

Finally, the celebration of the Hours makes room for the recitation of prayers of intercession and thanksgiving. In the earliest monastic rules, the custom of concluding certain Offices with prayers of intercession (especially Lauds and Vespers) is well attested. In most traditions, it became customary to introduce the recitation of the *Pater Noster* (Our Father) at least three times a day at the beginning or

153 See Hughes, A. Op. cit., pp. 22-23.; Palazzo, E. Op. cit., p. 121 and p. 126.
154 See chapter *Homilary* or *Sermonary*.
155 Palazzo, E. Op. cit., p. 126.
156 See Hughes, A. Op. cit., p. 41.
157 Palazzo, E. Op. cit., p. 127.
158 See ibid.

end of the celebration. Such recitation could be accompanied by that of an oration[159] reserved for priests, without the Our Father, at certain Hours, always as a conclusion to the Office. In rare occasions, a blessing was foreseen, as Benedict's Rule prescribes at the end of Compline.[160]

Conclusion

As we have seen the request of unceasing prayer traces back to Jesus and the time of the New Testament. Medieval prayer books owe their existence to a long tradition of different liturgical books. They finally summarize what was previously spread over many varied volumes. They also reflect a tradition that has transformed a congregational prayer to the prayer of an individual using a single book. The use of prayer books in the Middle Ages touched not only the clerical or monastic area, but also the world of the laity. It served to deepen the piety and found broad distribution.

References

Adam, Adolf. Kalender. IV. Christlicher Kalender. // LThK^3 5(1996), 1145-1147.

Angenendt, Arnold. Geschichte der Religiosität im Mittelalter. Darmstadt : Wissenschaftliche Buchgesellschaft, 1997.

Auf der Maur, Hansjörg. Feste und Gedenktage der Heiligen. // Gottesdienst der Kirche. Handbuch der Liturgiewissenschaft. 6,1. Feiern im Rhythmus der Zeit 2/1 / Herausgegeben von Hans Bernhard Meyer [et al.]. Regensburg : Pustet, 1994. Pp. 65-357. Register 359-401.

Beal, Peter. A dictionary of English manuscript terminology : 1450-2000. Oxford [etc.] : Oxford University Press, 2008.

Bishop, Edmund. Liturgica historica : papers on the liturgy and religious life of the Western Church. Oxford : Clarendon Press, 1918.

Bradshaw, Paul F. The Divine Office : the first three centuries. // The study of liturgy. Revised ed. / edited by Cheslyn Jones [et al.]. London : SPCK; New York : Oxford University Press, 1992. Pp. 399-403.

Bradshaw, Paul F. The origins of the daily office. // Alcuin : the occasional journal of the Alcuin Club (1978), 3-4.

Bradshaw, Paul F. Paralleles between early Jewish and Christian prayers : some methodological issues. // Identität durch Gebet : Zur gemeinschaftsbildenden Funktion institutionalisierten Betens in Judentum und Christentum / Herausgegeben von Albert Gerhards [et al.]. Paderborn [etc.] : Schöningh, 2003. Pp. 21-36.

Bradshaw, Paul F. The search for the origins of Christian worship : sources and methods for the study of early liturgy. Trowbridge, Wiltshire : The Cromwell Press, 2002.

159 See Hughes, A. Op. cit., p. 21.; see also chapter *Collectar*.

160 See Palazzo, E. Op. cit., pp. 121-122.

Braun-Niehr, Beate. Liturgische Handschriften des hohen Mittelalters und ihre Ausstattung. // Romanik / Herausgegeben von Andreas Fingernagel. Graz : Akademische Druck- und Verlagsanstalt, 2007. Pp. 289-308.

Crichton, J. D. The Divine Office : the office in the West : the early Middle Ages. // The study of liturgy. Revised ed. / edited by Cheslyn Jones [et al.]. London : SPCK; New York : Oxford University Press, 1992. Pp. 420-429.

Dekkers, Eligius. Clavis patrum latinorum. // SE 3(1961), 451.

Eham, Markus. Antiphonale = Antiphonar. // LThK[3] 1(1993), 775.

Euw, Anton von; Joachim M. Plotzek. Die Handschriften der Sammlung Ludwig / Herausgegeben von Schnütgen–Museum d. Stadt Köln. Köln : Bachem, 1979.

Fiala, Virgil; Wolfgang Irtenkauf. Versuch einer liturgischen Nomenklatur. // Zeitschrift für Bibliothekswesen und Bibliographie : Zur Katalogisierung mittelalterlicher und neuerer Handschriften. Sondernummer 1(1963), 105-137.

Gerhards, Albert. "Benedicam Dominum in omni tempore" : Geschichtlicher Überblick zum Stundengebet. // Lebendiges Stundengebet : Vertiefung und Hilfe / Herausgegeben von Martin Klöckener and Heinrich Rennings. Freiburg i. Br. [etc.] : Herder, 1989. Pp. 3-33.

Gerhards, Albert. Stundengebet : I. Geschichte. // TRE 32(2001), 268-276.

Grams-Thieme, Marion. Kalender = Kalendarium. II. Kunsthistorisch. // LMA 5(1991), 866-867.

Grisbrooke, W. Jardine. The Divine Office : the formative period : cathedral and monastic offices. // The study of liturgy. Revised ed. / edited by Cheslyn Jones [et al.]. London : SPCK; New York : Oxford University Press, 1992. Pp. 403-420.

Gy, Pierre-Marie. Collectaire, rituel, processional. // La liturgie dans l'histoire / Pierre-Marie Gy. Paris : Cerf, 1990. Pp. 91-126.

Gy, Pierre-Marie. Les premiers bréviaires de Saint-Gall (deuxième quart du XIe s.). // Liturgie : Gestalt und Vollzug / Herausgegeben von Walter Dürig. München : Hueber, 1963. Pp. 104-113.

Harnoncourt, Philipp. Der Kalender. // Gottesdienst der Kirche. Handbuch der Liturgiewissenschaft. 6,1. Feiern im Rhythmus der Zeit 2/1 / Herausgegeben von Hans Bernhard Meyer [et al.]. Regensburg : Pustet, 1994. Pp. 9-63. Register 359-401.

Heinzer, Felix. Brevier // LGB[2] 1(1987), 544-545.

Heinzer, Felix. Homilar. // LGB[2] 3(1991), 527.

Heinzer, Felix. Kollektar. // LGB[2] 4(1995), 282.

Hughes, Andrew. Medieval manuscripts for mass and office : a guide to their organization and terminology. Toronto [etc.] : University of Toronto Press, 1995.

Huglo, Michel. Liturgische Gesangbücher. // MGG[2] Sachteil 5(1996), 1412-1438.

Huglo, Michel. Les livres de la chant liturgique. Turnhout, Belgium : Brepols, 1988.

Jungmann, Josef A. Liturgie der christlichen Frühzeit bis auf Gregor den Großen. Freiburg i. d. Schweiz : Universitätsverlag, 1967.

Klöckener, Martin; Angelus A. Häußling. Liturgische Bücher. // Divina Officia : Liturgie und Frömmigkeit im Mittelalter / Herausgegeben von Patrizia Carmassi. Wiesbaden : Harrassowitz, 2004. Pp. 341-372.

Klöckener, Martin. Im Wandel der Generationen : Vom Beten in der Freiheit des Geistes zum individualisierten Pensum. // Ringseisen, Paul. Morgen- und Abendlob mit der Gemeinde : Geistliche Erschließung, Erfahrungen und Modelle : Mit einem Beitrag von Martin Klöckener. Freiburg i. Br. [etc.] : Herder, 1994. Pp. 98-122.

Klöckener, Martin. “Wenn der Herr das Haus nicht baut ...” (Ps 127,1) : Die Bedeutung der Liturgie für die mittelalterliche Stadt anhand des Beispiels Freiburg im Uechtland. // Stadtgründung und Stadtplanung : Freiburg/Fribourg während des Mittelalters = Fondation et planification urbaine : Fribourg au moyen âge / Herausgegeben von Hans-Joachim Schmidt. Wien [etc.] : Lit, 2010. Pp. 149-176.

Köstler, Hermann. Stundenbücher : Zur Geschichte und Bibliographie. // Philobiblon 28, 2(1984), 95–128.

Krochalis, Jeanne E.; E. Ann Matter. Manuscripts of the liturgy. // The liturgy of the medieval church / edited by Thomas J. Heffernan, E. Ann Matter. 2nd ed. Kalamazoo, MI : Medieval Institute Publications, 2005. Pp. 393-430.

Leroquais, Victor. Les Livres d'Heures Manuscrits de la Bibliothèque Nationale. 1.–3. Paris, 1927.

Leroquais, Victor. Les pautiers manuscrits Latins des bibliothèques publiques de France. 1. Paris, 1940/41.

Longère, Jean. Predigt. // LMA 7(1995), 171-174.

Meßner, Reinhard. Einführung in die Liturgiewissenschaft. Paderborn [etc.] : Schöningh, 2001.

The monastic breviary of Hyde Abbey, Winchester. 6: Introduction to the English monastic breviaries / edited by John Basil Lowder Tolhurst. London : Harrison 1942.

Ochsenbein, Peter. Stundenbücher. // MarL 6(1994), 320–322.

Palazzo, Eric. A history of liturgical books from the beginnings to the thirteenth century / translated by Madeleine Beaumont. Collegeville, MN : The Liturgical Press, 1998.

Plank, Peter. Stundengebet. IV. Orthodox. // RGG4 7(2004), 1802.

Plotzek, Joachim M. Andachtsbücher des Mittelalters aus Privatbesitz : Katalog zur Ausstellung im Schnütgen-Museum. Köln : Schnützgen-Museum der Stadt Köln, 1987.

Plotzek, Joachim M. Die Handschriften der Sammlung Ludwig. // Euw, Anton von; Joachim M. Plotzek. Die Handschriften der Sammlung Ludwig / Herausgegeben von Schnütgen–Museum d. Stadt Köln. Köln : Schnütgen–Museum der Stadt Köln, 1982.

Psalter [cited: 2011-11-30]. Available at: http://www.ub.uni-heidelberg.de/helios/fachinfo/www/kunst/digi/glossar/p-r.html#P.

Restle, Marcell St. Homilie = Homilar : illustrationen. // LMA 5(1991), 111-112.

Reynolds, Roger E. Divine Office. // DMA 4(1989), 221-231.

Rouwhorst, Gerard. Identität durch Gebet : Gebetstexte als Zeugen eines jahrhundertelangen Ringens um Kontinuität und Differenz zwischen Judentum und Christentum. // Identität durch Gebet : Zur gemeinschaftsbildenden Funktion institutionalisierten Betens in Judentum und Christentum / Herausgegeben von Albert Gerhards [et al.]. Paderborn [etc.] : Schöningh, 2003. Pp. 37-55.

Salmon, P[ierre]. Das Stundengebet. // Handbuch der Liturgiewissenschaft / Herausgegeben von Aimé-Georges Martimort [et al.]. Freiburg i. Br. [etc.] : Herder, 1965. Pp. 324-422.

Schmidt, Albert. Zusätze als Problem des monastischen Stundengebets im Mittelalter. Münster; Westfalen : Aschendorff, 1986.

Schuler, Peter-Johannes. Kalender = Kalendarium. I. Allgemein. // LMA 5(1991), 866.

Stäblein, Bruno. Antiphonar (Antiphonale). // MGG 1(1949-1951), 545-549.

Stadlhuber, Josef. Das Laienstundengebet vom Leiden Christi in seinem mittelalterlichen Fortleben. // ZKTh 72(1950), 282-325.

Taft, Robert F. The liturgy of the hours in East and West : the origins of the Divine Office and its meaning for today. Collegeville, MN : The Liturgical Press, 1986.

Taft, Robert F. "Thanksgiving for the Light" : toward a theology of vespers. // Diakonia : a quarterly devoted to advancing Orthodox-Catholic dialogue 13/1(1978), 27-50.

Taft, Robert F. The theology of the liturgy of the hours. // Handbook for liturgical studies. 5: Liturgical time and space / edited by Anscar J. Chupungco. Collegeville : Liturgical Press, 2000. Pp. 119-132.

Thiel, Erich Joseph. Die liturgischen Bücher des Mittelalters : Ein kleines Lexikon zur Handschriftenkunde. // Börsenblatt für den deutschen Buchhandel. Frankfurter Ausgabe 23/83(1967), 2379-2395.

Thoss, Dagmar. Stundenbuch. // LMA 8(1997), 259.

Traditio apostolica – Apostolische Überlieferung / Übers. und eingel. von Wilhelm Geerlings. // Didache – Zwölf-Apostel-Lehre / Übers. und eingel. von Georg Schöllgen. Freiburg i. Br. [etc.] : Herder, 1991. Pp. 141-358.

Van Dijk, Stephen Joseph Peter; Joan Hazelden Walker. The origins of the modern Roman liturgy : the liturgy of the Papal Court and the Franciscan Order in the thirteenth century. London : Darton [etc.], 1960.

Vogel, Cyril. Medieval liturgy : an introduction to the sources / revised and translated by William G. Storey and Niels Krogh Rasmussen. Washington, D.C. : The Pastoral Press, 1986.

Wegmann, Hermann A. J. Geschichte der Liturgie im Westen und Osten. Regensburg : Pustet, 1979.

Wieck, Roger S. The Book of Hours. // The liturgy of the medieval church / edited by Thomas J. Heffernan, E. Ann Matter. 2nd ed. Kalamazoo, MI : Medieval Institute Publications, 2005. Pp. 431-468.

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RAZLIČITE VRSTE SREDNJEVJEKOVNIH RUKOPISA KOJI SE KORISTE KAO MOLITVENICI

Sažetak

U srednjem vijeku službena molitva Katoličke crkve, koja je danas poznata pod nazivom *liturgia horarum* ili časoslov, sastojala se od zbirke rukom pisanih izvora koje su kao podsjetnik koristili redovnici, redovnice ili svećenici. Ovaj esej opisuje povijest tih molitvi – Službe Božje – od početka visokog srednjeg vijeka u zapadnom svijetu u kojem je dominirao latinski. Opisani su i značajni nositelji informacija nužni za izvođenje ovih molitvi (antifoni, kolekte, pjesmarice, psaltiri itd.). Detaljno se objašnjavaju unutarnja struktura i elementi liturgijskih rukopisa.

Ključne riječi: časoslov, povijest Službe Božje, zapadni liturgijski rukopisi

HISTORIA SALONITANA AND HISTORIA SALONITANA MAIOR

A CONTRIBUTION TO THE DEBATE ABOUT THE RELATION OF THE TWO TEXTS

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Abstract

Historia Salonitana (HS) is a history of the church of Salona and Split, written by Thomas the Archdeacon of Split in the 13th century. *Historia Salonitana maior* (HSM) is today considered to have been written by an anonymous author sometime in the 16th century. Its importance lies in a number of documents inserted in what was originally Thomas' HS, like the sources pertaining to the synods held in Split in 925 and 928 which also contain the letters of popes John X and Leo VI.

Why Thomas, who had the archive of the Split church at his disposal, did not include these sources in his HS? Several authors agreed that the composer of the text on the synods was John, the Archbishop of Split, who personally attended the synods, because he refers to the bishops as "us". However, the report is not as consistent as it seemed. The introduction to the decisions of the first synod is not written in the first person plural, but in the third person plural. The final version of the text is the result of the work of at least three authors. The first composed the report on the 925 synod. The other was most probably Archbishop John, who reported on the second synod. The third author was the composer of HSM, who introduced papal letters into the text. The fact that Thomas mentioned only the bishop Gregory of Nin, might be explained with the presumption that only the Archbishop's report was known to him. This would mean that the other report on the first synod, together with the papal letters was not kept in the archive of the chapter of Split. The *Korčula Codex* reveals the possibility that the chapter of Zadar had its own archive. It was probably the place where another note on the synod of 928 was kept, but maybe also two letters by Pope John X and the decisions of the 925 synod. It is very likely that the whole report on both synods is a compilation of different sources. Whether this compilation was made up at one time or in two stages – shortly after the synods and then around 1500 – remains an open question.

Keywords

Historia Salonitana, *Historia Salonitana maior*, Thomas the Archdeacon, Synods of 925 and 928, Split, Salona, Zadar, John X, Leo VI, Gregory of Nin, Formin, Šimun Kožičić Begna

There are few examples that the early mediaeval history of a nation depends so much on two written sources, as in the case of Croatia. Croatian historians have at their disposal, of course, several more texts and at least one of them, Constantine Porphyrogenitus' *De administrando imperio*, is as important as the two presented in this paper, but the interpretations of so many very important political and ecclesiastical issues rely on *Historia Salonitana* (HS) and *Historia Salonitana Maior* (HSM) – as they are known under their abbreviated names – that it is not possible to neglect them in almost any discussion on the beginnings of Croatian history.[1]

From the mid-19th century into the seventies of the following century several historians investigated and analysed both texts. The discussion intensified immediately after World War II and lasted into the seventies. This does not mean that there was no interest in these sources during the 17th and 18th centuries. On the contrary, the opinions of early scholars, like Johannes Lucius (1604 – 1679) or Daniele Farlati (1690 – 1773), greatly influenced later evaluations of both manuscripts, but I think it suffices to take a look at the more recent works.[2]

A very detailed overview of secondary literature on the relation between the two manuscripts was provided by Nada Klaić and even though published in 1967, it is still valid, because little was written on the matter afterwards, except for the book by Stjepan Gunjača in which he published both sources and analysed their relation exhaustively, and a treatise by Lujo Margetić.[3] However, Gunjača did something professionally inadmissible, though not quite unusual. His book was prepared for print already in 1971, but he failed even to mention the edition of HSM published by Nada Klaić in 1967. It was a known fact that the two were not in the best of relations, but it was still too much not to reveal

1 On Constantine's De administrando imperio see, most recently: U početku bijaše De administrando imperio : Konstantin VII. Porfirogenet i percepcija najranije hrvatske povijesti = In the Beginning there was De administarndo imperio : Constantine VII Porphyrogenitus and the Perception of the Earlieast Croatian History : radovi s međunarodnog znanstvenog skupa, Zagreb, 18. veljače 2010. = Proceedings of the conference held in Zagreb on February 18th, 2010 / edited by Trpimir Vedriš. // Radovi Zavoda za hrvatsku povijest 42 (2010), 13-165.

2 Iohannes Lucius. Addenda vel corrigenda in opere De regno Dalmatiae et Croatiae, Inscriptiones Dalmaticae. Venice, 1674. P. 73.; Farlati, Daniele. Illyricum sacrum. Vol. I, Venice, 1751. Pp. 319, 405.

3 Klaić, Nada. Historia Salonitana Maior. Beograd : Naučna knjiga, 1967.; Gunjača, Stjepan. Ispravci i dopune starijoj hrvatskoj historiji. Zagreb : Školska knjiga, 1973.; Margetić, Lujo. Historia Salonitana i Historia Salonitana Maior : neka pitanja. // Margetić, Lujo. Hrvatska i Crkva u srednjem vijeku. Rijeka : Pravni fakultet Sveučilišta, 2000. Pp. 127-167. (First published in Historijski zbornik 47 (1994), 1-36).

that Klaić published the manuscript with a detailed commentary and that it was at that time – and still is today – the best publication of this important source, even though Gunjača also published it in his book, parallel with HS, thus enabling readers to make comparisons between the two texts more easily. This is just one, but a very bitter example of how scholars neglect their colleagues if they expose unpleasant arguments for their theses.

However, Gunjača did refer to Klaić's edition in the second volume of his *Ispravci i dopune starijoj hrvatskoj historiji* (Corrections and Additions to the Earlier Croatian History), published that same year).[4] Discussing whether in the introduction to the synod of 925 it was written "Urborum"or "Serborum", Gunjača evaluated Klaić's edition of HSM as a simple forgery, because she opted for "Serborum".[5] He accused her wrongly, because he did not understand the system of her footnotes, that she falsely claimed that "Urborum" can be found in only one manuscript. On the contrary, Klaić marked all the manuscripts as containing (*proceres*) "Urborum" (leaders of the citizens?), but she thought it was a mistake instead of "Serborum" (leaders of the Serbs).[6]

My initial idea about this paper was to give some kind of basic information on HS and HSM to readers not well acquainted with the topic and to comment on the methods used by scholars approaching the texts. It was my misapprehension that today our understanding of both texts and their relation was built upon rather firm grounds, since there has been almost no significant discussion about them for four decades. Thomas' HS was published several times, also in Russian and English translations, with good and, especially in the Russian case, exhaustive comments.[7] Therefore there is really not much to be said about it. The case of HSM, however, is very different. Although it contains some of the most important sources for Croatian early mediaeval history, as was already said, it was published only twice and only one of these editions – the one by Nada Klaić – was up to usual standards for

4 Gunjača, S. Op.cit., p. 263.

5 Klaić, N. Op. cit., pp. 98-99: "Quique pervenientes dicti episcopi, Dalmatiarum peragrantes civitates Croatorum atque serborum proceribus convenientes...".

6 Gunjača's mistake was noticed by Margetić, L. Historia Salonitana. Op. cit., p. 161.

7 English translation and commentary with bibliographical notes on all editions: Thomas the Archdeacon. Historia Salonitanorum atque Spalatinorum pontificum = History of the Bishops of Salona and Split / edited by Damir Karbić, Mirjana Matijević Sokol and James Ross Sweeney. Budapest ; New York : Central European University Press, 2006. Russian edition: Foma Splitskij. Istorija arhiepiskopov Saloni i Splita / ed. by Olga A. Akimova. Moscow : Institut slavianovedeniia i baikanistiki, 1997.

such publications. Otherwise, only parts of HSM, differing from HS, were published as separate source materials in editions of mediaeval sources without context.[8] Until today nobody made the effort of collecting all the existing manuscripts of HSM.

There are six existing manuscripts of HSM according to Miho Barada, who in 1949 tried to list all of them:

1. One from the Propaganda archive in Rome (Barada marked it as A)
2. One from the Vatican library, former Barberini library, Barb. Lat. 3218, from around 1600 (B)
3. One from the archive of the Split chapter, written by Johannes Lucius, but containing only differences between HS and HSM (b)
4. One from the same archive, once in the possession of Rafael Levaković (ca 1590 – 1650) (c) who copied it from the *Collectanea* of Šimun Kožičić Begna (1460 – 1536) (Barada failed to mark this non-existent manuscript, but following his system, it should be marked as C)
5. Another manuscript from the same archive, copied from the manuscript c in 1719 (cl)
6. The third from the same archive, copied in 1749 (dl) from a Paduan manuscript copied in 1739 (d) from the lost manuscript D, once owned by Fillipo Riceputi (1667 – 1742)
7. One from the Vienna State Archive (d2), copied from d1

However, when concluding which manuscripts of HSM were available at the time when he wrote his article, Barada made a strange mistake. He listed B, b, c, c1, d1, and d2, forgetting A. Nada Klaić, commenting on Barada's contribution, warns about the omission of manuscript A from his final list.[9]

Arguments used in the discussion about the manuscripts were often not very scientific, leaving some questions still open.[10] Therefore, this paper cannot give complete information on HSM, because more accurate work has to be undertaken in archives and libraries where the manuscripts are kept. The focus of the lines to follow will be on some

8 Documenta historiae croaticae periodum antiquam / collegit, digessit, explicuit Fr. Rački. Zagrabiae : Sumptibus Academiae scientiarum et artum, 1877.; Codex diplomaticus regni Croatiae, Dalmatiae et Slavoniae. V. I / sabrali i uredili Miljen Šamšalović i Jakov Stipišić. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1967.

9 Klaić, N. Op. cit., p. 1.

10 Mirjana Matijević Sokol presented some of Gunjača's arguments and discussed them, taking side with Nada Klaić. See Matijević Sokol, Mirjana. *Historia Salonitana* i *Historia Salonitana maior* – Gunjačin pristup. // Stjepan Gunjača i hrvatska srednjovjekovna povijesno-arheološka baština. 1 / [glavni urednik Tomislav Šeparović]. Split : Muzej hrvatskih arheoloških spomenika, 2010. Pp. 331-339.

erroneous methods used in the discussion on the relation of the two texts, but in the end a suggestion will be made about the origin of the materials included in HSM that were seemingly unknown to Thomas.

Historia salonitanorum pontificum atque spalatensium, or *Historia Salonitana*, was written by Thomas the Archdeacon of Split in the mid-thirteenth century. It is a history of the church of Salona and Split, written in the form of *gesta episcoporum*.[11] The author's intentions for composing such a work could have been manifold. He might have intended to write a gloryfying history of his church, praising the good bishops and criticising the bad ones. Probably he also wanted to support the idea of deriving the origins of the Split bishopric from Salona, an old intention among the Split clergy in the attempt to claim the apostolic origins and thereby the right to the position of metropolitan in the ecclesiastical province of Dalmatia and Croatia. Finally, Thomas could have had a very personal motive. After the death of Archbishop Guncel, he believed he would become his successor, but although he was elected by his fellow clergymen, he never achieved this goal of his life. So the final part of his *Historia* can be read as a justification of his own deeds and a strong criticism of his opponents. But, in whatever way Thomas' goals and the influence his subjectivity had on his reports are judged, there is no doubt about the authenticity and dating of his work, and even several of his sources were identified by scholars who researched them, proving that he was generally not making up the events he was describing.[12] The great interest that Thomas attracted in different historiographies (one should mention, for example, his famous report on the Mongol invasion, his description of the establishment of the commune in Split or his report on the Fourth Crusade)[13] resulted in the mentioned editions and translations of *Historia Salonitana*.

11 On the character of Thomas' work see: Ivić, Nenad. Domišljanje prošlosti. Zagreb : Zavod za znanost o književnosti Filozofskoga fakulteta, 1992.

12 On Thomas and the quality of his work see: Matijević Sokol, Mirjana. Toma Arhiđakon i njegovo djelo : rano doba hrvatske povijesti. Jastrebarsko : Naklada Slap, 2002.

13 Steindorff, Ludwig. Der fremde Krieg : Die Heerzüge der Mongolen 1237-1242 im Spiegel der altrussischen und lateinischen Chronistik. // Südosteuropa. Von vormoderner Vielfalt und nationalstaatlicher Vereinheitlichung : Festschrift für Edgar Hösch / Hrsg. Konrad Clewing, Oliver Jens Schmitt. München : R. Oldenbourg, 2005. Pp. 93-118. Abbreviated Russian translation: Čužaja vojna : Voennye pochody mongolov v 1237-1242 g. v chronike Fomy archidiakona Splitskogo. // Drevnjaja Rus' 4 (34), dekabr' 2008, pp. 18-29.; Mayer, Hans Eberhard. Geschichte der Kreuzzüge. Stuttgart : Kohlhammer, 2005. P. 372; Steindorff, Ludwig. Die dalmatinischen Städte im 12. Jahrhundert : Studien zu ihrer politischen Stellung und gesellschaftlichen Entwicklung. Köln ; Wien : Böhlau Verlag, 1984. Pp. 166-170.; Steindorff, L. "Podestà". // Lexikon des Mittelalters. Bd. 7. München ; Zürich : Artemis-&-Winkler-Verlag, 1995.

The situation with *Historia Salonitana Maior* is not at all as clear as with its predecessor. In fact, there were authors who doubted that HSM is younger than Thomas' history, and Stjepan Gunjača insisted that it was actually some kind of a concept Thomas had made as a preparation for his capital work.[14] Barada, too, on the basis of a comparison of a small chapter from both HS and HSM, concluded that HSM was older than HS. His argument was that HSM brings a more reliable version of the story about the secession of Dubrovnik from the see of Split in the time of the emperors Basil II and Constantine VIII. Since, in his words, "it is impossible to think that the author of HSM corrected Thomas", HSM must have preceded Thomas' HS. In Barada's opinion, both HS and HSM were compiled from an older, more reliable but not preserved manuscript. It is not necessary to point to the absurdity of the argument that it is impossible to imagine that a potential 16th-century author, who added several reliable sources to HS, could correct the work of his predecessor. It is also unacceptable to invent non-existent manuscripts as an argument in support of one's hypothesis which was presented without any kind of textual analysis. Nada Klaić justly concluded that it was inadmissible to make conclusions about the relation of these two texts by comparing only one short chapter.[15]

The first author who referred to HSM was Johannes Lucius, the "founding father" of Croatian historiography, who was in the mid-seventeenth century convinced that HSM was written around 1600 and was, apart from what it contained of Thomas' manuscript, a useless forgery.[16]

Regardless of these extreme opinions, *Historia Salonitana Maior* is today considered to have been written by an anonymous author some time in the 16th century.[17] Its importance for Croatian history lies in a number of documents inserted in what was originally Thomas' *Historia*, some other added information in different chapters as well as the story about the assassination of Zvonimir, who was believed by the author to have been the last Croatian king.[18] The most significant collection of

14 Gunjača, Stjepan. Historia Salonitana Maior. // Rad Jugoslavenske akademija znanosti i umjetnosti 283(1951), 175-244.; Gunjača, S. Ispravci i dopune, pp. 23-179.

15 Klaić, N. Op. cit., p. 19.

16 See ft. 1. Also: Poparić, Bare. Pisma Ivana Lučića Trogiranina. // Starine Jugoslavenske akademije znanosti i umjetnosti 31(1905), 317.

17 Nada Klaić believed that the person who commissioned the supplement of Thomas' Historia Salonitana was Šimun Kožičić Begna (1460-1536), the bishop of Modruš. Klaić, N. Op.cit., p. 64. On Begna see: Zbornik radova o Šimunu Kožičiću Benji. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, Razred za filološke znanosti, 1991.

18 On the legend about the assasination of king Zvonimir: Goldstein, Ivo. Kako, kada i zašto je nastala legenda o nasilnoj smrti kralja Zvonimira? : prinos proučavanju mehanizma na-

documents are those pertaining to the synods held in Split in 925 and 928 (there is also a collection on the synods held in Salona in 530 and 533, but they are less interesting for what is considered to be Croatian mediaeval history, because they precede the time of Slavic settlement and the appearance of Croats in the 9th-century sources).[19] The 925-928 documents contain the letters of popes John X and Leo VI to Tomislav, king of the Croats and to Dalmatian bishops, the decisions made by the councils and a short report on events related to the council. These sources are so important because on the basis of the data they contain:

1. Tomislav was proclaimed by historians to be the first king of Croatia[20]
2. Some historians believed that he was the first Croatian ruler who put also Dalmatian cities and islands under his control[21]
3. There are different opinions where exactly was the Slavonic liturgy used in Croatia and Dalmatia, but it is generally accepted that it became a problem in the eyes of Pope John X[22]

stajanja legendi u hrvatskom srednjovjekovnom društvu. // Radovi Instituta za hrvatsku povijest 17(1984), 35-54.; Rokay, Peter. Motiv neostvarenog križarskog rata u biografijama srednjovjekovnih evropskih vladara. // Zvonimir kralj Hrvatski : zbornik radova/ uredio Ivo Goldstein. Zagreb : Hrvatska akademija znanosti i umjetnosti ; Zavod za hrvatsku povijest Filozofskog fakulteta,1997. Pp. 241-246.; Bratulić, Josip. Legenda o kralju Zvonimiru. // Zvonimir kralj hrvatski: zbornik radova/ uredio Ivo Goldstein. Zagreb : Hrvatska akademija znanosti i umjetnosti ; Zavod za hrvatsku povijest Filozofskog fakulteta,1997. Pp. 235-240. In support of the idea that the legend actually represents a reliable report of events and that Zvonimir was indeed invited by both the pope and emperor Alexius to join the crusade see: Frankopan, Peter. Co-operation between Constantinople and Rome before the First Crusade : a study of the convergence of interests in Croatia in the late eleventh century. // Crusades 3(2004), 1-13.

19 Prozorov, Vadim. The Sixth Century Councils of Salona. // Vjesnik za arheologiju i povijest dalmatinsku 104(2011), 309-337.

20 Since the mid-nineteenth century and the articles published by Franjo Rački and Ivan Kukuljević, Croatian historians tried hard to prove that Tomislav was crowned in 925 as the first Croatian king. This was important because arguments taken from history were needed to oppose Hungarian attempts to reduce or even annul Croatian autonomy within the common Hungarian-Croatian kingdom. With the millenary celebration of this alleged coronation in 1925, the myth was cemented in the Croatian national memory, in spite of the attempts made by historians like Ferdo Šišić and especially Nada Klaić who subjected it to criticism. Raukar, Tomislav. Kralj Tomislav u hrvatskoj historiografiji : 1925.-1995. // Prvi hrvatski kralj Tomislav : zbornik radova. Zagreb : Zajednica Duvnjaka Tomislavgrad ; Tomislavgrad : Općinsko poglavarstvo, 1998. Pp. 205-229.

21 Foretić, Vinko. Dalmacija prema Hrvatskoj do 1107. // Pomorski zbornik 7(1969), 757-811.; Košćak, Vladimir. Pripadnost istočne obale Jadrana do splitskih sabora 925-928. // Historijski zbornik 33-34(1980-1981), 291-355. Most recently: Raukar, Tomislav. Hrvatsko srednjovjekovlje : prostor, ljudi, ideje. Zagreb : Školska knjiga ; Zavod za hrvatsku povijest Filozofskog fakulteta, 1997. P. 38. Rejecting any Croatian rule over Dalmatia before the mid-eleventh century see: Ferluga, Jadran. L'amministrazione bizantina in Dalmazia. Venezia : A spese della Deputazione, 1978.

22 Budak, Neven. Prilog valorizaciji humsko-dukljanskog kulturnog područja u prvim fazama njegova razvitka (do 12. st.). // Starohrvatska prosvjeta ser. III, 16(1986), 125-139.

4. It is generally believed that Gregory, the bishop of Nin, tried to gain the metropolitan position for his church, and after failing to do so was forced to leave Nin which ceased to be a diocese.[23]

Apart from these crucial pieces of information, the documents of the councils contain more interesting data on different aspects of secular and clerical life of the time. Without the above mentioned information provided by HSM, we should rely only on what Thomas tells us in his *Historia*, accordingly:

1. Tomislav was just a *dux*, and the first crowned king (*rex*) was Stephen I Držislav, several decades later.[24]
2. The first Croatian ruler to govern also Byzantine Dalmatia may have been Držislav's father Michael Krešimir II, some thirty years after Tomislav, or even Držislav himself.
3. The first data on Slavonic liturgy would be related to the synod of 1060, supported by the earliest glagolitic inscriptions dating from the eleventh century.[25]
4. We would be informed about the existence of Gregory, the bishop of Nin, but without knowing anything about his activities and when he actually lived, apart from the fact that it must have been before 1070.[26]

All in all, several datings would be shifted for a number of decades, if not a whole century or more and Tomislav would loose his mythical position as the first crowned ruler of Croatia. What would that mean for the national consciousness of the Croats, one can only guess knowing that Tomislav has not only a monument in Zagreb, Croatia's capital, but also a plaque commemorating his coronation in almost every place in Croatia and in places with Croatian communities outside its borders, while bishop Gregory of Nin, as the second most important mythical figure, has three monuments in different towns in Croatia (Nin, Split and Varaždin).[27]

23 Raukar, T. Hrvatsko srednjovjekovlje, pp. 35-36, 179-180.

24 Budak, Neven. Prva stoljeća Hrvatske. Zagreb : Hrvatska sveučilišna naklada, 1994. Pp. 35-36.

25 Klaić, Nada. Povijest Hrvata u ranom srednjem vijeku. Zagreb : Školska knjiga, 1971. Pp. 368-369, 395-407.; Fučić, Branimir. Glagoljski natpisi. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1982.

26 Thomas mentions Gregory in HS in the context of a synod held in Split in 1075. Thomas the Archdeacon. Op. cit., p. 87.

27 Budak, Neven. Using the Middle Ages in modern-day Croatia. // Gebrauch und Missbrauch des Mittelalters, 19.-21. Jahrhundert = Uses and Abuses of the Middle Ages: 19th – 21st Century = Usages et Mésusages du Moyen Age du XIXe au XXIe siècle / Hrsg. János M. Bak, Jörg Jarnut, Pierre Monet and Bernd Schneidemüller. München : Wilhelm Fink Verlag, 2009. Pp. 241-262. On bishop Gregory see: Budak, N. Prva stoljeća Hrvatske, pp. 159-198.

It is instructive to take a look at the arguments used by Stjepan Gunjača in his attempt to proclaim HSM a concept of HS.[28] He starts by criticising Lucius, whose opinion about HSM strongly influenced later researchers, and reproaches him that it is not possible – contrary to Lucius' claim – that a concept (for Lucius it was the HS) could be more concise than its expanded version, the HSM. For Gunjača, a concept has to be broader than the final version, because an author usually (always?) leaves out parts which he/she sees as redundant, and not the other way round.[29] He believes that Thomas did not destroy his concept, as authors, according to Gunjača, normally do, and he also did not sign it either, since it was only a concept. Because of that, this concept started a life of its own, as an anonymous work copied and distributed in many manuscripts through centuries.[30] He also stresses that many scholars were not sure should they believe Thomas' HS if it was not supported by other sources, but after he proved that HSM was Thomas' concept, it became clear that the archdeacon used genuine and reliable sources for his *Historia*, qouting them in extenso in the concept, but leaving them out in the final version of his text. In this way, Gunjača wanted to support the idea that HSM was a concept for HS by claiming that the HSM was evidence of the authenticity of HS.[31] This is obviously a vicious circle, with one source supporting the authenticity of the other, but with no real arguments in favour of Gunjača's main thesis that HSM was written by the same author as HS, and that it preceded the final version of Thomas' *Historia*.

However, it seems that Gunjača was right when he insisted that the manuscript kept in the Propaganda archive in Rome was not the original version of HSM (as Lucius might have believed), but that it was a copy of an older manuscript.[32] He traced several errors which were typically committed by copyists: *Eo adunato* instead of *coadunato*, *speculissimus* instead of *specialissimus*, *claui generi* instead of *clauigeri*, and many others. In some cases, words were left out and lacunas were kept in order to insert them at a later stage of copying. The copyist, whose Latin was clearly weak, used the last (but incomplete) sentence of a passage as the title of the next one, although the wording itself

28 In his writings on the topic, Gunjača uses the abreviation IHSPAS (*Incipit historia salonitanorum pontificum atque spalatensium*) for HS and IHSP (*Incipit historia salonitanorum pontificum*) for HSM. These abrevaiations were not accepted by the majority of scholars.

29 Gunjača, S. Ispravci i dopune, p.28.

30 Ibid., p. 34.

31 Ibid., p. 30.

32 His opinion was also accepted by Margetić, L. Historia Salonitana, pp. 159-160, 165-166.

made no sense (*Virum valde egregium et bonitate plenum Crescentium nomine*).[33] In Gunjača's opinion, this can explain why there are some parts included in HS missing from HSM, although they were very important for the understanding of the history of the church of Split (e.g., the chapter on Lawrence, the eleventh-century archbishop and an outstanding figure not only of his time). But although Gunjača may be right in this case, still this can in no way prove that HSM preceded HS.

Further, Gunjača discusses the reason why HSM ends with the synod of 1185, while HS describes events up to 1266. He believes that it is so because the ending of the concept was lost long ago, and the manuscript was copied without it.[34] This is, of course, a usual and very comfortable solution to the problem, but it can in no way be proved. Moreover, the text of the synod is preserved independently of HSM, but the version included in HSM is full of mistakes.[35] Would it be possible, as Gunjača thought, that Thomas made so many mistakes in his alleged concept, if his final work, the HS, was written in very good Latin?

Vjekoslav Klaić noticed in 1925 that Thomas, except in the first two chapters, almost never quoted his sources.[36] Gunjača added that sources are mentioned also in two fragments of the text that are otherwise missing from HSM. From this he concluded that Thomas quoted sources in the original version of his concept, which was not preserved, and that these exceptions, regarding quoting, imply that HS was really written on the basis of HSM. In this case we can see Gunjača's method at its best: he supposed that an original manuscript of HSM existed, although it was not preserved, and that it included numerous quotings of Thomas' sources. The existing manuscript of HSM represents a further step in the editing of the text, with HS as the final version. But how did it happen, then, that HS contains more source quotations than HSM, even if there are just a few distributed through four chapters?

Many more such examples could be quoted from Gunjača's book, but these suffice to show how he approached the problem of relation between the two manuscripts. Mostly because he wanted to

33 Gunjača, S. Ispravci i dopune, pp. 37, 123-127.

34 Ibid., p. 122.

35 For the text of the synod see: Codex diplomaticus regni Croatiae, Dalmatiae et Slavoniae. V. II / sabrao i uredio Tadija Smičiklas. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1904. Pp.192-194.; Gunjača, S. Ispravci i dopune, p. 122.

36 Klaić, Vjekoslav. Prilozi hrvatskoj historiji za narodnih vladara. // Zbornik kralja Tomislava u spomen tisućugodišnjce hrvatskog kraljevstva = Dissertationes in memoriam anni millesimi a Tomislavo primo croatorum rege praeteriti editae. U Zagrebu : Jugoslavenska akademija znanosti i umjetnosti, 1925, p. 215.

prove that king Zvonimir died a violent death, he needed to show that the king's epitaph included in HSM was authentic. For this he had to convince his readers that HSM was more reliable than HS, and in order to achieve this goal he had to find arguments that HSM was Thomas' own concept of his HS. Gunjača did not hesitate to claim that there was a lost, much older manuscript of HSM, although there is no evidence whatsoever that the existing copies of HSM were made on the basis of a manuscript older than the 16th century. He did not restrain himself from referring to Zvonimir's epitaph, as though it was an existing monument, and argued that it supported the authenticity of what was written in HSM about Zvonimir's death, because it was archaeological evidence. Finally, he invoked logic as an argument, claiming that it was obvious that a wider version of the text had to precede its more limited counterpart – an idea for which he found an advocate in Miho Barada. Gunjača's analysis of HSM and its relation to HS is an excellent example of how even an outstanding scholar, very insightful and skilful, can be blinded by his preconception. In spite of a thoughtful and diligent analysis of both texts, based on parallel editing of HS and HSM, enabling the reader to see the differences clearly, most of his conclusions were an outright failure. This, however, does not mean that in many details his observations are not stimulating and useful for further necessary research of the topic.

Nada Klaić started her analysis of HSM noting that the language of HS is consistent throughout the text, while that is not the case with HSM.[37] She quotes examples from HSM that show how poorly educated its author was.[38] This is an important argument, but a thorough analysis of the language of both texts still remains to be done. And although we today know that HSM grew out of HS, Nada Klaić did not invest too much effort in proving this. She stated in a very lapidary manner that it was clear from comparing the first few sentences of both texts that HSM was a revised version of HS, and there was no need to look for further evidence. This is very similar to the method used by Barada who compared only one chapter from both texts, what Klaić criticised heavily.[39]

There are also some strange remarks made by Klaić in the analysis of individual chapters. Trying to explain possible reasons for the omis-

37 Klaić, N. Historia Salonitana Maior, p. 24.
38 For example: Ibid., pp. 38-39.
39 Ibid., pp. 39-43.

sion of the first chapter of HS from HSM (the chapter on ancient Dalmatia[40]), she argued that it was because the intention of the author of HSM was to describe the history of Salona.[41] Clearly, HSM contains a history of the church of Salona (and Split) and not of Salona itself. But it might be true that the chapter, with no reference to the ecclesiastical history, was indeed not interesting to the compiler of HSM.[42]

It seems obvious that Klaić, unlike Gunjača, had an unbiased approach to the problem of the relation of both texts. She analyses each chapter thoroughly, using historical, linguistic and also codicological arguments. Referring to the problem of different number of chapter titles in the texts, she admitted that Gunjača had been right in claiming that more titles in HS suggest at a first glance that this text was more recent than HSM. But that is so only until we take a look at the oldest (Split) manuscript of HS. There it is obvious that titles were added after the manuscript was finished and only if space at the ending of the previous chapter allowed it. This meant that not all the titles corresponded fully with the subject of the chapter(s) to follow. These titles were already expanded by the copyist of the Trogir manuscript of HS and the compiler of HSM had, of course, the freedom to divide his text into as many chapters as needed. It catches one's eye that Klaić was not sure if the first editor of HS, Franjo Rački, included all the titles into his edition of HS.[43] Does this mean that she did not have the Split and Trogir manuscripts in front of her when she made the analysis?

Klaić stresses that until then (and this fact has remained unchanged since) nobody undertook a palaeographic analysis of the oldest manuscript A of HSM, which could shed at least some light on the time of its composing.[44]

In spite of the quality of analysis she conducted, Klaić's explanations about the principles of editing should arouse suspicion today. She quotes Ferdo Šišić, who in his manual published in 1914 wrote that an editor should not stick blindly to the text he is editing, but that he should rather correct the mistakes done by the scribe and make the text

40 Thomas the Archdeacon. Op. cit., pp. 3-8.
41 Klaić, N. Historia Salonitana Maior, p. 25.
42 This is also suggested by Margetić, L. Historia Salonitana, pp. 161-162.
43 Klaić, N. Historia Salonitana Maior, pp. 53-54; Thomas the Archdeacon. Historia Salonitana / digessit Fr. Rački. Zagrabiae : in taberna Libraria eiusdem societatis typographicae, 1894.
44 Klaić, N. Historia Salonitana Maior, p. 66.

generally more correct and ready for the use by scholars and students.[45] Klaić agreed with Šišić and added that at that time (1967) there was no satisfying version of the text of the synods (not to mention the other fragments of HSM), so she decided to prepare one using the existing editions. In the text she published she used corrections and amendments suggested by former editors with which she agreed, putting those she rejected into footnotes.[46] Because of this, the modern reader cannot tell which is the original version of the text containing all the mistakes and vaguenesses ascribed to the composer or the copyists of HSM. However, she decided to keep the original forms of mediaeval Latin.[47] Today such a remark would be totally redundant, but back in the sixties there were still tendencies to 'correct' the 'corrupt' mediaeval Latin. Klaić also noticed that the author or copyist of the manuscript A was not consistent with orthography, mixing medieval and classic rules. She decided to preserve all the characteristics of his orthography in the edition.[48]

Because of all the dilemmas Klaić faced in preparing her edition of the manuscript A of HSM, this edition in itself becomes a good source for introspection into the way historians were dealing with mediaeval texts only a few decades ago, although her thorough work on the preparation of the text cannot be seen as final. As she herself pointed out, several steps still have to be made before another; maybe more reliable edition would be prepared. First of all, all the existing manuscripts have to be collected and re-examined according to modern rules of editing; palaeographic analysis of the manuscript A has to be carried out; and finally, a linguistic analysis of the Latin language of the oldest manuscripts is necessary. In spite of all these desiderata, Klaić's edition of HSM is an important cornerstone for all those who want to investigate the early Croatian history. Gunjača's edition, in spite of all the criticism his commentaries deserve, is also an interesting contribution to better understanding of HSM.

Lujo Margetić agreed with Nada Klaić that HSM was younger than HS, but he stressed that there might be some arguments in favour of Gunjača's opinion.[49] In his treatise he discussed the arguments pre-

45 Šišić, Ferdo. Priručnik izvora za hrvatsku povijest = Euchiridion fontium historiae Croaticae. U Zagrebu : Kr. hrv. slav. dalm. zemaljska vlada, 1914. P. 212.

46 Klaić, N. Historia Salonitana Maior, p. 67.

47 Ibid., pp. 67-68.

48 Ibid., p. 68.

49 Margetić, L. Historia Salonitana, p. 154.

sented by both Klaić and Gunjača, and in his meticulous way supported or rejected a number of them. His final conclusions were that HSM is an adaptation of HS; that the manuscript A of HSM is not the original version, but a copy; that HSM ends with 1185 because the territory of the Split diocese was substantially changed by the secession of the bishopric of Krbava at the synod held in that year, which is – in Margetić's opinion – a turning point in the history of the church of Split; that the author of HSM had pro-Croatian feelings and therefore left out those chapters from HS which were anti-Croatian, and inserted the legend about Zvonimir's death. Finally, Margetić positively evaluates Klaić's hypothesis that Šimun Kožičić Begna could have been the commissioner of HSM.[50]

As already mentioned, HSM contains sources otherwise unknown (or neglected) by Thomas, but very important for some events in the history of the Kingdom of Croatia and Dalmatia, like for instance the synods of Split held in 925 and 928. The main question that every historian who decides to use *Historia Salonitana Maior* as a source for the synods has to answer is: why Thomas, who had the archive of the Split church at his disposal, did not include the documents concerning the four ecclesiastical councils (two held in Salona and two in Split) in his *Historia Salonitana*? Were they not kept in the Split chapter archive and if so, where were they stored and why? Or did Thomas, for some reason, decide not to include them in his work? If that was the case, what were the reasons that made him ignore sources so important for his own diocese? Finally, are some or all of the documents inserted in Thomas' work a simple forgery created by a very educated and competent humanist?

After Johannes Lucius had discarded all of the amendments included in HSM as simple 16th-century fabrications, other scholars became more critical in trying to distinguish between the sources that could be marked as authentic and those that were composed at a later stage. Three examples are the most interesting for understanding the problem: documents related to the synods held in Split in 925 and 928, the so called epitaph of King Zvonimir, and the synodal acts of 1185.[51]

Documents related to the synods of 925 and 928 contain, in the following order: a letter of Pope John X to the Archbishop of Salona/Split, another letter by the same Pope to the Croatian king Tomislav and the Zachulmian duke Micheal, a short description of events pre-

50 Ibid., p. 167.
51 Klaić, N. Historia Salonitana Maior, pp. 95-106, 111-112, 124-125.

ceding the synods and explaining reasons for its summoning, decisions of the first synod, a short note about the disagreement of the bishop of Nin with these decisions, another letter by John X to the Archbishop and other Dalmatian bishops, a note about the second synod, and finally a letter by Leo VI to all the Dalmatian bishops (except the Archbishop).

In brief, according to HSM, Dalmatian bishops could not agree about whom they should elect as the metropolitan of the (newly established?) ecclesiastical province of Croatia and Dalmatia.[52] Zadar was the capital of Byzantine Dalmatia and following the tradition of placing the ecclesiastical centre in the same city as the administrative one, the bishop of Zadar should have had priority. On the other hand, the bishopric of Nin covered a huge territory, bigger than all other dioceses together, and the close relation of the bishop to the royal Croatian court gave him a certain advantage. The Archbishop of Split played the card of tradition, claiming that his church was the direct heir to the metropolitan see of Salona, which lay only a few kilometres away, but in the territory of the Nin bishopric. Pope John X, judging by the letter sent to the Archbishop, had his own reasons for summoning the synod. He was worried about the spreading of the Slavonic liturgy in Dalmatia, probably recognising it as a potential threat from Constantinople.[53] The first synod decided that the Archbishop of Split should become the metropolitan of the Croatian-Dalmatian province, but both Formin of Zadar and Gregory of Nin decided to oppose such a decision. For that reason another synod was summoned three years later. Its decisions were even more fatal for Gregory. His bishopric was dissolved and he was forced to take over one of the antique Roman sees (probably the one in Skradin (Scardona) and reestablish it as a new diocese.

Obviously, assuming they are authentic, these documents are of great importance for the ecclesiastical history of Dalmatia/Croatia in general, and for Split particularly.[54] They are considered to be the oldest surviving pieces of historical writing from Dalmatia, and most schol-

52 The literature on the synods in 925 and 928 is vast. For earlier literature see: Šišić, F. Op. cit., pp. 211-224. Also: Klaić, N. Povijest Hrvata, pp. 86-88.

53 Katičić, Radoslav. Methodii doctrina. // Slovo 36(1986), 1-44.; Budak, N. Prva stoljeća, pp. 128-129.

54 For a detailed overview of secondary literature on the synods see: Gunjača, S. Ispravci i dopune, pp. 324-328; also Klaić, N. Povijest Hrvata, pp. 293-311; Raukar, T. Hrvatsko srednjovjekovlje, pp. 35-36. Most recently and very detailed: Katičić, Radoslav. Litterarum studia : književnost i naobrazba ranoga hrvatskog srednjovjekovlja. Zagreb : Matica Hrvatska, 1998. Pp. 384-392.

ars agree, on the basis of textual analysis, that their author was John, the Archbishop of Split who personally participated in the synods.[55] Why, then, did Thomas not include any mention of them in his work? Gunjača tried to prove that Thomas used these sources, because he copied them in what Gunjača believed was his concept (HSM), but that the part of HS containing the description of the synods was lost.[56] Nada Klaić, on the other hand, believed that Thomas left out the mention of the synods in order to suggest that Split became the archbishopric and the metropolitan see at a much earlier date, soon after Salona fell into the hands of the barbarians, i.e. sometime in the 7th century.[57] However, trying to explain the omission of data that would have been expected to be included in the manuscript by interpreting possible thoughts and motives of the author is always tricky and never more than simple guessing. Can we try to find some better arguments to explain why Thomas knew nothing about these synods?

A possible answer might be offered by another manuscript, known as the *Korčula Codex*. It was also never edited or even thoroughly analysed, but there is a description provided by Vinko Foretić, who found it in the library of the Chapter of Korčula in the fifties of the last century.[58] According to Foretić, it is a 12th-century codex containing, among others, different works by Joseph Flavius, Euthropius, Paul the Deacon, and Isidor. It also contains the *Liber pontificalis*, but in a version partly unknown elsewhere, because it was amended by notes relating to Dalmatian/Croatian history. Since in one of the notes it is mentioned that Pope Anastasius IV (1153-1154) gave the *palium* to Lampredius, the Archbishop of Zadar, Foretić thought that the whole manuscript was composed within the archdiocese of Zadar, to which Korčula most probably belonged in the mid-12th century, at the time of the composition of the codex.[59]

In the note related to Pope John X, the anonymous author of the codex wrote that this pope made peace between the Bulgarians and the

55 Katičić, R. Litterarum studia, pp. 390-391.

56 Gunjača, S. Ispravci i dopune, pp. 138-139.

57 Klaić, N. Povijest Hrvata, p. 23.

58 Foretić, Vinko. Korčulanski kodeks 12. stoljeća i vijesti iz doba hrvatske narodne dinastije u njemu. // Starine Jugoslavenske akademije znanosti i umjetnosti 46(1956), 23-44.; Katičić, R. Litterarum studia, pp. 624-634.

59 Katičić, R. in his work Litterarum studia, p. 626 suggests that the codex could have been written in Korčula, and not in Zadar, as believed by Foretić, but it is not very probable that such a complex manuscript could have been composed in a centre without a bishop and a Benedictine monastery.

Croats through his emissaries, bishop Madalbert and duke John, and that he established the true dogma in Dalmatia and made the Croats tributary to St Peter ever after.[60] This note proves that at least the synod in 928 was really held and that the papal letters contained in HSM are almost surely authentic (although, as Gunjača claimed, following the opinions of Farlati and Rački, preserved in a revised version).[61] In Katičić's opinion, the note on the synod of 928, contained in the *Korčula Codex*, is a summary of the entire report on both synods. It was written in much better Latin than the original report and, according to Katičić, proves the connections between different Dalmatian ecclesiastical centres, because its author was acquainted with the textual heritage of the church of Split.[62] Katičić presumes, obviously, that the text on both synods was composed and preserved in Split. But is that necessarily so?

Several authors who wrote about this text, including Gunjača, Katičić and Klaić agreed that its composer was John, the Archbishop and the first metropolitan of Split, who personally attended the synods.[63] Their main argument was that it was clear from the text that the author was one of the bishops, because he referred to the bishops as "us", and called Gregory of Nin "our brother". In some instances they recognised the first person plural form as *pluralis maiestatis*, the Archbishop referring to himself. However, a thorough analysis of the text may reveal that the report on the synods is not as consistent as it seemed to the aforesaid authors.

The whole fragment about the synods starts, as already mentioned, with two letters by John X to the Archbishop of Split and to the Croatian king Tomislav and the Zachulmian duke Michael. These letters are preceded by no introduction, showing once again that the compiler of HSM was not a very talented writer. The introduction, or rather dating of the whole event by naming John X, Tomislav and Michael, comes only after the letters. The author then explains why the Dalmatian and Croatian clergy and rulers addressed the pope, asking him to send them emissaries who would instruct them about the true dogma. It seems that nobody noticed that this introduction was not written in the first person plural, but in the third person plural, by an

60 Foretić, V. Korčulanski kodeks, p. 30.
61 Gunjača, S. Ispravci i dopune, pp. 324-325.
62 Katičić, R. Litterarum studia, pp. 628-629.
63 Gunjača, S. Ispravci i dopune, pp. 339-345; Klaić, N. Povijest Hrvata, p. 28.

observer reporting about the event, but not participating in it. I will quote the text according to Klaić's edition, leaving out the papal letters and distinguishing the two main parts of the text by using Garamond in italic for the parts written by the observer, and Calibri for the parts presumably written by Archbishop John of Split:[64]

> *Tempore Joannis pape sanctissimo consulatu peragente in provintia Croatorum et Dalmatiarum finibus Tamisclao rege et Michaele in suis finibus presidente duce.*
>
> *Beatissimus igitur Joanne romane ecclesie presidente cathedra dictus Croatorum rex et Michaele, cum suis proceribus simulque episcopis Dalmatiarum: idem Joannes archiepiscopus primus Spaleto, Forminus, Gregorius ceterisque episcopis, consulenter proposcerunt dictum venerabilem papam, ut ad eos destinare dignaretur episcopos suos et monitorium chrystiane religionis dogma continentem. Quorum postulationibus sepefatus pontifex assensum prebes Joannem venerabilem episcopum anchonitane ecclesie, Leonem vero palestrinensem episcopum, cum suis epistolis meliflue ructantibus eloquia destinavit, ut cum prefatis personis, iudicibus et episcopis sinodaliter congregatis et perpera extirpare et deo placita canonice sancire deberent.*
>
> *Quique pervenientes dicti episcopi, Dalmatiarum peragrantes civitates et Croatorum atque Vrborum*[65] *proceribus convenientes, congregati in Spalato episcopis et iudicibus, celleberrimum concilium peragere. Ubi divino iuvamine freti, hec que secuuntur capitula observare censuere.*

(This fragment is followed by the decisions of the synod, written in the first person plural.)

> *Hec ita habita deliberatione, que supra scripta continetur, cuncta per ordinem sancta synodus romano pontifici confirmanda per dictos suos legatos episcopos et Petrum, presbiterum spalatensem, insertis literis nuntiare decrevit, quatenus divinutus antique religionis dogma in ecclesiis Dalmatiarum arbitrio summi pontificis universa prelibata sortirentur.*
>
> Sed cum terminare cuncta legitime antiquo more prestolaremur... fuit fratris nostri episcopi nonesis, qui sibi vendicare cupiens primatum Dalmatiarum episcoporum, hoc quod non expediebat, contra dictam sinodum in auribus apostolicis iniustum

64 Klaić, N. Historia Salonitana Maior, pp. 95-106.

65 Klaić suggests that the correct reading should be "Serborum". See: Klaić, N. Historia Salonitana Maior, p. 99, ft. 620.

> iniecit certamen. Quam ob rem diversa et nuntiis recitantibus de his partibus, et literis patentibus non equalia, ambiguitas romane ecclesie facta, non diffinita ad nos, et finienda adhuc, epistola a beatissimo papa Joanne per legatum nostrum remissa est, cuius vero epistole tenor tecta (sic!) hoc est.

(The fragment is followed by the letter of Pope John X addressed: *Joannes episcopus servus servorum dei reverendissimo et sanctissimo confratri nostro Joanni, sancte salonitane ecclesie archiepiscopo, et Formino episcopo omnibusque suis suffraganeis episcopis.*)

> Unde frequenter eadem poscentibus nobis diffinitionem recipere hac de causa terminanda iniunctam sibi operis Bulgariam petentes Romanorum legati, Madalbertus venerabilis episcopus et Joannes dux, illustris, dux Cumas, que secuntur epistole, ad nos post bienium devenerunt.

(The letters are missing.)

> Pervenientes igitur se (sic!) prefati legati ad confinia nostra et sicut illis opus iniunctum apostolica iussione fuit, Bulgariam perrexerunt. Quique peracto negotio pacis inter Bulgaros et Croatos, repetito itinere ad nos venerabilis Madelbertus episcopus in ecclesia spalatensi adveniens, sinodaliter nos episcopos Joannem, Forminum, Gregorium cum Croatorum principe et eius proceribus congregavit. Cum quibus residens, cuncta provintie antique consuetudines iusto moderamine perscrutans, firmavit omnia secundum veterum statuta in omnibus ecclesiis episcoporum privilegia redintegrari [iussit]; ita dumtaxat, ut ecclesia sancti Domnii, sicut ab initio primatum obtineat et intra limites diocesei sui cuncta canonice peragat.

(The fragment is followed by the decisions of the second synod. They are, however, not cited literally, as is the case with the decisions of the first synod, but retold or reinterpreted by the author of the whole text).

> *His ita secundum apostolicam iussionem Madalbertus venerabilis episcopus perscrutata omnia et comperta veraciter feliciter sanccivit, ita ud nullus unquam huius ordinationi violator existat. Cum cunctaque prelibata per dictum apocrissarium romano pontifici fuerint presentata et ab eo divina auctoritate et sancti Petri per suas literas et palii missione confirmata.*

(The fragment is followed by the letter of Leo VI to Forminus, the bishop of Zadar, to Gregory, the bishop of Nin, and to all other Dalmatian bishops.)

I believe that the distinction between the two parts is quite clear. The first section refers to the first synod. It is written by a neutral observer who first dates the event, then explains the reason why the Croatian and Zahulmian rulers together with the bishops, approached the Pope. He then describes the arrival of the Pope's emissaries and the gathering of the synod. This is followed by the citation of the synod's decisions and, finally, the information about how these were sent to Rome.

The other section relates to the second synod. Its author explains the reasons for the Pope's intervention and the sending of his emissaries to Dalmatia. Then he tells how the emissaries convoked the synod and retells the decisions made. While the author of the first section stressed dogmatic issues as the most important for the first synod, the author of the second section insists on preserving old customs and the confirmation of the leading position of the church of Split within the province.

The final section, starting with "*His ita secundum apostolicam iussionem...*" is again written in a neutral form, but that is not a sufficient reason not to regard it as a part of the Archbishop's report.

Both sections are imbued with papal letters which are not always connected in the best way with the rest of the text. The first two letters come before the beginning of the description of the event and the last letter (by Leo VI) is cited only after the end of the description of the second synod. Moreover, in the version we know today, the author refers to more letters related to the mission of Madalbertus and dux John, but they are missing from the text.

It is difficult to come to any firm conclusions without a thorough linguistic analysis, but I think that the following suggestion can be made:

The final version of the text on both synods, contained in HSM, is the result of the work of at least three authors. One, who remains completely anonymous, composed the report on the first synod which included also the decisions made in 925. The other was most probably Archbishop John, who reported on the second synod. It seems that he did not intend to include original papal letters into his report, or to copy the conclusions of the synod, which he rather retold in his own words. Finally, the third author was the composer of HSM, who introduced papal letters into the text. Since he was an unskilled historian and not too good a Latinist either, the letters are inserted in wrong places, and for some reason he did not copy those that were missing, although he referred to them in the text.

The fact that Thomas the Archdeacon mentioned almost nothing about the synods in his HS, except that bishop Gregory of Nin once upon a time caused trouble to the Archbishop of Split, might be explained with the presumption that only the Archbishop's report was known to him.[66] From it he could only get the information that Gregory and Forminus opposed Archbishop John on the question of primacy in the province, but that the Pope decided in favour of the Split church, respecting old customs. Thomas could not even determine the exact date of these events and it is quite possible that he related Gregory with Archbishop John IV (1050 – 1059).

This would mean that the other report on the first synod, together with the papal letters, was unknown to Thomas because it was kept somewhere else, and not in the archive of the chapter of Split. So far nobody has suspected the existence of these sources in Split, probably because only Split, as the metropolitan see, was seen as a place where important ecclesiastical documents regarding the archbishopric could have been kept. But, of course, other episcopies also had their archives, although none of them have been preserved from this early period.

If we take a look at the addressees of the letters contained in HSM, we shall notice that they were:

1. John, the Archbishop of Salona, and all of his suffragans
2. Tomislav, king of the Croats, Michael, duke of the Zahumljani, John, the Archbishop of Salona, and all of his suffragans
3. John, the Archbishop of Salona, Formin, bishop of Zadar, and all of his (!) suffragans
4. Formin, bishop of Zadar, Gregory, bishop of Nin, and all other bishops in Dalmatia

It should be noticed that the last letter, sent by Leo VI, was not addressed to the Archbishop of Salona/Split, but to the bishops of Zadar and Nin in the first place.[67] The address of the third letter names specifically, apart from the Archbishop, only the bishop of Zadar.[68] So

66 He revealed even Archbishop John only once, in a brief sentence: "John was archbishop in the year of Our Lord 914, in the time of Duke Tomislav." Thomas the Archdeacon. Op. cit., pp. 60-61. It is impossible to imagine that Thomas would not include the mention of the synods held under John, had he known about them.

67 Klaić, N. Historia Salonitana Maior, p. 105: "Leo episcopus servus servorum dei Formino, sancte jadaratensis ecclesie episcopo, et Gregorio, sancte nonensis ecclesie episcopo, omnibusque episcopis per Dalmatiam commorantibus, dilectis filiis ac fidelibus nostris."

68 Ibid., p. 102: "Joannes episcopus servus servorum dei reverendissimo et sanctissimo confratri nostro Joanni, sancte salonitane ecclesie archiepiscopo, et Formino episcopo omnibusque suis suffraganeis episcopis."

where could have the anonymous composer of HSM found these letters? Could it be that they were distributed in copies also to other addressees, and not only to the Archbishop of Split? Is it not possible to presume that Forminus, the bishop of Zadar, received his own copies and held them in the chapter archive of his own diocese?

The *Korčula Codex* reveals the possibility that the archive of the Split Chapter was not the only place where important ecclesiastical documents regarding Dalmatia were kept. The chapter of Zadar must have had its own archive, even if it has been lost. If one of John X' letters was addressed to Formin, the bishop of Zadar, could it not be possible that it was also kept in the archive of the Zadar chapter, especially if there were also other records regarding the synod of 928, as proved by the *Korčula Codex*? Could we not think that all the letters written by the popes to the Dalmatian bishops at that time were sent as copies also to the bishop in the Dalmatian capital, and that in the same way copies of the synodal acts were kept in other sees as well? If Thomas had not seen the letters and the report on the first synod in the Split chapter archive, they obviously had to be stored somewhere else, and there are at least some arguments to trace them in Zadar.

Although the compiler of HSM has remained anonymous until this day, some scholars made presumptions on who he might have been. Šimun Kožičić Begna, bishop of Modruš and canon of the Zadar chapter, was the first author known to have made use of HSM. He included it into his *Collectanea*, a work lost in the meantime, but copied by Rafael Levaković.[69] Levaković's manuscript, although Barada claimed that in his time it was kept in the archive of the Split chapter, has also been lost, but preserved in the copy marked by Barada as c1.[70] Klaić believes that the manuscript marked by Barada as A might even be a remainder of Levaković's *Collectanea*.

Gunjača, who analysed the manuscript A, noticed that the text of HSM, included in the third volume of *Decreta et relationes* kept in the archive of the *Congregatio de propaganda fide* in Rome, has two paginations. One follows the page numbering of the codex itself, ranging from leaf 607 to 651, while the older one contains numbers from 289 to 336. The text of HSM is in this codex preceded by the manuscript

69 On Begna: Zbornik radova o Šimunu Kožičiću Benji. Op. cit., esp. Antoljak, Stjepan. Šimun Kožičić Begna i njegovo doba, pp. 11-25. Also: Nazor, Anica. Kožičić Benja, Šimun. // Hrvatski biografski leksikon 7(2009), 838-841.

70 Klaić, N. Historia Salonitana Maior, pp. 2-3.

titled *Memorie archiepiscoporum salonitane ecclesie*. This text has also both paginations, the new one (604-606) and the old one (289-291) (sic!).[71] Gunjača believed that both texts belonged to some kind of a collection (*collectanea*), but he wanted to avoid the conclusion that both were written at the same time. The *Memorie*, namely, lists Andrew II Cornello (1527-1536) as the last Archbishop of Split, which is the *terminus ante quem non* for this text. Gunjača wanted HSM to be older than the 16th century in order to make his hypothesis that HSM was the concept for HS more plausible. Klaić, however, investigated the manuscripts and concluded that both – *Memorie* and HSM – were written by the same hand and at the same time.[72] The fact that this manuscript can be related to Šimun Kožičić Begna made Klaić believe that he was the one who commissioned the compiling of HSM. His intention was to write a history of the church in Illyricum (Dalmatia), for which he was collecting sources. In his *Collectanea*, according to Farlati, there was a catalogue of the archbishops of Salona and Split, naming them from the first one up to the year 1185, which is also the final year included in HSM. Begna's catalogue is more accurate than HSM, and although Klaić proved that he used HSM for the composition of the catalogue, he did not blindly follow its text.[73] While the author of HSM identifies Pope John X with John IV, the author of the catalogue correctly relates the first synod with John X, but does not mention Leo VI and the second synod.[74] The close relation between HSM and Begna's catalogue is demonstrated also by the omission of Archbishop Lawrence from both of them.[75]

Nada Klaić was convinced that Begna was in some way responsible for the composition of HSM, although she believed that he only commissioned the collecting of materials for his ecclesiastical history, but that HSM was composed by an anonymous, and obviously not very well educated Dalmatian priest. Following Šišić's presumption, she also believed that it had to be someone from Split, because that could have been, as they both thought, the only place where such sources could be found.[76]

71 Gunjača, S. Historia Salonitana Maior, pp. 182-183.
72 Klaić, N. Historia Salonitana Maior, pp. 5-6.
73 Ibid., pp. 59-64.
74 Ibid., p. 60.
75 Ibid., pp. 63-64.
76 Ibid., pp. 58, 64.

It was already noted that the *Korčula Codex* is the evidence that the memory of the synod held in 928 was preserved in the archdiocese of Zadar, most probably in Zadar itself:

> *"Johannes X. sedit annos XII, menses II, dies VI. Hic fecit pacem inter Bulgaros et Chroatos, per legatos suos Madalbertum scilicet episcopum, et Johannem ducem, et composuit in Dalmatia ecclesiasticum dogma ut primitus fuerat, cuius beneficii gratia Chroati sancto Petro effecti sunt tributari in perpetuum."*[77]

It seems that the author of this brief notice referred to the fragment of the report on the synod in which it was described how the two legates came to Croatia on their way to Bulgaria, but not to its continuation in which it was said that only Madalbert returned to Split to preside over the meeting of the bishops and lords. Nevertheless, it still clearly shows that some kind of record about the events that took place in 928 was kept in Zadar, although the only evidence known to us comes from the Archbishop of Split. It is also striking that there is no mention about the first synod.

Begna's catalogue, on the other hand, makes no mention of the second synod, but notes the existence of two letters sent by John X and from the wording "*...cui Joannes X. duas dedit epistolas et formam credendi pro Croatis transmisit*". We might conclude that the author was also acquainted with the text of the decisions made by the synod in 925.[78]

It should also be remembered that the text of the synod held in 1185, with which HSM ends, is preserved in the chapter archive in Trogir.[79] This is further evidence that important documents related to synods were kept in all diocesan archives, which is not at all surprising.

HSM contains another argument in favour of Zadar as the place in which it was commissioned and most probably composed. Chapter VIII of HS tells the story about the beginnings of Dubrovnik, while chapter IX begins with the description of the hard life of the refugees from Salona, living on the Dalmatian islands after the destruction of their city and continues by telling the legend of the beginnings of mediaeval Zadar:

77 Foretić, V. Korčulanski kodeks, p. 30.
78 Klaić, N. Historia Salonitana Maior, p. 60.
79 See footnote 30.

[Chapter VIII]

"It was about this time that some strangers – driven from the city of Rome, as they say – landed in their boats not far from Epidaurus. [...] The aforementioned foreigners established themselves in the region and tore down the city of Epidaurus greatly by repeated attacks. When it was torn down they took it, and after taking it they left it to waste completely. However, the newcomers intermixed with the populace, and they became one people. They built Dubrovnik and settled there. From that time they sought to obtain the *pallium* for their own bishop."

[Chapter IX]

"*Meanwhile, the Salonitans dwelling on the islands were much irked by the barrenness of the land and the shortage of water. They were also filled with a great longing to return to their homeland. But although Salona lay deserted and no enemy ventured to remain there, it did not appear to the Salonitans that it could ever be made a secure place to stay. For everything had been devastated by enemy fires, and the towers and walls lay in ruins; only the theatre building, which had been built in the western part of the city, had remained intact up to this time. Thus the hapless citizens were pulled in opposite directions, between the urging of material want and a lingering fear of the enemy. And because the greater part of them were by now scattered all over the world, and those who remained were few and destitute, they did not presume to think of rebuilding their city.*

And so it came that some of them left the islands and searched for suitable places to settle along different parts of the Dalmatian coast. Sailing westward some came to the harbour of an ancient but destroyed city; seeing that the place was quite suitable to dwell, they prepared there some sort of fortification and lived in it. The location of the site with nearby islands and the advantage of the harbour pleased them greatly, and they no longer felt the need to return to Salona. [...]"[80]

The author of HSM left out the text in italic, thus creating the impression that it was the inhabitants of either Dubrovnik or Epidaurus who settled in Zadar and founded the town.[81] Was this an accidental error of the copyist, or could we discern a hidden motive in this omission? Was it not the intention of the author to avoid the interpretation

80 Thomas the Archdeacon. Op. cit., pp. 47, 49.

81 Klaić, N. Historia Salonitana Maior, p. 35; Margetić, p. 154.

according to which the citizens of Zadar were Salonitans by their origin, because that is what Thomas the Archdeacon wanted his readers to believe? His intervention in Thomas' text was not competent, but then, the author of HSM did not display great skills in the rest of his text either.[82] In my opinion, this is another piece of evidence that HSM was composed in Zadar, or at least that it was at a certain time reedited in that city.

Although I made almost no mention about the report on the synods held in Salona in 530 and 533, which were also left out in HS but included in HSM, it seems quite possible that they too were preserved in Zadar rather than in Split. While Zadar experienced an uninterrupted continuity of urban life in the late antique and early mediaeval periods, allowing – at least theoretically – its ecclesiastical archives from the 6th century to survive, Salona was abandoned and little can be said about the period between the mention of its last archbishop at the beginning of the 7th century and the appearance of the bishop of Salona (actually Split) at the synod in Nicea in 787.[83]

I think it is justified to suppose that Thomas the Archdeacon made no mention about the synod of 925, because he had no sources at his disposal in the archive of the Split chapter. The only note he had was the one presumably made by Archbishop John on the second synod, in which the Archbishop's conflict with Gregory of Nin (and Forminus of Zadar) was mentioned. Zadar was probably the place where another note on the synod of 928 was kept, but it is possible that in its chapter archive also two letters by Pope John X and the decisions of the 925 synod could have been found. It is impossible to say where the author of HSM found the third letter by John X or Leo VI's letter, which he also included in his work. I think it is very likely that the whole report on both synods, in the form in which it was recorded in HSM, does not originate from one single source, but is a compilation of different sources. Whether this compilation was made up at one time or, what is more plausible, in two stages – shortly after the synods and then around 1500 – remains an open question.

HSM is still a source which should attract our attention. I believe that a new edition, taking into account all existing manuscripts and compared with the existing manuscripts of HS, could reveal more about

82 Although Margetić wanted to prove the opposite. See: Margetić, L. Historia Salonitana, pp. 157-158.

83 Ibid., p. 136.

the time of its composition, as well as the reasons and methods that stood behind it. A thorough linguistic analysis is also desirable. In spite of the efforts done by a number of researchers, of which only a smaller part was presented in this text, there is a lot of work for historians to explain this very important source for the history of the eastern Adriatic.

References

Antoljak, Stjepan. Šimun Kožičić Begna i njegovo doba. // Zbornik radova o Šimunu Kožičiću Benji. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, Razred za filološke znanosti, 1991. Pp. 11-25.

Bratulić, Josip. Legenda o kralju Zvonimiru. // Zvonimir kralj hrvatski: zbornik radova/ uredio Ivo Goldstein. Zagreb : Hrvatska akademija znanosti i umjetnosti; Zavod za hrvatsku povijest Filozofskog fakulteta,1997. Pp. 235-240.

Budak, Neven. Prilog valorizaciji humsko-dukljanskog kulturnog područja u prvim fazama njegova razvitka (do 12. st.). // Starohrvatska prosvjeta ser. III, 16(1986), 125-139.

Budak, Neven. Prva stoljeća Hrvatske. Zagreb : Hrvatska sveučilišna naklada, 1994. Pp. 35-36.

Budak, Neven. Using the Middle Ages in modern-day Croatia. // Gebrauch und Missbrauch des Mittelalters, 19.-21. Jahrhundert = Uses and Abuses of the Middle Ages: 19th – 21st Century = Usages et Mésusages du Moyen Age du XIXe au XXIe siècle / Hrsg. János M. Bak, Jörg Jarnut, Pierre Monet and Bernd Schneidemüller. München : Wilhelm Fink Verlag, 2009. Pp. 241-262.

Codex diplomaticus regni Croatiae, Dalmatiae et Slavoniae. V. I / sabrali i uredili Miljen Šamšalović i Jakov Stipišić. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1967.

Codex diplomaticus regni Croatiae, Dalmatiae et Slavoniae. V. II / sabrao i uredio Tadija Smičiklas. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1904.

Čužaja vojna : Voennye pochody mongolov v 1237-1242 g. v chronike Fomy archidiakona Splitskogo. // Drevnjaja Rus' 4 (34), dekabr' 2008, pp. 18-29.

Documenta historiae croaticae periodum antiquam / collegit, digessit, explicuit Fr. Rački. Zagrabiae : Sumptibus Academiae scientiarum et artum, 1877.

Farlati, Daniele. Illyricum sacrum. Vol. I, Venice, 1751.

Ferluga, Jadran. L'amministrazione bizantina in Dalmazia. Venezia : A spese della Deputazione, 1978.

Foma Splitskij. Istorija arhiepiskopov Saloni i Splita / ed. by Olga A. Akimova. Moscow : Institut slavianovedeniia i baikanistiki, 1997.

Foretić, Vinko. Dalmacija prema Hrvatskoj do 1107. // Pomorski zbornik 7(1969), 757-811.

Foretić, Vinko. Korčulanski kodeks 12. stoljeća i vijesti iz doba hrvatske narodne dinastije u njemu. // Starine Jugoslavenske akademije znanosti i umjetnosti 46(1956), 23-44.

Frankopan, Peter. Co-operation between Constantinople and Rome before the First Crusade : a study of the convergence of interests in Croatia in the late eleventh century. // Crusades 3(2004), 1-13.

Fučić, Branimir. Glagoljski natpisi. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, 1982.

Goldstein, Ivo. Kako, kada i zašto je nastala legenda o nasilnoj smrti kralja Zvonimira? : Prinos proučavanju mehanizma nastajanja legendi u hrvatskom srednjovjekovnom društvu. // Radovi Instituta za hrvatsku povijest 17(1984), 35-54.

Gunjača, Stjepan. Historia Salonitana Maior. // Rad Jugoslavenske akademija znanosti i umjetnosti 283(1951), 175-244.

Gunjača, Stjepan. Ispravci i dopune starijoj hrvatskoj historiji. Zagreb : Školska knjiga, 1973.

Iohannes Lucius. Addenda vel corrigenda in opere De regno Dalmatiae et Croatiae, Inscriptiones Dalmaticae. Venice, 1674.

Ivić, Nenad. Domišljanje prošlosti. Zagreb : Zavod za znanost o književnosti Filozofskoga fakulteta, 1992.

Katičić, Radoslav. Litterarum studia : književnost i naobrazba ranoga hrvatskog srednjovjekovlja. Zagreb : Matica Hrvatska, 1998.

Katičić, Radoslav. Methodii doctrina. // Slovo 36(1986), 1-44.

Klaić, Nada. Historia Salonitana Maior. Beograd : Naučna knjiga, 1967.

Klaić, Nada. Povijest Hrvata u ranom srednjem vijeku. Zagreb : Školska knjiga, 1971.

Klaić, Vjekoslav. Prilozi hrvatskoj historiji za narodnih vladara. // Zbornik kralja Tomislava u spomen tisućugodišnjce hrvatskog kraljevstva = Dissertationes in memoriam anni millesimi a Tomislavo primo croatorum rege praeteriti editae. U Zagrebu : Jugoslavenska akademija znanosti i umjetnosti, 1925.

Košćak, Vladimir. Pripadnost istočne obale Jadrana do splitskih sabora 925-928. // Historijski zbornik 33-34(1980-1981), 291-355.

Margetić, Lujo. Historia Salonitana i Historia Salonitana Maior : neka pitanja. // Margetić, Lujo. Hrvatska i Crkva u srednjem vijeku. Rijeka : Pravni fakultet Sveučilišta, 2000. Pp. 127-167. (First published in Historijski zbornik 47 (1994), 1-36).

Matijević Sokol, Mirjana. *Historia Salonitana* i *Historia Salonitana maior* – Gunjačin pristup. // Stjepan Gunjača i hrvatska srednjovjekovna povijesno-arheološka baština. 1 / [glavni urednik Tomislav Šeparović]. Split : Muzej hrvatskih arheoloških spomenika, 2010. Pp. 331-339.

Matijević Sokol, Mirjana. Toma Arhiđakon i njegovo djelo : rano doba hrvatske povijesti. Jastrebarsko : Naklada Slap, 2002.

Mayer, Hans Eberhard. Geschichte der Kreuzzüge. Stuttgart : Kohlhammer, 2005.

Nazor, Anica. Kožičić Benja, Šimun. // Hrvatski biografski leksikon 7(2009), 838-841.

Poparić, Bare. Pisma Ivana Lučića Trogiranina. // Starine Jugoslavenske akademije znanosti i umjetnosti 31(1905).

Prozorov, Vadim. The Sixth Century Councils of Salona. // Vjesnik za arheologiju i povijest dalmatinsku 104(2011), 309-337.

Raukar, Tomislav. Hrvatsko srednjovjekovlje : prostor, ljudi, ideje. Zagreb : Školska knjiga ; Zavod za hrvatsku povijest Filozofskog fakulteta, 1997.

Raukar, Tomislav. Kralj Tomislav u hrvatskoj historiografiji : 1925.-1995. // Prvi hrvatski kralj Tomislav : zbornik radova. Zagreb : Zajednica Duvnjaka Tomislavgrad ; Tomislavgrad : Općinsko poglavarstvo, 1998. Pp. 205-229.

Rokay, Peter. Motiv neostvarenog križarskog rata u biografijama srednjovjekovnih evropskih vladara. // Zvonimir kralj Hrvatski : zbornik radova/ uredio Ivo Goldstein. Zagreb : Hrvatska akademija znanosti i umjetnosti ; Zavod za hrvatsku povijest Filozofskog fakulteta,1997. Pp. 241-246.

Steindorff, Ludwig. Die dalmatinischen Städte im 12. Jahrhundert : Studien zu ihrer politischen Stellung und gesellschaftlichen Entwicklung. Köln ; Wien : Böhlau Verlag, 1984.

Steindorff, Ludwig. Der fremde Krieg : Die Heerzüge der Mongolen 1237-1242 im Spiegel der altrussischen und lateinischen Chronistik. // Südosteuropa. Von vormoderner Vielfalt und nationalstaatlicher Vereinheitlichung : Festschrift für Edgar Hösch / Hrsg. Konrad Clewing, Oliver Jens Schmitt. München : R. Oldenbourg, 2005. Pp. 93-118.

Steindorff, Ludwig. "Podestà". // Lexikon des Mittelalters. Bd. 7. München ; Zürich : Artemis-&-Winkler-Verlag, 1995.

Šišić, Ferdo. Priručnik izvora za hrvatsku povijest = Euchiridion fontium historiae Croaticae. U Zagrebu : Kr. hrv. slav. dalm. zemaljska vlada, 1914.

Thomas the Archdeacon. Historia Salonitana / digessit Fr. Rački. Zagrabiae : in taberna Libraria eiusdem societatis typographicae, 1894.

Thomas the Archdeacon. Historia Salonitanorum atque Spalatinorum pontificum = History of the Bishops of Salona and Split / edited by Damir Karbić, Mirjana Matijević Sokol and James Ross Sweeney. Budapest ; New York : Central European University Press, 2006.

U početku bijaše De administrando imperio : Konstantin VII. Porfirogenet i percepcija najranije hrvatske povijesti = In the Beginning there was De administarndo imperio : Constantine VII Porphyrogenitus and the Perception of the Earlieast Croatian History : radovi s međunarodnog znanstvenog skupa, Zagreb, 18. veljače 2010. = Proceedings of the conference held in Zagreb on February 18th, 2010 / edited by Trpimir Vedriš. // Radovi Zavoda za hrvatsku povijest 42 (2010), 13-165.

Zbornik radova o Šimunu Kožičiću Benji. Zagreb : Jugoslavenska akademija znanosti i umjetnosti, Razred za filološke znanosti, 1991.

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Dr. Neven Budak has been Professor of Croatian mediaeval history at the Faculty of Humanities and Social Sciences, University of Zagreb since 2002. He studied history at the University of Zagreb (acquired his PhD in 1991). As an Alexander-von-Humboldt fellow he spent one year at the University of Münster, Germany, and received several grants, among others from the Max-Planck Institute in Göttingen and several institutions in Austria. He is the author of several books and more than sixty articles of which many were published in France, Belgium, Italy, Germany, Austria, Hungary, Slovenia, Serbia, Russia, and Australia. He has been a member of editorial and advisory boards in Croatia, Slovenia, Austria, Germany, Poland, Russia, and Australia. He is the founder and member of several scientific associations. He held lectures at universities in Great Britain, Ireland, Austria, Germany, Canada, Hungary, Poland, Slovenia, Bulgaria, and Japan. For four years (2000-2004) he held the office of Dean of the Faculty of Humanities and Social Sciences in Zagreb and Head of the Board of the Croatian Historical Museum (2003-2007). He is currently Head of the National Committee for Historical Sciences (since 1999), member of the National Committee for Higher Education (since 2009), Head of the Doctoral Programme in Medieval Sciences at the University of Zagreb (since 2007), and Head of the Board for Doctoral Studies of the same University (since 2010).

HISTORIA SALONITANA I *HISTORIA SALONITANA MAIOR* PRINOS RASPRAVI O ODNOSU DVA TEKSTA

Sažetak

U prvom dijelu članka prikazuju se neke metode kojima su razni autori pristupali problemu odnosa dvaju važnih izvora za hrvatsku srednjovjekovnu povijest: Povijesti salonitanskih i splitskih prvosvećenika (Historia Salonitana: HS) Tome Arhiđakona i Veće salonitanske povijesti (Historia Salonitana maior: HSM). Potom se analizira skup izvora koji se odnose na splitske crkvene sabore 925. i 928., kako bi se pokušalo odgovoriti na pitanje zašto Toma nije ove izvore uključio u svoje djelo? Brojni istraživači su se složili da je autor opisa sabora sam splitski nadbiskup Ivan, jer je tekst pisan u prvom licu množine, a autor govori o biskupima kao o "nama". Međutim, u toj je formi pisan samo drugi dio opisa, koji se odnosi na sabor 928., dok je prvi pisan u neutralnoj formi. Autor opisa prvog sabora inzistira na dogmatskoj problematici i citira zaključke sabora, dok autora drugog dijela zanimaju samo pitanja odnosa biskupija, a zaključke sabora prepričava. Moguće je, dakle, da je izvještaj o saborima sastavljen iz dva dijela, od kojih se jedan, onaj o drugom saboru, čuvao u Splitu kao zapis nadbiskupa Ivana, dok je drugi bio pohranjen negdje drugdje. Nevješti sastavljač HSM je onda umetnuo papinska pisma koja je vjerojatno pronašao u nekom drugom, a ne splitskom arhivu. Toma je poznavao samo splitski izvještaj, pa zato u HS i spominje ninskog biskupa Grgura, ali ništa drugo. Korčulanski kodeks upućuje na mogućnost da se i u zadarskom kaptolskom arhivu čuvao zapis o saboru 928., a onda možda i ostali dokumenti koji Tomi nisu bili poznati, kao primjerice papinska pisma. Jedno od tih pisama upućeno je izravno zadarskom biskupu Forminu, pa je i logično da se čuvalo u Zadru, a ne u Splitu. Može se pretpostaviti da su odluke sabora bile dostavljane svim biskupima, pa tako i zadarskom. Kako se već dugo pretpostavlja da je

Šimun Kožičić Benja naručitelj sastavljanja HSM, njegov se boravak u Zadru može dovesti u vezu s nastankom HSM upravo u tom gradu, o čemu možda svjedoči i prerađeno Tomino poglavlje o tome kako su se izbjeglice iz Salone naselile u Zadru i osnovale ga, jer su u verziji sadržanoj u HSM Salonitanci (Splićani) zamijenjeni Dubrovčanima (Rimljanima).

Ključne riječi: *Historia Salonitana, Historia Salonitana maior*, Toma Arhiđakon, splitski crkveni sabori 925 i 928, Split, Salona, Zadar, Ivan X, Lav VI, Grgur Ninski, Formin, Šimun Kožičić Benja

MANUSCRIPT FRAGMENTS THE HIDDEN LIBRARY

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Abstract
The paper deals with a topic that has not yet become the object of systematical scientific study: fragments of manuscripts. At Graz University these remnants of a sunken library are going to be researched by collecting and inventoring these pieces, by identifying their contents. Thus a database of hundreds of fragments with predominantly Latin texts written on parchment as well as on paper is going to be created. Furthermore, this paper outlines other international activities on fragment research researchers at Graz University are involved in. Thus a series of key questions in this reserach area are developed.

Keywords
mediaeval manuscripts, book conservation, digitisation, ancient libraries, book history

The object: what is a manuscript fragment?

There are various definitions of what can be considered to be a ‚fragment'. In this sketch the term is used in the sense of a part of a former book or document. The manuscript collections, Eastern and Western, offer lots and lots of pieces being the remnants of former books. The considerable number of such paper and parchment debris makes me talk of a “hidden library”. In many cases these late and rudimentary vestiges do not allow the reconstitution of more than one folium or a bifolium, not to talk about a full quire of a former book. But these fragments can tell us a story.

I am classifying the fragments under two formal aspects: *in situ*-fragments and fragments which are detached from a former surrounding. *In situ*-fragments are more informative and revealing because they have a context providing information additional to its material and its contents. However, the other type of fragments is not to be neglected at all.

The state of the art: what has been already done?

I have been observing the European scene in terms of research work on manuscript fragments for several years. At the first glance one can notice, many fragments are mentioned in the catalogues – not all of them are described in detail nor in good quality.

Of course, fragments have always been considered for text editions, exploiting their contents. Furthermore, there were some fine editions of fragment corpora in the last years, the majority of them being directed by thematic and formal aspects, e.g. liturgical fragments, or fragments with musical notation, or fragments dating from a certain – normally ancient – period, due to an increasing palaeographical interest. In summary, much individual study on manuscript fragments, and some research on fragments under particular aspects has been carried out. However, all of these works mostly remain connected to single fragments or collections of fragments on a local level.

But we can perceive another development as well, a systematical and more structured study of manuscript fragments.There are some few institutions investigating into the quasi-totality of fragments to be found in a library or even in a wide geographic area. The first place in this sense is hold by a Scandinavian group of researchers under the direction of Åslaug Ommundsen, from the Center for Medieval Studies, University of Bergen in Norway. They started a series of workshops and activities on fragment studies years ago, comprising the countries Sweden, Denmark, Norway, Finland and Iceland. The results are published and accessible in pdf form on the homepage of Bergen University.[1] I consider this Scandinavian effort as the most productive so far, creating well elaborated databases with meticulous descriptions as well as photographies of the objects in their *corpus fragmentorum.*

1 The beginnings of Nordic scribal culture, ca 1050-1300 : report from a Workshop on Parchment Fragments, Bergen 28-30 October 2005 / edited by Åslaug Ommundsen [cited 2012-05-20]. Available at: https://bora.uib.no/handle/1956/2403; Ommundsen, Åslaug. Books, scribes and sequences in medieval Norway: Diss., 2 vols. [vol. I: Method and analysis, vol. II: Catalogue]. Bergen : The University of Bergen, 2007 [cited 2012-05-20]. Available at: https://bora.uib.no/handle/1956/2252; Ommundsen, Åslaug. From books to bindings – and back : medieval manuscript fragments in Norway. // Gazette du Livre Médiéval 52-53(2008), 34-44.

From various initiatives in Germany[2] I want to pick out the case of the University and County Library Düsseldorf.[3] In 2003 they started a project sponsored by the German Science Fund (DFG). Within this project more than 300 parchment fragments of any content were investigated scientifically. These objects were digitized and described, and can be found published on the web.

From the Austrian landscape in fragment research I can report some promising beginnings. In 2009 Austrian Academy of Science organized an international congress on the questions and problems associated to the fragmented manuscript heritage. The results are published in a book which contains fundamental insights and strategies in our dealing with manuscript fragments.[4]

Another initiative was set in the National Library in Vienna.The number of manuscript fragments to be found in the National Library is incredibly high, some thousands and it is not possible to easily make a comprehensive census.

In summer 2011 a small but fine fascicle presenting some 70 fragments with musical notation left the printing press.The booklet is a special volume of the series “Codices Manuscripti”.[5] This publication picks out the most outstanding objects the totality of it being in a database. Emphasis is laid here on the discussion of provenience according to the different styles and schemes of musical notation. Our Colleague from Graz University, Franz Karl Praßl, was consultor in this initiative.

In total, as far as I see, there is an awakening interest in research on manuscript fragments,and an increasing awareness of the multilayered and complex reality connected with manuscript fragments. There

2 Ausgewählte liturgische Fragmente aus der Bischöflichen Zentralbibliothek Regensburg / Hrsg. Benz, Karl Joseph, Dittrich; Raymond. Regensburg : Schnell & Steiner, 2007.; Powitz, Gerhardt. Mittelalterliche Handschriftenfragmente der Stadt und Universitätsbibliothek Frankfurt am Main. Frankfurt am Main : V. Klostermann, 1994.

3 Plassmann, Max. Ein Projekt zur Erschließung und Digitalisierung von mittelalterlichen Handschriftenfragmenten an der ULB Düsseldorf. // ProLibris Heft 1-2(2004), S. 12-14.; Zechiel-Eckes, Klaus. Katalog der frühmittelalterlichen Fragmente der Universitäts- und Landes-bibliothek Düsseldorf : vom beginnenden achten bis zum ausgehenden neunten Jahrhundert / Mit Beiträgen von Max Plassmann und Ulrich Schlüter. Wiesbaden : Reichert, 2003. Also available at: www.ub.uni-duesseldorf.de/home/ueber_uns/projekte/abgeschlossene_projekte/fragmente [cited 2012-05-20].

4 Fragmente : der Umgang mit lückenhafter Quellenüberlieferung in der Mittelalterforschung : Akten des internationalen Symposiums des Zentrums Mittelalterforschung der Österreichischen Akademie der Wissenschaften / Hrsg. Gastgeber, Christian [et. al.]. Wien : Verlag der Österreichischen Akademie der Wissenschaften, 2010.

5 Klugseder, Robert. Ausgewählte mittelalterliche Musikfragmente der Österreichischen National-bibliothek. // Codices Manuscripti. Supplement 5. Wien : Verlag Brüder Hollinek, 2011.

is some evidence for a certain shift towards codicological research, perceiving fragments as part of a former book or document. There is a general bias from purely exploiting the contens towards the material character and the "second life" of a book in its fragmented form. This new appreciation possibly is a tribute to the book restorers and conservators who are nowadays the main "generators" of fragments – in the sense that they are discovering and making visible fragments at various places of mediaeval bookbindings. However, scientific community started research on the so called "waste material", not in a large scale, but there are some serious beginnings.

The projects: what is on the way?

The VESTIGIA – ("Traces") – research centre at Graz University which is connected to the Special Collection Department has taken responsibility for a couple of initiatives dedicated to research on manuscript fragments.

The fragments hold in the University Library Graz

First of all, we have to do works in our own library. Our Special Collections at University Library Graz are holding more than two thousand manuscripts, eleven hundred *incunabulae* and 27 thousand books from the 16th and 17th centuries. All parts of these collections are "contaminated" with fragments of former manuscripts. A first census, half a century ago, inventorized a number of 195 detached fragments. Among these we count 41 numbers being the remnants of former charters.[6] The collection of Hebrew fragments comprises 17 numbers. In total we have about 280 detached fragments. The number of *in situ*-fragments is gradually increasing. We took notice of more than 500 up to now. Thus, we have at least 800 fragments of mediaeval books in our shelves.[7]

The majority of the detached fragments is visible on the web.[8] The quality of their description – done in former times – is varying. It is our

6 Die Urkundenfragmente in den Sondersammlungen der UB Graz [cited 2012-5-20]. Available at: www.vestigia.at/urkundenfragmente.html

7 Fragmente/Makulaturen : Die Bearbeitung der Grazer Handschriftenfragmente [cited 2012-5-20]. Available at: www.uni-graz.at/ubwww/ub-sosa/ub-sosa-handschriften/ub-sosa-hs-fragmente.htm

8 A wonderfull work describing the manuscripts and fragments of the former Carthusian monastery of Seitz (Žiče/Slovenija), now in our library, has been done by Nataša Golob. Mittelalterliche Handschriften aus der Kartause Seitz (1160-1560). Ljubljana : Narodna galerija, 2006. Pp. esp. 145-147 [in Slovenian and German].

task to work out the complete material anew. We have to describe each object systematically, to provide high quality photographs and to enter the results in an easily accessible database.

One part of our collection – the fragments of the Monastery of St Lambrecht – is being worked out by Christopher Schaffer, a PhD student.[9] He will accomplish works next spring. Since emphasis is put here on notated fragments, it is again our colleague Franz Karl Prassl who is co-heading this project.

At present we are developing a vast research proposal to include the totality of our fragments to be investigated.

The fragments hold in the Diocesane Archive, Graz

There are other places in Graz where we can find manuscript fragments. One of these places is the Archive of the Diocese. We do not find any mediaeval manuscript there. But there is rich archival material, volumes of all formats, which are bound and rebound using parchment leaves. Thus, we count some 250 pieces – fragments of outdated manuscripts. We digitized all of them and made them accessible for scientific investigation. It is our colleague Mrs Margit Westermeyer, who is elaborating her doctoral thesis on these objects.

Considering this kind of material means opening a new page in the book. Beyond the normal scope of a project of this kind – identifying contents and date etc. – this project offers new possibilities. The situation is that: the archival material with the fragments are collected from all over the country. There are several dozens of places where parchment fragments had been used for binding purposes. Some of these locations are close to monasteries. We hope to get information about the ways, some manuscripts went. We hope to find some traces in order to clarify if, how and where bookbinders were on the way – with or without connections to neighbouring libraries. And we want to verify the hypothesis of manuscript waste material being object of commerce. The project started late in 2009.[10]

9 Katalog der Notenfragmente in den Makulaturen der Grazer Universitätsbibliothek / Projektausführender Gangl, Christopher. Graz : Vestigia, 2004. Also available at: www.vestigia.at/fragmentelambrecht.html [cited 2012-5-20].

10 Die Makulaturfragmente im Diözesanarchiv der Diözese Graz-Seckau [cited 2012-5-20]. Available at: www.vestigia.at/makulaturfragmente.html

The Armenian fragments of the Mechitharist Library, Vienna

The beginnings of our works on fragments goes back to the year 2005, when we started the identification and subsequent digitization of the fragments in the Mechitharist Library of Vienna. This library holds more than 3,000 medieaval Armenian manuscripts.We identified some 250 fragments mentioned in the excellent catalogue.The scientific description was done by our colleagues Gohar Muradyan and Aram Topchyan who are connected to the Matenadaran in Yerevan/Armenia.The works were completed in 2009. One may find the publication of these fragments in a bilingual edition (Armenian and English) to be downloaded as pdf on our website.[11] At present we are working on the edition in classical book form.

This project was our very first on fragments to be started and accomplished. And we won much experience in the course of its realization, in terms of the specific problems and the expectations in view of the results. Emphasis was laid on the identification of the contents ond on palaeography. At the beginning we did not pay sufficient attention to the place of the fragment in the book and to various other questions of codicology. This project was a highly useful experience. One of the main results: It is absolutely necessary to develop an open access database for the Armenian manuscript fragments worldwide.

The Syriac Manuscripts and Fragments of the Matenadaran of Yerevan, Armenia

It was in 2007 when we started another mission to inventorise and describe manuscript fragments.[12] The Matenadaran is the most prominent collection of Armenian manuscripts in the world – some twelve thousand out of a totality of approximately 18,000 at that place. Matenadaran holds a tiny collection of several dozens of Syriac manuscripts and fragments. Most of these fargments are parchments and some of them are indeed very old. We choose this corpus of fragments because there is a close cooperation between our institutions and accessibility is guaranteed and easy. Finally, the amount of documents is limited, work is feasible within a reasonable span of time. We are in close cooperation

11 Die armenischen Handschriftenfragmente in der Mechitharistenbibliothek/Wien [cited 2012-5-20]. Available at: www.vestigia.at/armmechitharisten.html

12 Die syrischen Handschriften und Fragmente in armenischen Sammlungen [cited 2012-5-20]. Available at: www.vestigia.at/syriacfragments.html

with the Oriental Institute in Louvain-la-Neuve, Belgium, to elaborate the catalogue.Together with the resident colleague Andrea Schmidt we are expecting to accomplish works on these materials in 2012. The outcome will be a bilingual publication (German and Armenian).

The Collection of Diyarbakir, Turkey

Finally, I'd like to indicate another newly inspected collection of manuscripts and fragments. In May 2011 Manfred Mayer, our chief conservator, and me, we came across a collection of 370 Syriac manuscripts in the town of Diyarbakir – the historical Amida in Cappadocia. Diyarbakir is situated on the Tigris river and may be considered as the main metropolis of Kurdistan. Historically the region was settled by Greeks, Armenians and Syrians as well.

The collection of manuscripts there offers several hundred detached fragments apart from the still intact books. In close collaboration with Paul Hepworth, the book restorer in charge, we are going to design a project in order to set necessary steps as to the conservation of the manuscripts, to catalogue them and to make these manuscripts and the fragments accessible for scientific community. The amount of book debris we saw there made us become desperate –and this is just one location in the Middle East, where we are confronted with fragmented books of historical libraries.[13]

The aims: what do we want to know when we are going to study fragments?

Text-findings

It is a matter of fact that practically all historical text editions are lacking their "Urschrift" – the original manuscript from which several copies have been taken, normally with slight changes or alterations. Actually, we do not believe to discover such treasures among the piles of fragments. And we do not expect to discover completely new – so far unknown – texts. But from time to time we are surprised to find a piece of a rare text. Thus, in a modest scale, research on manuscript fragments may contribute even to text editions. But it is the standard case to uncover texts which are already known, texts from which printed editions are already existant.

13 First results are going to be presented at the Symposium Syriacum, Malta, in July 2012.

Palaeography

It is one of the outreaching goals of research on manuscript fragments to enlarge our knowledge of palaeography. The more writings we can attribute to a certain period, to a certain region, to a certain scriptorium or to the hand of a writer, the better we can rely on palaeography, which is sometimes the only tool for dating etc. Therefore, dealing with manuscript fragments necessitates a thorough description of the writing style, inventorizing all irrregularities and regularities as well. We need comprehensive albums of paleography for all alphabets and regions with a historical production of manuscripts.

History of books

One of our main concerns is to contribute to elucidate the history of books and libraries. Scientific community has a good knowledge of single books and whole libraries which have disappeared in history. There are various reasons for that: destruction and confusion due to historical events and catastrophes, changes of techniques (e.g. book printing), censorship and many others. We are considering fragments as the rudiments of a former book or a charter of any kind. Finally, we want to know, which categories of books have been cut into pieces, when and where, and why.

Techniques of book-binding

Dealing with manuscript fragments used as material for bookbinding means to study the "second life" of a folium – a folium cut off from its original surrounding of an intact book in order to be subsidiary now to a completely different book. We want to increase our knowledge of historical techniques of book-binding, and to get some insight into the ways fragments were used as waste material. By the way, it is normally the book-binder and the book restorer who discovers a fragment.

The experiences: what questions did emerge, what results do we have?

Immense and increasing number of fragments

Even in good catalogues we will not always find necessary information about the existence of fragments in a library. There is a considerable number of fragments to be found not in the manuscript collection itself but on the cover of printed books especially from the 16th to the

18th centuries. Such fragments are frequently not inventorized and indicated in the catalogues. The existence of a manuscript fragment is not necessarily connected to books at all. And, there are many cases when fragments appear in the process of restoring a book. Thus the number of fragments is growing steadily. Even the census of manuscript fragments is a difficult task and the repertories might be full of gaps.

Technical questions (digitization, ...)

Sometimes we are able to detect small strips of parchment in the fold, on the spine or elsewhere in a manuscript. This leads us to a serious problem: Although we see that there is a fragment we are not able to read its contents because the surface is not accessible for our eyes. Here we need the help of technologies and facilities of various kind in order to make the parchment's text or whatever it bearsvisible. But there are cases where we are failing even with the help of a most sophisticated technology.

Necessity of more than local cataloguing of fragments

Substantial work on fragments may be carried out on a local level. It seems to be the ordinary way to work on fragments in a special collection at a certain place. Scientific literature convincingly testifies to this practise – and produced a lot of good results. Beyond that scope we could search for fragments dispersed in a wider area. Books were a travelling around in all historical periods. This is only gradually different from practises in present time – e.g. we have precise knowledge of officially sending a one thousand year old manuscript by ordinary mail from our university to a place in France. It happened some 25 years ago. We got it back via mail. And fragments, of course were travelling with the books, with the book binders, with the monks, the readers and so on. Therefore, it makes much sense to search for fragments in a more than local area, to collect the traces of the hidden library accross political and cultural borders: There is the other case of a 14th c. charter fragment, originating from the German town of Heilbronn, which I found in Armenia, three thousand kilometer from its place of origin, now being part of an Armenian manuscript.

Creation of databases

As a consequence I would like to suggest the creation of local and regional databases and to make them compatible. Creating such databases would not only be advantageous to identify fragments more easily or to bring pieces together – which is the exceptional case. Such databases would allow modified scientific questions and new insights in historical bookproduction and the fate of books and libraries.

References

Die armenischen Handschriftenfragmente in der Mechitharistenbibliothek/Wien [cited 2012-5-20]. Available at: www.vestigia.at/armmechitharisten.html

Ausgewählte liturgische Fragmente aus der Bischöflichen Zentralbibliothek Regensburg / Hrsg. Benz, Karl Joseph; Dittrich, Raymond. Regensburg : Schnell & Steiner, 2007.

The beginnings of Nordic scribal culture, ca 1050-1300 : report from a Workshop on Parchment Fragments, Bergen 28-30 October 2005 / edited by Åslaug Ommundsen [cited 2012-05-20]. Available at: https://bora.uib.no/handle/1956/2403

Fragmente : der Umgang mit lückenhafter Quellenüberlieferung in der Mittelalterforschung : Akten des internationalen Symposiums des Zentrums Mittelalterforschung der Österreichischen Akademie der Wissenschaften / Hrsg. Gastgeber, Christian [et. al.]. Wien : Verlag der Österreichischen Akademie der Wissenschaften, 2010.

Fragmente/Makulaturen : Die Bearbeitung der Grazer Handschriftenfragmente [cited 2012-5-20]. Available at: www.uni-graz.at/ubwww/ub-sosa/ub-sosa-handschriften/ub-sosa-hs-fragmente.htm

Golob, Nataša. Mittelalterliche Handschriften aus der Kartause Seitz (1160-1560). Ljubljana : Narodna galerija, 2006.

Katalog der Notenfragmente in den Makulaturen der Grazer Universitätsbibliothek / Projektausführender Gangl, Christopher. Graz : Vestigia, 2004. Also available at: www.vestigia.at/fragmentelambrecht.html [cited 2012-5-20].

Klugseder, Robert. Ausgewählte mittelalterliche Musikfragmente der Österreichischen National-bibliothek. // Codices Manuscripti. Supplement 5. Wien : Verlag Brüder Hollinek, 2011.

Die Makulaturfragmente im Diözesanarchiv der Diözese Graz-Seckau [cited 2012-5-20]. Available at: www.vestigia.at/makulaturfragmente.html

Ommundsen, Åslaug. Books, scribes and sequences in medieval Norway: Diss., 2 vols. [vol. I: Method and analysis, vol. II: Catalogue]. Bergen : The University of Bergen, 2007 [cited 2012-05-20]. Available at: https://bora.uib.no/handle/1956/2252

Ommundsen, Åslaug. From books to bindings – and back : medieval manuscript fragments in Norway. // Gazette du Livre Médiéval 52-53(2008), 34-44.

Plassmann, Max. Ein Projekt zur Erschließung und Digitalisierung von mittelalterlichen Handschriftenfragmenten an der ULB Düsseldorf. // ProLibris Heft 1-2(2004), S. 12-14.

Powitz, Gerhardt. Mittelalterliche Handschriftenfragmente der Stadt und Universitätsbibliothek Frankfurt am Main. Frankfurt am Main : V. Klostermann, 1994.

Die syrischen Handschriften und Fragmente in armenischen Sammlungen [cited 2012-5-20]. Available at: www.vestigia.at/syriacfragments.html

Die Urkundenfragmente in den Sondersammlungen der UB Graz [cited 2012-5-20]. Available at: www.vestigia.at/urkundenfragmente.html

Zechiel-Eckes, Klaus. Katalog der frühmittelalterlichen Fragmente der Universitäts- und Landes-bibliothek Düsseldorf : vom beginnenden achten bis zum ausgehenden neunten Jahrhundert / Mit Beiträgen von Max Plassmann und Ulrich Schlüter. Wiesbaden : Reichert, 2003. Also available at: www.ub.uni-duesseldorf.de/home/ueber_uns/projekte/abgeschlossene_projekte/fragmente [cited 2012-05-20].

Biographical sketch

Dr. Erich Renhart is Prof. of Liurgiology, Scientific Director of the Special Collection Department of Graz University Library, and head of the VESTIGIA – Centre for the Study of Written Heritage, Graz, Austria. His main fields of reserach are manuscripts of the Latin, Syriac and Armenian traditions and history of libraries.

FRAGMENTI – SAKRIVENA KNJIŽNICA

Sažetak

Rad se bavi temom koja još nije postala predmetom sustavnog znanstvenog proučavanja: fragmentima rukopisa. Na Sveučilištu u Grazu ti ostaci potopljene knjižnice će biti istraženi prikupljanjem i inventarizacijom takvih dijelova te identifikacijom njihova sadržaja. Na taj će se način stvoriti baza podataka sa stotinama fragmenata, uglavnom s latinskim tekstovima, pisanim na pergameni i papiru. Rad prikazuje i ostale međunarodne aktivnosti o istraživanju fragmenata u kojima sudjeluju istraživači sa Sveučilišta u Grazu. Na taj se način otvara niz pitanja u ovom području istraživanja.

Ključne riječi: srednjevjekovni rukopisi, zaštita knjiga, digitalizacija, stare knjižnice, povijest knjige

FRAGMENTS OF PARCHMENT CODICES ON THE COVERS OF OLD BOOKS

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Abstract

The Author will present her latest discoveries in the libraries of the Capuchin monasteries in Croatia: the *FgCapVla* collection, which was found in *Varaždin, Rijeka and Karlobag.* These are three remarkable collections of parchment fragments containing Croatian Glagolitic, Latin, Ancient Greek and Hebrew-Aramaic codices from the 13th to the 15th centuries – that have for hundreds of years served as protective covers for books, material for book-binding or patches for damaged leaves of printed books from the 15th to the 18th centuries. Starting with the enthusiasm, joy and inspiration that she experienced while conducting her research and scholarly work, she will pay special attention to (1) the cultural-historical aspects of avant-garde-pioneer *'jeans quest' for Glagolitsa in the libraries of Capuchin monasteries,* (2) the problems of restoration and conservation of all the parchments and the books they were discovered on, (3) the results of the palaeographic and linguistic analyses of some fragments analysed so far (Croatian Glagolitic and Hebrew-Aramaic), (4) the exhibition co-authored by Vlašić-Anić and Sabalić: "*The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia"* (Rijeka, 15 October – 25 December 2010).

Keywords

Capuchin monastery, *glagolitsa,*
fragment of parchment codeces, cover of book

Preface

As a scholar from the Old Church Slavonic Institute in Zagreb I would like to tell you an interesting story about my latest findings, *fragments of parchment codices on the covers of old books*. It is a story with several fragmented happy 'endings' that is in fact still going on, as a happily unfinished adventure: an adventure almost like an *avant-garde – pioneer 'jeans quest' for Glagolitsa in the libraries of Capuchin monasteries.*

The reference to the *Jeans prose*[1] of the legendary researcher of the Russian and West European avant-garde, Aleksandar FLAKER (24 July 1924 – 25 October 2010) is entirely accidental because:

1. All of my research has been conducted *literally: in jeans.* As you are surely aware, *jeans are inevitable* in several senses – *as a wholesome existential, intellectual and spiritual **habitus** of my generation.* So, ordinary blue jeans have become 'my regular scholar's and researcher's uniform' in which I have found a whole series of parchment fragments of medieval codices from the 13th to the 15th centuries on books from some of the oldest monastery book funds: Croatian Glagolitic, Latin, Ancient Greek and Hebrew. All of them had for centuries been used mostly as protective covers and spines for printed books from the 15th to the 18th centuries, as binding material, as patches for damaged leaves or as bookmarkers. Let us call these: *jeans parchments.* That way you may remember them when you start finding connections, perhaps in some other way, between your own future findings – and there are bound to be a lot of them, believe me – and the ethics and axiology of the existential, intellectual and spiritual habitus of *your* generation.

2. The reference to Flaker's *Jeans prose* is an eternal source of inspiration and it is discreetly marked by experience in *avant-garde – ludist* artistic spirituality. These are also my experiences as a student and as a scholar in the *freedom of creative thought, the yearning to discover something new and the dignity and courage to critically construct questions and to question – absolutely all civilisational cannons.* Once it has been lived through – in the student theatre KUGLA-GLUMIŠTE[2] (ORB THEATRE) in Zagreb, from 1975 to 1985, and in my poetic research of HARMS AND DADAISM[3] – this experience remains with you for ever, with undiminished intensity (Figure 1).

1 Flaker, Aleksandar. Proza u trapericama : prilog izgradnji modela prozne formacije na građi suvremenih književnosti srednjo- i istočnoevropske regije. Zagreb : Biblioteka Razlog, 1976.

2 Vlašić-Anić, Anica. Kugla glumište, Zagreb. // Drugi hrvatski slavistički kongres, Osijek, 14-18. rujna 1999. : zbornik radova / uredile Dubravka Sesar, Ivana Vidović Bolt. Zagreb : Hrvatsko filološko društvo ; Filozofski fakultet, 2001. Pp. 659-665.; Vlašić-Anić, Anica. Kafka, Kugla, Harms : mimikrija lijepog na poprištu estetike mučnine. // Oko književnosti : osamdeset godina Aleksandra Flakera / uredio Josip Užarević. Zagreb : Disput, 2004. Pp. 121-136.; Marjanić, Suzana. Urbani rituali Kugla-glumišta ili estetizacija uličnoga svagdana : razgovor s Anicom Vlašić-Anić. // Zarez 191, VIII(2006), 38-40.; Marjanić, Suzana; Anica Vlašić-Anić. Narušavanje teatra kao kocke : razgovor sa Zlatkom Burićem-Kićom. // Zarez 210-211(2007), 48-49.

3 Vlašić-Anić, Anica. Harms i dadaizam. Zagreb : Hrvatsko filološko društvo, 1997.

Figure 1.
In the gallery of the Student Centre (Zagreb, Savska 25): Anica Vlašić.
Photo: Mladen Babić

3. The character of the ***avant-garde – pioneer*** *quest for Glagolitsa in the Capuchin monasteries* corresponds with the artistic 'start' *"на задворках искусства" ("na zadvorkah iskusstva") – "at the back of art"*[4] – and the Russian avant-garde writer Daniil Ivanovic Harms and the STUDENT KUGLA-GLUMIŠTE (ORB THEATRE) from Zagreb. Paradoxically, this start is geometrically and progressively opposite to its later artistic status: the history of the Russian Avant-garde as well as the history of the Croatian theatre in the 20th century cannot be viewed without them.[5] My quest for *Glagolitsa in the Capuchin monasteries* also began *"na zadvorkah" – "at the back"* of some hitherto unrecognised and unknown, 'pre-accession-white' zones of research. Before my research of

4 See "**быть на задворках <чего>**" – Rusko hrvatski ili srpski frazeološki rječnik / u redakciji Antice Menac. Zagreb : Školska knjiga, 1979. P. 366.; Dekljaracija OBERIU, Afiši Doma Pečati №. 2, Leningrad 1928. // Harms, Daniil Ivanovič. Izbrannoe / edited and introduced by George Gibian. Würzburg : Jal-Verlag, 1974. Pp. 285-298.

5 Flaker, Aleksandar. Ruska avangarda. Zagreb : Sveučilišna naklada Liber ; Globus, 1984.; Foretić, Dalibor. Hrid za slobodu : dubrovačke ljetne kronike 1971.-1996. Dubrovnik : Matica hrvatska, 1998.; Repertoar hrvatskih kazališta : 1840-1860-1980. Knj. 1. / priredio i uredio Branko Hećimović. Zagreb : Globus ; JAZU, 1990.

the Capuchins (*Order of Friars Minor Capuchin / Ordo Fratrum Minorum Cappuccinorum*),[6] no one had drawn any serious connections between them and Glagolitsa and Glagolism. Today, however, although all of the newly-found fragments of *The Varaždin collection FgCapVla,, The Karlobag collection FgCapVla* and *The Rijeka collection FgCapVla,* have not yet been restored and have even less been researched, *the Capuchins are part of the history of the research of the Croatian Glagolism, written not only in Glagolitic, but also Latin, Ancient Greek and Hebrew letters on parchment.*[7]

Cultural-historical aspects of the avant-garde – pioneer ***'jeans quest' for Glagolitsa in the libraries of Capuchin monasteries***

VARAŽDIN, 1986: It all began after one unexpected and sudden question in the spring of 1986 in the library of the Capuchin monastery in Varaždin. Having visited the department that had been newly-adapted in the monastery and had thus become available for the public for the first time in its 300-year-old history,[8] I suddenly asked: ***"Friar Bono, is there any Glagolitsa here?".*** Despite the fact that no self-respecting and experienced Glagolitsa researcher would ask such a *naïve question,*

6 Šagi-Bunić, Tomislav Janko. Redovnička zajednica kojoj je pripadao sluga Božji o. Leopold Bogdan Mandić : (Kratak pregled povijesti franjevaca kapucina u Hrvatskoj). // Da Valdiporro, Pietro. Blaženi Leopold kapucin iz Herceg-Novog. Zagreb : Kršćanska sadašnjost, 1976. Pp. 373-403.; Tenšek, Zdenko Tomislav. Kapucini : katolički red u svijetu i kod nas = I Cappuccini : un ordine cattolico nel mondo e tradi noi. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13, (2001), 105-114.

7 Vlašić-Anić, Anica. Glagoljica u knjižnicama kapucinskih samostana. // Glagoljica i hrvatski glagolizam : zbornik radova s međunarodnoga znanstvenog skupa povodom 100. obljetnice Staroslavenske akademije i 50. obljetnice Staroslavenskoga instituta (Zagreb-Krk, 2.-6. listopada 2002.) / uredili Marija-Ana Dürrigl, Milan Mihaljević, Franjo Velčić. Zagreb : Staroslavenski institut ; Krk : Krčka biskupija, 2004. Pp. 341–354.; Mihaljević, Milan; Anica Vlašić-Anić. Novootkriveni glagoljski fragmenti u riječkoj kapucinskoj knjižnici. // Sprache und Leben der frühmittelalterlichen Slaven : Festschrift für Radoslav Katičić zum 80. Geburtstag / Herausgegeben von Elena Stadnik-Holzer und Georg Holzer. Wien : Peter Lang, 2010. Pp. 95–124.; Vlašić-Anić, Anica; Darko Tepert. Hebrejsko-aramejski fragmenti *Knjige Izlaska* (FgCap VlaTep) novootkriveni u riječkoj kapucinskoj knjižnici. // Zbornik međunarodnog znanstvenog skupa 400 godina kapucina u Rijeci i Hrvatskoj, Rijeka 13.-16. listopada 2010. / urednik Goran Crnković. Rijeka : Matica hrvatska, Ogranak u Rijeci. (In press)

8 Kemiveš, Mirko. Dolazak kapucina u Varaždin i znameniti kapucini tijekom 300 godina varaždinskog samostana = La venuta dei cappuccini a Varaždin e i cappuccini celebri del convento durante 300 anni di presenza. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13(2001), 23-146.; Šagi, Bono Zvonimir. Pastoralna djelatnost kapucina u Varaždinu = L'attività pastorale dei frati cappucini a Varaždin. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13(2001), 165–174.; Šarčević, Jure. Dolazak kapucina u Varaždin = L'arrivo dei cappuccini nelle regioni della Croazia. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13(2001), 115–121.

the answer was astonishing. Friar Bono Zvonimir Šagi, at the time a Provincial of the Croatian Capuchin Province and a researcher in the library of the Capuchin monastery in Varaždin,[9] showed me two books from a department that was not available for the laymen, with the following call numbers: "IX c. 5" and "IX c. 6", printed in 1705 and 1712. Both of them were wrapped in beautiful parchment written in Croatian Square Glagolitsa in two different handwriting styles! Thus, the first two fragments of Croatian Glagolitic handwritten missals on parchment were found in the *Capuchin monastery in Varaždin*, dating from the 14th and 15th centuries. These are: *The First Varaždin Fragment,* two leaves of the Croatian Glagolitic missal *FgVar1* and the *Second Varaždin Fragment,* a leaf from the Croatian Glagolitic missal *FgVar2*.[10]

According to our arrangement, friar Bono personally delivered the books containing these parchments to the Old Church Slavonic Institute, and its Principal at the time, Anica Nazor, initiated the procedure of their restoration and conservation at the Croatian State Archives in Zagreb (which was carried out by Tatjana Ribkin).

The First Varaždin Fragment (FgVar 1), two leaves of the Glagolitic parchment, 37,5 x 28 cm in size, served for almost three centuries as a precious protective cover for the book with the call number "IX c. 5" and printed in 1712:

> "*PREDICHE QVARESIMALI DEL P. F. ALESSANDRO TOMASO ARCVDI, DE' PREDICATORI. / DEDICATE ALL'EMINENTISSIMO, E REVERENDISSIMO SIGNORE GIOSEPPE RENATO, CARDINAL IMPERIALE / IN LECCE Dalla stamperia del Mazzei 1712. Con Licenza de' Superiori*".

The Second Varaždin fragment (*FgVar 2*) is a large leaf, 35 x 25 cm,[11] taken from the covers of the book with the call number "IX c. 6" and printed in Salzburg in 1705:

> "***DOMINICALE / CONCIONUM / PASTORALIUM. / Das iſt:** / Soñtag=**Predigen** / Für / Die Seelſorger auf das ganze Jahr von nothwendiger / Wiſſenſchafft denen Chriſtlichen Schäften / abſonderlich von / denen zur Sacramentaliſchen –Beicht gehörigen Stucken / durch alle Sonntag / der Faſten / von einem jeden*

9 Šagi, Bono Zvonimir. Kapucinska knjižnica u Varaždinu. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 8-9(1996), 103–109.

10 Vlašić-Anić, A. Glagoljica u knjižnicama kapucinskih samostana. Op. cit., pp. 341–354.

11 See Vlašić-Anić, Anica. Varaždinski list hrvatskoglagoljskoga misala (FgVar2). // Slovo 61(2011), 123-167.

Stuck abſonderlich. Wie auch von den andern / h. Sacramenten der Chriſtlich=Catholiſchen Kirchen; von den ſieben / Worten Chriſti am Kreuz; und von den neun frem= / den Sünden / rc. / ***Alles auf die Sonntägliche Evangelia gerichtet/und auf*** */ unterſchiedlichen Pfarr=Kanzlen in Städt/ und Dörffern / mit groſſen Nutzen der Seelen geprediget / Durch /* ***P. F. HERIBERTUM, von Salurn / Capuciner*** */ und Ordinari Prediger in der Zuroliſchen Pro= / vinz. / Cum triplici Indice, I.Conceptuum. II.Materiarum & Verborum. / III. Hiſtoriarum. /* ***Erſter Theil.*** */ Cum Gratia & Privilegio Sac. Cæſar. Majeſt. & Permiſſu Superiorum. / Salzburg /* ***Gedruckt und derlegt den Melchior Haan / einer Löbl. Landſchafft=und Stadt*** */ Buchbruckern und Handlern. An. 1705.".*[12]

The restored originals of both *Varaždin fragments of a Croatian Glagolitic missal FgVar 1* and *FgVar 2* were exhibited for the first time in the Capuchin monastery in Varaždin on 29 October 1999 within the programme for the conference *300 Years of the Capuchins' Arrival in Varaždin – 1699 – 1999.*[13]

KARLOBAG 1994: Shortly after these findings, friar Mirko Kemiveš pointed me to the Capuchin monastery in Karlobag where "during novitiate he leafed through some Glagolitic books". Together with friar Bono Z. Šagi, he personally arranged with the guardian, friar Krsto Hrženjak, *my first field research in the library of the Capuchin monastery in Karlobag* in 1994. The result was spectacular: the finding of an *actual miniature library of Congregatio de Propaganda Fide's issues of Glagolitic missals – Levaković's* from 1631, 3 copies of *Paštrić's* from 1706, *Karaman's* from 1741, *Parčić's* from 1893 and *Vajs's,* from 1927.[14]

LONDON and LEEDS (ENGLAND) 1995: What followed was a breath-taking scene at the British Museum in London in 1995: numerous exhibited codices and fragments of all types of ancient manuscripts, especially those on *papyrus and parchment.* The eternal impressions from the Museum were stored in my memory owing to my participation at the second *International Medieval Congress (450-1500)* in Leeds in July 1995. I held a presentation there, entitled *Die Kapuziner und die kroatisch-glagolitische Tradition (The Capuchins and the*

12 Ibid, pp. 125-126.

13 See articles from this conference: Radovi zavoda za znanstveni rad HAZU u Varaždinu (12-13) / Zagreb ; Varaždin : HAZU 2001.

14 Vlašić-Anić, A. Glagoljica u knjižnicama kapucinskih samostana. Op. cit., pp. 346–350.

Croatian Glagolitic Tradition).[15] That was the moment when my wish for the construction of a similar scene in Croatia, one that we could be proud of, was born; naturally with respect to the three *letters* and *three languages* of our medieval culture.[16] It is known that Croatian medieval period is characterised by constant interweaving of *"three letters* – Latin, Glagolitsa, Croatian Cyrillic (Bosančica) – *and three languages* – Croatian, Latin, Old Church Slavonic (until the end of the 11th century) / Church Slavonic (from the beginning of the 12th until the middle of the 16th century)".[17] This wish, as you will later see, came true to a large extent last year, at the exhibition *The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia* (Rijeka, 15 October – 25 December 2010) by Vlašić-Anić and Sabalić.

ŠKOFJA LOKA (SLOVENIA) 2002: After a brief presentation on the finding of the Varaždin Glagolitic fragments *FgVar 1* and *FgVar 2* at the conference *300 Years of the Capuchins' Arrival in Varaždin – 1699-1999* – friar Angel Kralj pointed me to the 'books wrapped in Glagolitic parchment' in the library of the Capuchin monastery in Škofja Loka, Slovenia. The result of my research in this library was the finding of *three fragments and about 14 clippings of Croatian Glagolitic liturgical codices on parchment.*[18] That one-day visit, on 29 September 2002, was also arranged with the help of friars Bono Z. Šagi and M. Kemiveš.

These were the first '*Varaždin Overtures into the "Capuchin 'Glagolitic Bolero'*,[19] a rhythmic *crescendo* of repeating a "simple form":[20] the core structure of the events surrounding the first findings in Varaždin, *FgVar1* and *FgVar2.* Having asked my (un)expected question, *"Is there any Glagolitsa here?"*, several more times in Karlobag (in 2005, 2006 and 2009), Varaždin (in 2007) and Rijeka (in 2007 and 2008), I

15 Vlašić-Anić, Anica. International Medieval Congress (450-1500), Leeds 10-13 July 1995. // Slovo 47-49(1999), 345-347.

16 Hercigonja, Eduard. Tropismena i trojezična kultura hrvatskoga srednjovjekovlja. Zagreb : Matica hrvatska, 1994.; Drei Schriften – Drei Sprachen : Kroatische Schriftdenkmäler und Drucke durch Jahrhunderte / Die Autoren der Ausstellung Anica Nazor, Josip Bratulić, Mirko Tomasović. Zagreb : Erasmus naklada, 2002.; Pelc, Milan. Pismo – knjiga – slika : uvod u povijest informacijske kulture. Zagreb : Golden marketing, 2002.

17 Hercigonja, E. Op. cit., p. 6.

18 Vlašić-Anić, A. Glagoljica u knjižnicama kapucinskih samostana. Op. cit., pp. 350–351.

19 Vlašić-Anić, Anica. Varaždinske uvertire u "Kapucinski 'glagoljički Bolero'". // Četvrti hrvatski slavistički kongres, Varaždin – Čakovec, 5. – 8. rujna 2006. : zbornik sažetaka / uredio Marko Samardžija. Zagreb: Hrvatski slavistički odbor Hrvatskoga filološkog društva, 2006. Pp. 126–127.

20 Jolles, André. Jednostavni oblici. Zagreb : Studentski centar Sveučilišta u Zagrebu, 1978.

repeatedly got even more unexpected *findings* as the *answer*. My *jeans quest for Glagolitsa in the libraries of Capuchin monasteries* was turning into a rich collection ***FgCapVla*** (***Fragmenta Cappuccinorum Vlašić***): ***The Varaždin collection FgCapVla,, The Karlobag collection FgCapVla* and *The Rijeka collection FgCapVla*.** Today, these are three respectable collections of newly-found fragments and clippings of medieval liturgical codices from the 13th to the 15th centuries, not only *Croatian Glagolitic*, but also *Latin, Ancient Greek* and even *Hebrew-Aramaic.*

Scientific research

Scientific research connected with the newly-found Varaždin fragments on parchment, *FgVar1* and *FgVar2*, from the 14th and 15th centuries began to outline a thematic complex, pioneer in its essence, entitled *Glagolitsa in the libraries of Capuchin monasteries*.[21]

The problem of the *provenance of the books* on which the *Varaždin fragments* were found had immediately brought up a few interesting cultural-historical aspects, not only of the *development of Capuchin libraries*, but also the *connections between the Capuchins and the Croatian Glagolitic tradition*.

On the preliminary page of the book *Prediche qvaresimali dal P. F. Alessandro Tomaso Arcvdi, de' predicatori* (1712) from which *FgVar1* was taken, there is a (partly scribbled) **handwritten note in black ink *"Liber donatus p Casimiro a r(everen)d(issi)mo d(o)m(in)o Petro Czuetkj".*** As it is known, the strict *Constitutions* from 1643 authorised by Pope Urban VIII allowed the Capuchins to support themselves exclusively by means of their own labour and through charity. They expressly forbade the use of money (for any intents or purposes) – *so not even books could be bought with money, or even owned as personal property.* The libraries in Capuchin monasteries therefore developed exclusively through donations: from the emperors, kings or high Croatian aristocracy (Erdödy, Drašković, Kukuljević); but also from the Jesuits, Paulines, certain local parish priests and the Capuchins themselves. Owing precisely to those donations, ***the very rule that forbade the Capuchins money became the foundation of the process of a sensational enrichment of their library funds with rare books, often wrapped in precious parchment.***

On the preliminary page of the book by P. F. Heribertum from Salurn (Christoph Anton Mayr; Salurn, Tirol 1637–1700, Merano)

21 Vlašić-Anić, A. Glagoljica u knjižnicama kapucinskih samostana. Op. cit.

DOMINICALE CONCIONUM PASTORALIUM (Salzburg 1705) from whose covers the *Varaždin leaf from a Croatian Glagolitic Missal, FgVar2,* was taken, a handwritten note in faded black ink was preserved: *"Loci Capucinorum Zagrabiae"*. The book, therefore, undoubtedly belonged to the former Capuchin monastery in Zagreb (established in 1618 in the Upper Town) that was dismissed in 1788, immediately after the dismissal of the Capuchin Order in Zagreb by a decree from the emperor Joseph II *"that the Royal Regent Council issued to Ban Count Franjo Balassa on 12 July of the same year under the number 3212"*.[22] Its rich library was evacuated in dramatic circumstances "in a single day"[23] and the book fund was divided up and taken to the Metropolitan Library in Zagreb and to the Capuchin libraries in Varaždin and in Rijeka. A reconstruction of the Zagreb book fund (albeit incomplete) is still possible because of the archival documents preserved in the Capuchin monastery in Varaždin.[24] The knowledge of the strong mutual connections between the Capuchin libraries is of vital importance for the continuation of all our research, both field and the cultural-historical.

The problem of the *provenance of the Glagolitic* parchments, the *Varaždin fragments of Croatian Glagolitic missals FgVar 1* and *FgVar2* on the covers of printed books from 1705 and 1712 has brought up:

1. Similar findings by Ivan Kukuljević Sakcinski, who found several fragments of Croatian missals and breviaries (psalters), also on the covers of printed books in the Capuchin library in Rijeka in 1841;[25]
2. A wide cultural-historical complex of the destiny, or rather wasting away, of the parchment liturgical codices that became obsolete after the invention of the printing machine (Gutenberg's printing

22 Laszowski, Emil. Dokinuće Reda kapucina u Zagrebu g. 1788. // Emil Laszowski. Stari i novi Zagreb. Zagreb: Školska knjiga, 1994. Pp. 166–171.

23 "*... illo die, quo unico totum monasterium cum sacristia evacuare debuimus fuerit maior confusio et inundatio populi, quod si Turcae Zagrabiam intrassent ...*" In: Šagi, B. Z. Kapucinska knjižnica u Varaždinu. Op. cit., p. 103–109.

24 Ibid.

25 Štefanić, Vjekoslav. Glagoljica u Rijeci. // Zbornik "Rijeka". Zagreb : Matica hrvatska, 1953. Pp. 393-434.; Štefanić, Vjekoslav. Glagoljski rukopisi jugoslavenske akademije. I dio: Uvod, Biblija, apokrifi i legende, liturgijski tekstovi, egzorcizmi i zapisi, molitvenici, teologija, crkveni govori (homiletika), pjesme. Zagreb : JAZU, 1969.; Blažeković, Tatjana. Ivan Kukuljević Sakcinski i Rijeka. // Vjesnik Povijesnog arhiva Rijeka 35-36(1994), 205-219.; Benčić, Branko. O knjižnici oo. kapucina u Rijeci (pismena radnja za stručni bibliotekarski ispit). Akad. godina: 1997/98, mentor: Aleksandar Stipčević. Rijeka : Katolički bogoslovni fakultet Sveučilišta u Zagrebu, Teologija u Rijeci – Područni studij, 1998.; Vlašić-Anić, A. Glagoljica u knjižnicama kapucinskih samostana. Op. cit., pp. 345-346.

machine in 1463), since their leaves were used as protective covers and quality book-binding for printed books.

As for the Glagolitic codices, which were "*put down the moment that printed liturgical books sprang up (the end of the 15th century)*",[26] there are three key factors of their wasting away:

1. The history of the printed Glagolitic liturgical books that started already in 1483 with the *First Print of a* Croatian Glagolitic Missal, which is also the first printed book in the Slavic part of the world;
2. The reform (Russification) of the Glagolitic liturgical texts in the first half of the 17th century, which may be verified in the Propaganda's issues of Glagolitic missals found in Karlobag;
3. The introduction of either the *"šćavet" or the Latin language into churches.* In Karlobag and in Rijeka several issues in *"šćavet"* have been found.

It is worth, for example, to note in the work of V. Štefanić *Glagolitsa in Rijeka* from 1953: *New codices were no longer written by hand, while the old ones were seldom stored in the places of their origin (as in Novi or Vrbnik) or in public libraries (in Zagreb, Rome, Vienna, London etc.), so to a large extent they wasted away. Their parchment was readily used as covers for other books, so the majority of today's Glagolitic fragments of codices that are kept in public libraries come from the covers or spines of older books from which they were taken by either librarians or apprentice workers.*[27] *Even the remnants of old Glagolitic codices from Rijeka have to be sought in the covers and spines of books that were bound in the 17th and 18th centuries when Glagolitic handwritten books were put out of use.*[28]

The findings in Karlobag stirred up my interest in the historical context of the Capuchins' missions in Lika and Krbava as areas under direct jurisdiction of Propaganda after they had been liberated from the Turks in 1689.[29] The monastery in Karlobag was established in

26 Štefanić, Vj. Glagoljica u Rijeci. Op. cit., p. 425.

27 Štefanić, Vj. Ibid.; Štefanić, Vj. Glagoljski rukopisi jugoslavenske akademije. Op. cit.; Vialova, Svetlana. Glagoljski fragmenti Ivana Berčića u Ruskoj nacionalnoj biblioteci : faksimili. Zagreb : Hrvatska akademija znanosti i umjetnosti ; Ruska nacionalna biblioteka ; Staroslavenski institut, 2000.; Вялова, Светлана Олеговна. Глаголические фрагменты Ивана Берчича в Российской национальной библиотеке : описание фрагментов. Загреб : Хорватская академия наук и искуств ; Русская национальная библиотека ; Старославянский институт, 2000.

28 Štefanić, Vj. Glagoljica u Rijeci. Op. cit., p. 425.

29 Bašnec, Nikola. Dolazak kapucina i njihova misijska djelatnost u Lici i Krbavi nakon oslobođenja od Turaka 1689. godine. // Riječki teološki časopis / Ephemerides theologicae Fluminenses 7, 2(1999), 251-294.

1710 and built in 1712 at the request of and according to the idea of the Senj-Modruš bishop Benedikt Bedeković, which were accepted by the Austrian emperor Joseph I and finalised by Charles VI. The monastery was established owing to the great challenges and significance of the Capuchins' missionary work, which, in the context of "ethnic and confessional divisions",[30] proved to be extremely successful, especially through the *Lent sermons in the Croatian language*.[31]

Each of these scientific insights became a challenging inspiration for even more extensive research into the connections between the Capuchins and Glagolitsa and Glagolism. The assumption that there are more books bound in precious parchment in the Capuchin monasteries was not only logical, but also strongly inspirational as a serious motive for further research in every Capuchin library where it would be made possible.

Outstanding cooperation with the guardians of the Capuchin monasteries was therefore crucial. It has been going on to this very day: in Karlobag (in 1994, 2005, 2006 and 2009), in Varaždin (in 2007) and in Rijeka (in 2007 and 2008).

The restoration and conservation of all parchments and books in which they were found

The enthusiasm for my *'"jeans" quest' for the fragments from the '"life" of the Capuchins'* on parchment has been paralleled by my personal engagement in the initiation of the process of their much needed restoration and conservation together with the books they were found in. The goals were quite clear:

1. to make them shine permanently in their eternal beauty and to preserve for centuries to come the invaluable traces of medieval liturgical spirituality, written on parchment by a hand of an artistic writer;
2. to enable a thorough scientific research that would expand the knowledge not only of Glagolitsa and Croatian Glagolism, but also of every aspect of the Europesque multiculturality of the Croatian medieval period.

30 Pešut, Damjan. Etnička i konfesionalna podjela nakon oslobađanja Like od Turaka. // Senjski zbornik 24(1997), 85-130.; Bogović, Mirko. Sadržaj izvješća senjsko-modruških biskupa u Rim od 1620. do 1919. godine. // Senjski zbornik 23(1996), 161-196.

31 Bašnec, N. Op. cit., p. 278.

This was an engagement in the initiation and above all successful realisation of a continued cooperation: (1) above all with the (then) Provincial of the Croatian Capuchin Province, friar Bono Zvonimir ŠAGI and the guardians of the Capuchin monasteries: Mirko KEMIVEŠ in Varaždin; Krsto HRŽENJAK, Ante LOGARA, Josip GRIVIĆ and Stjepan BERGOVEC in Karlobag, and Stanko DODIG and Anto PERVAN in Rijeka, (2) with the central Laboratory for conservation and restoration of the Croatian State Archives in Zagreb, where under the supervision of Advisor Tatjana MUŠNJAK all the conservation and restoration works have been conducted so far on the parchments and books, (3) with the Conservation Departments of the Ministry of Culture of the Republic of Croatia in Varaždin, Gospić and Rijeka, (4) with the Ministry of Culture of the Republic of Croatia in Zagreb, which, after launching several annual tenders for the financing of the programmes for the protection and preservation of cultural goods*,* approved the funding of the restoration and conservation works, (5) with the Departments of Culture of the cities of Rijeka and Varaždin, which also approved the funding, also after launching tenders.

Particular attention was drawn by the restoration of the book *Decretales D. Gregorii papæ* (Rome, 1582) from the library of the Capuchin monastery in Rijeka, because it is in itself a rarity in terms of the printed material. It was restored because of THREE CROATIAN GLAGOLITIC PARCHMENT FRAGMENTS FROM THE 13th and 14th CENTURIES that were found on its preliminary leaf (Figure 2). During its restoration at the Croatian State Archives in Zagreb, two more fragments were found, *Hebrew-Aramaic fragments of the Book of Exodus from the 13th and 14th centuries* on parchment.

The book is a copy of "DECRETALES / D. GREGORII PAPÆ IX. / SVÆ INTEGRITATI / *VNA CVM GLOSSIS RESTITVTÆ . / Cum priuilegio GREGORII XIII. pont. Max. / & aliorum Principum. /* DE LICENTIA SVPERIORVM. / ROMÆ / In ædibus Populi Romani M. D. LXXXII.".[32] *Decretales* or *Liber Extra* of Pope Gregory IX from 1234 is the second tom (of three toms) of the Roman issue of the *Corpus Juris Canonici* from 1582. It was entered into this renowned medieval collection of three fundamental documents that represent the very essence of the historical Cannon law together with Vol. I, a work of a Benedictine

32 UCLA Library: Digital Collections. Charles E. Young Research Library. Corpus Juris Canonici (1582) [cited: 2010-11-15]. Available at: http://digidev.library.ucla.edu/canonlaw/

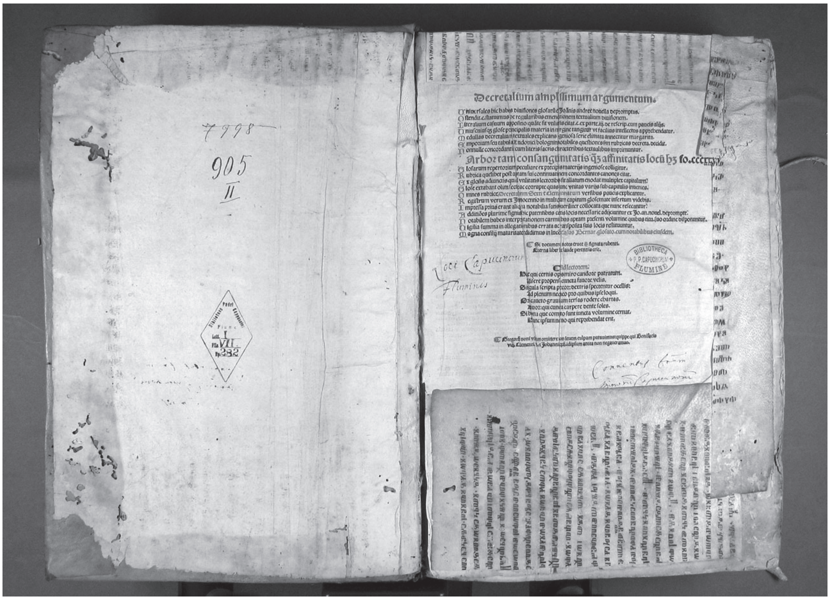


Figure 2.
Three Croatian Glagolitic Parchment Fragments from the 13th and 14th Centuries on the preliminary leaf of the book *Decretales D. Gregorii papæ* (Rome, 1582) from the library of the Capuchin monastery in Rijeka. Photo: Croatian State Archives, Zagreb

monk (Camaldolese) and a professor from Bologna, Gratian's *Decretum Gratiani, or Concordia Discordantium Canonum* (about 1140) and Vol. III, *Liber Sextus* by Boniface VIII from 1298.[33] *Corpus Juris Canonici,* an elaboration of Ordinary Glosses (unchangeable elaborations with added comments on the law), whose significance by far exceeds the margins of its pages, was no longer printed after the 17th century and its copies are therefore quite rare. Owing to a project of its digitisa-

33 Gilles, Henri. Glosses, Legal. // Encyclopedia of the Middle Ages I A-J / edited by Andre Vauchez in conjunction with Barrie Dobson and Michael Lapidge. Cambridge (England) : J. Clarke, 2000. Pp. 611-612.; Paravicini Bagliani, Agostino. Gregory IX, Pope (c. 1170-1241). // Encyclopedia of the Middle Ages I A-J. Op. cit., p. 639.; Gaudemet, Jean. Decretals, False. // Encyclopedia of the Middle Ages I A-J. Op. cit., p. 419.

Figure 3.
The covers of another, yet unidentified book with the unusual mirror 'portrait' of *Hebrew-Aramaic fragments of the Exodus FgCap VlaTep* from the 13th and 14th centuries – 'Hebrew call number' of the Rijeka copy of *Decretales D. Gregorii papæ IX.* (Rome 1582). Photo: Croatian State Archives, Zagreb

tion,[34] the texts of all three volumes have been available online and in full since 2006.[35] The "pearl," *Decretales D. Gregorii papæ IX.* – index *Margarita Decretalium,*[36] is believed to have originated at the end of the 13th century, before Boniface's *Liber Sextus* from 1298.

34 UCLA Library: Digital Collections. Charles E. Young Research Library. Op. cit.

35 "The complete text of all three volumes of the *Corpus Juris Canonici* is online at this site. Also included here are corrected and expanded (and searchable) versions of the two indexes of vol. 2 *(Liber Extra*); one index, the *Margarita,* is to the decretals, and the other, called *Materiae Singulares,* is to the Gloss. Various ways of searching the Gloss topics are being added." Ibid.

36 "Most of the references to the legislation of Innocent IV (1243-54) and Gregory X (1272-76) are to their *Novellae,* even when specifying decretals that were incorporated into the *Sext* (their position in the *Sext* is indicated in the expanded edition of the *Margarita* below). Occasionally one does see a reference to the *Sext* (for instance in teh entry, 'Accusatio contra inopem', referring to Innocent IV's decretal *Frequens* from the Second Council od Lyons, *Sext* 2.5.1, but this is undoubtedly the work of later editors)." Ibid.

Undoubtedly, the restored copy from the library of the Capuchin monastery in Rijeka is in itself a printed rarity, a permanent cultural good whose exceptional value belongs not only to the national, Croatian, but also European cultural heritage. The mirror outlines of the Glagolitic letters of *the Fragment of the Book of Proverbs* (*FgCap VlaPr*), of *the Clipping from the Book of Genesis* (*FgCap VlaGn*) and of the *Clipping of a Glagolitic breviary* (*FgCap VlaDec*) that are visible on the back of its left cover look like a striking 'Croatian Glagolitic call number' of this book, unique in the history of Croatian Glagolism. In the binding of the covers of the same book, the covers of another, yet unidentified book were found, with the mysterious and for centuries invisible outlines, the *Hebrew-Aramaic fragments of the Book of Exodus* (*FgCap VlaTep*) (Figure 3). This unusual mirror 'portrait' of *Hebrew-Aramaic fragments of the Exodus* was imprinted as a 'Hebrew call number' of the Rijeka copy of *Decretales D. Gregorii papæ IX.* (Rome 1582), in a complex cultural linguistic symbiosis with the 'Croatian Glagolitic' one, puts it into the category of rarities of world cultural heritage.

The Results of Paleographic-Linguistic Analyses of some fragments researched so far (Croatian Glagolitic and Hebrew-Aramaic)

So far, FOUR CROATIAN GLAGOLITIC AND TWO HEBREW-ARAMAIC FRAGMENTS HAVE BEEN RESEARCHED:

1. The leaf from the Croatian Glagolitic missal *FgVar2* from the end of the 14th or the beginning of the 15th century;[37]
2. THREE Croatian Glagolitic fragments from Rijeka from three different breviaries from the 13th century, *the Fragment of the Book of Proverbs FgCap VlaPr,* from the beginning of the second half of the 13th century; *the Clipping from the Book of Genesis FgCap VlaGn* from the end of the 13th or the beginning of the 14th century; and the *Clipping of a Glagolitic breviary FgCap VlaDec*, also from the end of the 13th or the beginning of the 14th century;[38]
3. TWO *Hebrew-Aramaic fragments of the Book of Exodus from the 13 or 14th century*.[39]

37 Vlašić-Anić, A. Varaždinski list hrvatskoglagoljskoga misala (FgVar2). Op. cit.
38 Mihaljević, M.; A. Vlašić-Anić. Op. cit.
39 Vlašić-Anić, A.; D. Tepert. Op. cit.

The three Croatian Glagolitic fragments from three different breviaries from the 13th century, *the Fragment of The Book of Proverbs FgCap VlaPr, the Clipping of the Book of Genesis FgCap VlaGn* and the *Clipping of a Glagolitic breviary FgCap VlaDec,* found on 25 August 2007 on the first leaf of the book *Decretales D. Gregorii papæ* (Rome, 1582), are extremely important, especially within the context of the phenomenon of "Glagolitsa in Rijeka."[40] The first analyses confirmed that all of them date in the transitional period of Croatian Glagolism from which only about thirty fragments have been found. Also, the *Fragment of the Book of Proverbs FgCap VlaPr,* dated *in the beginning of the second half of the 13th century, is the oldest copy of a Croatian Glagolitic translation of this biblical book found so far, and it is at the same time the oldest Glagolitic manuscript found in Rijeka.*[41]

The research on the *Hebrew-Aramaic fragment of the Book of Exodus from the 13th or 14th century* has shown that both folios belong to the Ashkenazi Bible-copying tradition and that both of them are part of a larger codex that could have contained either the Book of Exodus or *the entire Torah.*[42] The finding of each of these 5 fragments dated in the second half of the 13th century or the beginning of the 14th century bears a lot of significance. The fact that the *finding of 5 parchment fragments is linked to a single book from the library of the Capuchin monastery in Rijeka,* the three Croatian Glagolitic ones on the preliminary leaf and the two Hebrew-Aramaic in the covers of the book *Decretales D. Gregorii papæ* (Roma, 1582), is sensational, unrecorded in the history, not only of the Capuchin monastery in Rijeka, or the City of Rijeka, but also (to my knowledge) of the whole Croatia. These findings suggest that more clippings or fragments could be expected to be found in other books that have been singled out as containing parchment covers, but still await their 'turn' for restoration. Especially so if we take into consideration the *mysteries in the covers* of several books restored at the Croatian State Archives in Zagreb (certainly not *exclusively)* from Capuchin libraries.

40 Štefanić, Vj. Glagoljica u Rijeci. Op. cit.; Deković, Darko. Glagoljica i glagoljaštvo u gradu Rijeci : istraživanja o riječkom glagoljaškom krugu. Zagreb, 2008. (Ocijenjena, ali zbog smrti autora neobranjena doktorska disertacija u rukopisu.); Mihaljević, M.; A. Vlašić-Anić. Op. cit.

41 Mihaljević, M.; A. Vlašić-Anić. Op. cit. p. 118.

42 Vlašić-Anić, A.; D. Tepert. Op. cit.

The exhibition Vlašić-Anić–Sabalić *The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia,* Rijeka, 15 October – 25 December 2010

“One tiny”[43] exhibition, *The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia* (*Od bitija*[44] *kapucinskoga fragmenti: povodom 400. obljetnice Kapucina u Rijeci i Hrvatskoj*) authored by Anica Vlašić-Anić and Damir Sabalić was dedicated to the jubilee of the Capuchin monastery in Rijeka and to the entire Croatian Capuchin Province of St. Leopold Bogdan Mandić: 400th anniversary of the arrival of the *Order of Friars Minor Capuchin (Ordo fratrum minorum Capuccinorum)* in Rijeka and in Croatia (Figure 4).

The main organisers of the Exhibition were the Croatian Capuchin Province of St. Leopold Bogdan Mandić together with the Provincial, friar Ivica PETANJAK, PhD, and the Capuchin Monastery of Our Lady of Lourdes in Rijeka and its guardian, friar Anto PERVAN. The exhibition was co-organised by academic and cultural institutions, whose contribution was indispensable: (1) the Academy of Applied Arts in Rijeka with the dean Anto Tonči VLADISLAVIĆ; (2) Croatian State Archives in Zagreb with the director Stjepan ĆOSIĆ; (3) Maritime and Historical Museum of Coastal Croatia in Rijeka with the director Margita CVIJETINOVIĆ STARAC and (4) the Old Church Slavonic Institute in Zagreb with the director Marica ČUNČIĆ.

As part of a series of events to mark the 400th anniversary of the arrival of the Capuchins in Rijeka and in Croatia, the exhibition was opened on 15 October 2010 in the Gallery of the Maritime and Historical Museum of Coastal Croatia in Rijeka.[45]

43 About *tiny* = *malahna*. See Stjepan Konzul Istranin: *Tabla za dicu: edne* ***malahne*** *knižice ... V Tubingi 1561* (facsimile: Zagreb 1986 and 2007) and *Katehizmus. Edna* ***malahna*** *kniga ... U Tubingi 1561* and *1564* (facsimile: Pazin-Buzet-Željezno, 1991; Pazin, 1994).; Jembrih, Alojz. Konzul Istranin, Stjepan. // Hrvatski biografski leksikon. Zagreb : Leksikografski zavod Miroslav Krleža, 2009.

44 Like Šimun Kožičić-Benja. ***Od bitija*** *redovničkoga knjižice*, 1531 (facsimile: Nazor, 2009). See “bitie **... 1.** *bit, bitak, postojanje;* essence, Being, existence; – τὸ εἶναι; esse, essentia, genus ... **2.** *postanak, nastanak, podrijetlo, rođenje;* generation, emergence, origin, birth; – *γένεσις*; genesis, generatio”. Rječnik crkvenoslavenskoga jezika hrvatske redakcije = Lexicon linguae slavonicae redactionis croatiae = Slovesa knig^{3} slovÀnskix^{3} ezikom^{3} xr^{3}vatskim^{3} angliiskim^{3} gr^{3}çskim^{3} i latinskim^{3} skazaema / urednici Biserka Grabar, Zoe Hauptová, Franjo Većeslav Mareš. Zagreb : Staroslavenski institut, 2000. Pp. 160-161.

45 Grce, Mirjana. Izlošci koji graniče sa senzacijom. // Novi list, Rijeka, 16. listopada 2010, 67.; Šimić, Marinka. Izložba “Od bitija kapucinskoga fragmenti : povodom 400. obljetnice Kapucina u Rijeci i Hrvatskoj” (Rijeka, 15. 10. – 25. 12. 2010). // Slovo 61(2011), 407-410.

Figure 4.
The exibition VLAŠIĆ-ANIĆ – SABALIĆ: "*The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia*". Photo: Anica Vlašić-Anić

The (para)citational name *The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia* together with being in line with the theme and the anniversary marked the several senses of intertextual correspondence of the authors' notion of the exhibition with the last publication of the Šimun Kožičić-Benja's Glagolitic printing house: *The book on the Life of Monks* (*Od bitija redovničkoga knjižice,* 1531). This publication, whose facsimile of the single copy is preserved in the National Library of Russia in Saint-Petersburg,[46] which was prepared for printing in 2009 by the member of the Croatian Academy of Sciences and Arts Anica Nazor[47]

46 Круминг, Андрей. Ранние глаголические издания в библиотеках СССР. // Slovo 34(1984), 225-255.

47 Kožičić, Šimun. Od bitija redovničkoga knjižice. Rijeka, 1531. Knjiga 1: Faksimil; Knjiga 2: Latinična transkripcija glagoljskog teksta (s uvodom, rječnikom i literaturom) / priredila Anica Nazor. Rijeka : Državni arhiv u Rijeci ; Družba braće hrvatskoga zmaja, 2009.

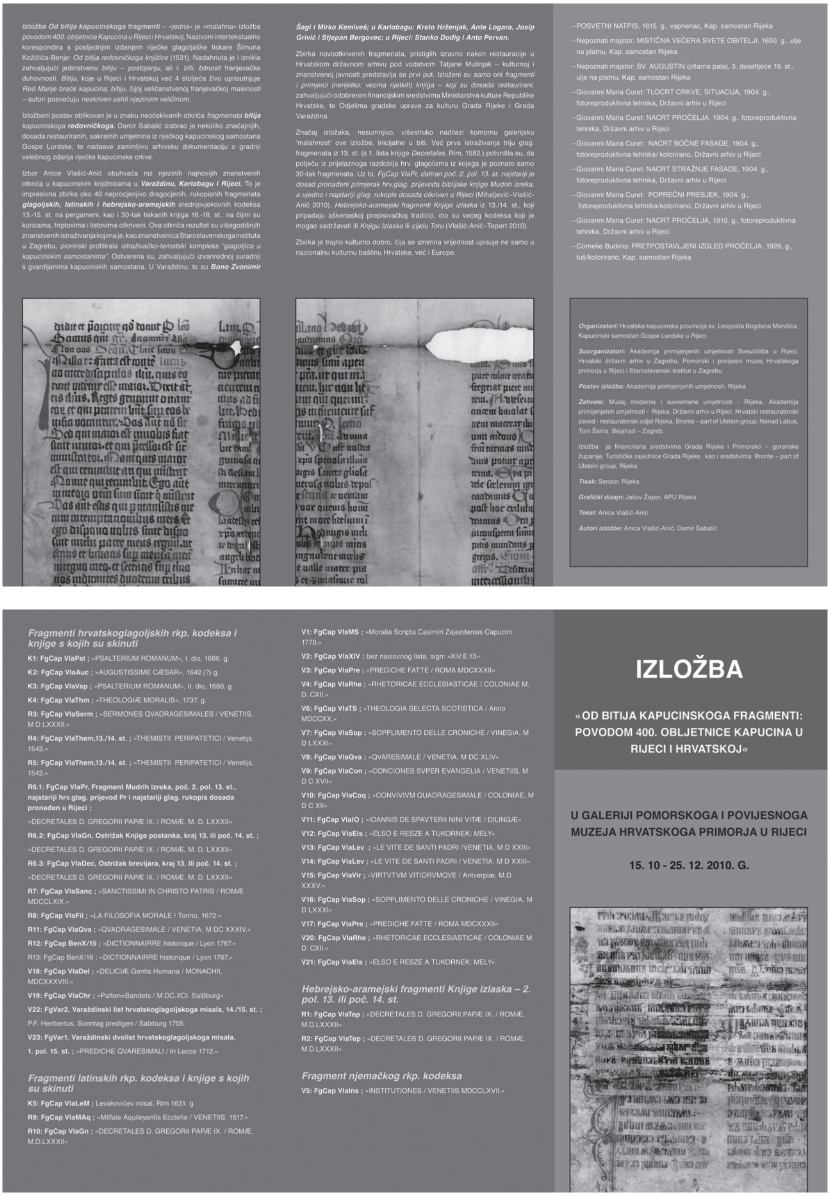
had just been promoted in Rijeka in 2010, the year of the Capuchins' anniversary.[48]

At the exhibition it was possible for the first time to see *all the original fragments '"from the life" of the Capuchins' that had been restored until then,* just freshly arrived from the restoration workshop. They were presented as part of my latest scientific findings in the libraries of Capuchin monasteries: about 40 fragments of Croatian Glagolitic, Latin and Hebrew-Aramaic liturgical codices on parchment, from the 13th to the 15th centuries from the *Varaždin* (V_1–V_{23}), *Karlobag* (K_1–K_5) *and Rijeka collections FgCapVla* (R_1–R_{13}). They were exhibited together with about thirty printed books from the 16th to the 18th century in whose covers, spines or leaves they had been found.

The visual appearance of the *Varaždin Glagolitic parchments* was accentuated by the details (even mirror images of Glagolitic letters with the *verso*-side of *FgVar2)* that inspired the professor at the Academy of Applied Arts in Rijeka, Jakov ŽAPER, PhD, for the designer-artistic design of the *Invitation*, *Flyer* the *Poster and the Banner* (Figures 5 and 6) and the *Posters* for the exhibition.

The exhibition was indeed "*tiny"* and modest, taking into consideration the potential, i.e. the exhibition we are planning after the last newly-found parchment fragment has been restored together with the book it was found in. It is amazing that it was made possible by precisely the *invaluable freedom of not being attached to any goods or places on this Earth* that the Capuchins have so persistently promoted in the original Franciscan spirit, the *"littleness" of poverty. Poverty,* as a *phenomenon of simple* and yet at the same time *fascinatingly complex spiritual category,* inevitable in the postulates of the primary guidelines of the life of the Franciscan monks: the *"Rules" of St. Francis.*

48 Promoted – as Kožičić's work that "in every little bit entirely reflects Kožičić's spirit and the attempt to capture by all means the physical, biological, and in printed words the spiritual and cultural being of his own, Croatian, people. Šimun Kožičić, a patrician from Zadar, a descendant of an old Croatian family, the Bishop of Modruš and a refugee in the city of Rijeka under Ceasar's protection, a learned Latinist, a respected prelate of the Catholic Church, an apt and respected diplomat, a man of European culture and globalised ecumene, and at the same time a member of the Croatian Glagolitic microcosm who, along with the mother-culture, Latin, of the Venetian nobleman tradition, carries Contarini in his soul, knows that only a people guided by virtuous leaders, among whom a distinguished place is held by the priests, carriers of the holy order (monks), can survive and thrive. Therefore, Kožičić issues short and clear instructions as important tools for the survival of the people and its priest-leaders (monks); he talks about the obstacles (enemies) that represent true barriers to a life in harmony and virtue and he talks about the virtues that are necessary for them and that they have to live, keep and to others give." (Crnković, Goran; Juraj Lokmer. Predgovor. // Kožičić, Š. Op. cit., pp. 7-10.)


***Izložba Od bitija kapucinskoga fragmenti** – »jedna« je »malahna« izložba povodom 400. obljetnice Kapucina u Rijeci i Hrvatskoj.* Nazivom intertekstualno korespondira s posljednjim izdanjem riječke glagoljaške tiskare Šimuna Kožičića-Benje: *Od bitija redovničkoga knjižice* (1531). Nadahnuta je i iznikla zahvaljujući jedinstvenu *bitiju – postojanju,* ali i: *bîti, bitnosti* franjevačke duhovnosti. *Bitiju,* koje u Rijeci i Hrvatskoj već 4 stoljeća živo uprisutnjuje *Red Manje braće kapucina; bitiju,* čijoj veličanstvenoj franjevačkoj *malenosti* – autori posvećuju *neskriven ushit njezinom veličinom.*

Izložbeni postav oblikovan je u znaku neočekivanih otkrića *fragmenata* ***bitija*** *kapucinskoga* ***redovničkoga.*** Damir Sabalić izabrao je nekoliko značajnijih, dosada restauriranih, sakralnih umjetnina iz riječkog kapucinskog samostana Gospe Lurdske, te nadasve zanimljivu arhivsku dokumentaciju o gradnji velebnog zdanja riječke kapucinske crkve.

Izbor Anice Vlašić-Anić obuhvaća niz njezinih najnovijih znanstvenih otkrića u kapucinskim knjižnicama u ***Varaždinu, Karlobagu i Rijeci.*** To je impresivna zbirka oko 40 neprocjenjivo dragocjenih, rukopisnih fragmenata ***glagoljskih, latinskih i hebrejsko-aramejskih*** srednjovjekovnih kodeksa 13.-15. st. na pergameni, kao i 30-tak tiskanih knjiga 16.-18. st., na čijim su koricama, hrptovima i listovima otkriveni. Ova otkrića rezultat su višegodišnjih znanstvenih istraživanja kojima je, kao znanstvenica Staroslavenskoga instituta u Zagrebu, *pionirski* profilirala *istraživačko-tematski kompleks "glagoljica u kapucinskim samostanima".* Ostvarena su, zahvaljujući izvanrednoj suradnji s gvardijanima kapucinskih samostana. U Varaždinu, to su ***Bono Zvonimir Šagi i Mirko Kemiveš; u Karlobagu: Krsto Hrženjak, Ante Logara, Josip Grivić i Stjepan Bergovec; u Rijeci: Stanko Dodig i Anto Pervan.***

Zbirka novootkrivenih fragmenata, pristiglih izravno nakon restauracije u Hrvatskom državnom arhivu pod vodstvom Tatjane Mušnjak – kulturnoj i znanstvenoj javnosti predstavlja se prvi put. Izloženi su *samo* oni *fragmenti i primjerci (nerijetko: veoma rijetkih) knjiga – koji su dosada restaurirani,* zahvaljujući odobrenim financijskim sredstvima Ministarstva kulture Republike Hrvatske, te Odjelima gradske uprave za kulturu Grada Rijeke i Grada Varaždina.

Značaj izložaka, nesumnjivo, višestruko nadilazi komornu galerijsku 'malahnost' ove izložbe, inicijalne u biti. Već prva istraživanja triju glag. fragmenata iz 13. st. (s 1. lista knjige *Decretales*, Rim, 1582.) potvrdila su, da potječu iz prijelaznoga razdoblja hrv. glagolizma iz kojega je poznato samo 30-tak fragmenata. Uz to, *FgCap VlaPr, datiran poč. 2. pol. 13. st. najstariji je dosad pronađeni primjerak hrv.glag. prijevoda biblijske knjige Mudrih izreka, a ujedno i najstariji glag. rukopis dosada otkriven u Rijeci* (Mihaljević–Vlašić-Anić 2010). *Hebrejsko-aramejski fragmenti Knjige izlaska* iz 13./14. st., koji pripadaju aškenaskoj prepisivačkoj tradiciji, dio su većeg kodeksa koji je mogao sadržavati ili *Knjigu Izlaska* ili *cijelu Toru* (Vlašić-Anić–Tepert 2010).

Zbirka je trajno kulturno dobro, čija se iznimna vrijednost upisuje ne samo u nacionalnu kulturnu baštinu Hrvatske, već i Europe.

– POSVETNI NATPIS, 1615. g., vapnenac, Kap. samostan Rijeka
– Nepoznati majstor: MISTIČNA VEČERA SVETE OBITELJI, 1650. g., ulje na platnu, Kap. samostan Rijeka
– Nepoznati majstor: SV. AUGUSTIN (oltarna pala), 3. desetljeće 19. st., ulje na platnu, Kap. samostan Rijeka
– Giovanni Maria Curet: TLOCRT CRKVE, SITUACIJA, 1904. g., fotoreproduktivna tehnika, Državni arhiv u Rijeci
– Giovanni Maria Curet: NACRT PROČELJA, 1904. g., fotoreproduktivna tehnika, Državni arhiv u Rijeci
– Giovanni Maria Curet: NACRT BOČNE FASADE, 1904. g., fotoreproduktivna tehnika/ kolorirano, Državni arhiv u Rijeci
– Giovanni Maria Curet: NACRT STRAŽNJE FASADE, 1904. g., fotoreproduktivna tehnika, Državni arhiv u Rijeci
– Giovanni Maria Curet: POPREČNI PRESJEK, 1904. g., fotoreproduktivna tehnika/kolorirano, Državni arhiv u Rijeci
– Giovanni Maria Curet: NACRT PROČELJA, 1910. g., fotoreproduktivna tehnika, Državni arhiv u Rijeci
– Cornelie Budinis: PRETPOSTAVLJENI IZGLED PROČELJA, 1926. g., tuš/kolorirano, Kap. samostan Rijeka

Organizatori: Hrvatska kapucinska provincija sv. Leopolda Bogdana Mandića, Kapucinski samostan Gospe Lurdske u Rijeci

Suorganizatori: Akademija primijenjenih umjetnosti Sveučilišta u Rijeci, Hrvatski državni arhiv u Zagrebu, Pomorski i povijesni muzej Hrvatskoga primorja u Rijeci i Staroslavenski institut u Zagrebu

Postav izložbe: Akademija primijenjenih umjetnosti, Rijeka

Zahvale: Muzej moderne i suvremene umjetnosti - Rijeka, Akademija primijenjenih umjetnosti - Rijeka, Državni arhiv u Rijeci, Hrvatski restauratorski zavod - restauratorski odjel Rijeka, Bronte – part of Ulstein group, Nenad Labus, Toni Šaina, Bejahad – Zagreb.

Izložba je financirana sredstvima Grada Rijeke i Primorsko – goranske županije, Turističke zajednice Grada Rijeke, kao i sredstvima Bronte – part of Ulstein group, Rijeka

Tisak: Senzor, Rijeka

Grafički dizajn: Jakov Žaper, APU Rijeka

Tekst: Anica Vlašić-Anić

Autori izložbe: Anica Vlašić-Anić, Damir Sabalić

Fragmenti hrvatskoglagoljskih rkp. kodeksa i knjige s kojih su skinuti

K1: FgCap VlaPsl ; »PSALTERIUM ROMANUM«, I. dio, 1686. g.

K2: FgCap VlaAuc ; »AUGUSTISSIME CÆSAR«, 1642.(?) g.

K3: FgCap VlaVsp ; »PSALTERIUM ROMANUM«, II. dio, 1686. g.

K4: FgCap VlaThm ; »THEOLOGIÆ MORALIS«, 1737. g.

R3: FgCap VlaSerm ; »SERMONES QVADRAGESIMALES / VENETIIS, M D LXXXII.«

R4: FgCap VlaThem,13./14. st. ; »THEMISTII PERIPATETICI / Venetijs, 1542.«

R5: FgCap VlaThem,13./14. st. ; »THEMISTII PERIPATETICI / Venetijs, 1542.«

R6.1: FgCap VlaPr, Fragment Mudrih izreka, poč. 2. pol. 13. st., najstariji hrv.glag. prijevod Pr i najstariji glag. rukopis dosada pronađen u Rijeci ;

»DECRETALES D. GREGORII PAPÆ IX. / ROMÆ, M. D. LXXXII«

R6.2: FgCap VlaGn, Ostrižak Knjige postanka, kraj 13. ili poč. 14. st. ;

»DECRETALES D. GREGORII PAPÆ IX. / ROMÆ, M. D. LXXXII«

R6.3: FgCap VlaDec, Ostrižak brevijara, kraj 13. ili poč. 14. st. ;

»DECRETALES D. GREGORII PAPÆ IX. / ROMÆ, M. D. LXXXII«

R7: FgCap VlaSanc ; »SANCTISSIMI IN CHRISTO PATRIS / ROMÆ MDCCLXIX.«

R8: FgCap VlaFil ; »LA FILOSOFIA MORALE / Torino, 1672.«

R11: FgCap VlaQva ; »QVADRAGESIMALE / VENETIA, M DC XXXIV.«

R12: FgCap BenX/15 ; »DICTIONNAIRRE historique / Lyon 1767.«

R13: FgCap BenX/16 ; »DICTIONNAIRRE historique / Lyon 1767.«

V18: FgCap VlaDel ; »DELICIÆ Gentis Humana / MONACHII, MDCXXXVIII.«

V19: FgCap VlaChr ; »Paften=Bandets / M.DC.XCI. Salβburg«

V22: FgVar2, Varaždinski list hrvatskoglagoljskoga misala, 14./15. st. ;

P.F. Heribertus, Sonntag predigen / Salzburg 1705.

V23: FgVar1, Varaždinski dvolist hrvatskoglagoljskoga misala,

1. pol. 15. st. ; »PREDICHE QVARESIMALI / In Lecce 1712.«

Fragmenti latinskih rkp. kodeksa i knjige s kojih su skinuti

K5: FgCap VlaLeM ; Levakovićev misal, Rim 1631. g.

R9: FgCap VlaMAq ; »Miffale Aquileyenfis Ecclefie / VENETIIS, 1517.«

R10: FgCap VlaGn ; »DECRETALES D. GREGORII PAPÆ IX. / ROMÆ, M.D.LXXXII«

V1: FgCap VlaMS ; »Moralia Scripta Casimiri Zajezdensis Capucini: 1770.«

V2: FgCap VlaXIV ; bez naslovnog lista, sign: »XIV.E.13«

V3: FgCap VlaPre ; »PREDICHE FATTE / ROMA MDCXXXII«

V4: FgCap VlaRhe ; »RHETORICAE ECCLESIASTICAE / COLONIAE M. D. CXII.«

V6: FgCap VlaTS ; »THEOLOGIA SELECTA SCOTISTICA / Anno MDCCXX.«

V7: FgCap VlaSop ; »SOPPLIMENTO DELLE CRONICHE / VINEGIA, M D LXXXI«

V8: FgCap VlaQva ; »QVARESIMALE / VENETIA, M DC XLIV«

V9: FgCap VlaCon ; »CONCIONES SVPER EVANGELIA / VENETIIS, M D C XVII«

V10: FgCap VlaCoq ; »CONVIVIVM QUADRAGESIMALE / COLONIAE, M D C XII«

V11: FgCap VlaIO ; »IOANNIS DE SPAVTERII NINI VITÆ / DILINGÆ«

V12: FgCap VlaEls ; »ELSO E RESZE A TUKORNEK: MELY«

V13: FgCap VlaLev ; »LE VITE DE SANTI PADRI /VENETIA, M D XXIII«

V14: FgCap VlaLev ; »LE VITE DE SANTI PADRI / VENETIA, M D XXIII«

V15: FgCap VlaVir ; »VIRTVTVM VITIORVMQVE / Antverpiæ, M.D. XXXV.«

V16: FgCap VlaSop ; »SOPPLIMENTO DELLE CRONICHE / VINEGIA, M D LXXXI«

V17: FgCap VlaPre ; »PREDICHE FATTE / ROMA MDCXXXII«

V20: FgCap VlaRhe ; »RHETORICAE ECCLESIASTICAE / COLONIAE M. D. CXII.«

V21: FgCap VlaEls ; »ELSO E RESZE A TUKORNEK: MELY«

Hebrejsko-aramejski fragmenti Knjige izlaska – 2. pol. 13. ili poč. 14. st.

R1: FgCap VlaTep ; »DECRETALES D. GREGORII PAPÆ IX. / ROMÆ, M.D.LXXXII«

R2: FgCap VlaTep ; »DECRETALES D. GREGORII PAPÆ IX. / ROMÆ, M.D.LXXXII«

Fragment njemačkog rkp. kodeksa

V5: FgCap VlaIns ; »INSTITUTIONES / VENETIIS MDCCLXVII.«

IZLOŽBA

»OD BITIJA KAPUCINSKOGA FRAGMENTI: POVODOM 400. OBLJETNICE KAPUCINA U RIJECI I HRVATSKOJ«

U GALERIJI POMORSKOGA I POVIJESNOGA MUZEJA HRVATSKOGA PRIMORJA U RIJECI

15. 10 - 25. 12. 2010. G.

Figure 5.
The flyer of the exibition VLAŠIĆ-ANIĆ – SABALIĆ: *"The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia".* Design: Jakov ŽAPER, Academy of Applied Arts in Rijeka.

Figure 6.
The banner of the exibition VLAŠIĆ-ANIĆ – SABALIĆ: *"The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia".* Photo: Sanjin Anić

It was precisely with this exhibition that the authors tried to express their *open enthusiasm over the greatness of the Capuchin Franciscan littleness* by which the Capuchins have been recognised even as the radical reformers of the Catholic Church who, like Michelangelo, "at least occasionally make Rome face with the Absolute".[49] The exhibited *fragments "from the life" of the Capuchins,* much like the "one tiny" treasury of the preciousness of the received gifts of littleness, reflected this littleness in keeping with the Kožičić's *spirit.* It is the spirit of the caring and the four-hundred-year-long *attempt* of the Capuchins, who were like Kožičić *learned Latinists, apt and respected diplomats* of the wide *European culture and globalised ecumene* and at the same time members of the *Croatian Glagolitic microcosm,* and who like him preserve the complex *spiritual, cultural being of* their *own, Croatian people.*[50].

49 Hocke, Gustav René. Svijet kao labirint. Zagreb : "August Cesarec", 1991.; Hocke, Gustav René. Svijet kao labirint. Zagreb : "August Cesarec", 1991. P. 80.

50 Crnković, G.; J. Lokmer. Op. cit., p. 7.

We may proudly point out that at the exhibition *The fragments from the Life of the Capuchins: for the 400th anniversary of the OFM Capuccinorum in Rijeka and Croatia,* the phenomenon of *several types of letters and several languages used in the Croatian medieval culture* was especially emphasised. The exhibited newly-found fragments of the medieval codices on parchment pushed this phenomenon a significant step closer to the zone of the inevitable *multiculturality.* Or rather, a step closer to the complex deliberation of the *cohabitation* and the *interweaving of the three letters – Latin, Glagolitsa and Hebrew – and even five languages: Latin, Old Church Slavonic of the Croatian redaction, Hebrew, Aramaic and German.* After the restoration of all the newly-found fragments and clippings in the Capuchin libraries, the modification of these combinations will be continued with the introduction of at least one more language and letter: Ancient Greek (the Greek fragments are still waiting for their 'turn' for the restoration). A more close palaeographic-linguistic identification and results of the planned scientific research should confirm the (un)justifiability of our optimistic presumptions that this introduction will not be the only one, at least as far as languages are concerned.

With a critical mind and with responsibility we dare to say that we may expect not-so-little surprises precisely in the gathering of the results of the upcoming scientific research of the *Varaždin, Karlobag and Rijeka collection FgCapVla.* The claim is based on the experiences gathered so far in the revealing of the secrets during the *quest for Glagolitsa in the libraries of Capuchin monasteries.* It is already apparent that each of the three collections is in its significance an invaluable and permanent cultural good whose exceptional value is proudly added not only to the national, Croatian, but also European cultural heritage.

The contribution of the artists from the Academy of Applied Arts in Rijeka was the discreet outlines that gave to each exhibited rarity a special and silent additional glow. The exhibition was aimed at the visitors' EYES THAT OBSERVE/SEE/RECOGNIZE the discreet game of the calligraphic labyrinths of pen, ink and colour. They are bound to remember it as the glow of a mysterious transparency of the in/visible perspectives *"le plaisir du texte"*[51] *on parchment from "one tiny" treasury of fragments from the 400 years of the "life" of the Capuchins.*

51 Barthes, Roland. Le plaisir du texte. Paris : Éditions du Seuil, 1975.

EPILOGUE: I hope that you too, while listening to this story in the first person singular about the avant-garde – pioneer *'jeans quest'* (Flaker) *for Glagolitsa in the libraries of Capuchin monasteries,* have become, in a way, part of its reality, part of this adventure in the world of science and research.

Translated by Boris Anić

References

Barthes, Roland. Le plaisir du texte. Paris : Éditions du Seuil, 1975.

Bašnec, Nikola. Dolazak kapucina i njihova misijska djelatnost u Lici i Krbavi nakon oslobođenja od Turaka 1689. godine. // Riječki teološki časopis / Ephemerides theologicae Fluminenses 7, 2(1999), 251-294.

Benčić, Branko. O knjižnici oo. kapucina u Rijeci (pismena radnja za stručni bibliotekarski ispit). Akad. godina: 1997/98, mentor: Aleksandar Stipčević. Rijeka : Katolički bogoslovni fakultet Sveučilišta u Zagrebu, Teologija u Rijeci – Područni studij, 1998.

Blažeković, Tatjana. Ivan Kukuljević Sakcinski i Rijeka. // Vjesnik Povijesnog arhiva Rijeka 35-36(1994), 205-219.

Bogović, Mirko. Sadržaj izvješća senjsko-modruških biskupa u Rim od 1620. do 1919. godine. // Senjski zbornik 23(1996), 161-196.

Crnković, Goran; Juraj Lokmer. Predgovor. // Šimun Kožičić : Od bitija redovničkoga knjižice. Rijeka 1531. Knjiga 2. Latinična transkripcija glagoljskog teksta (s uvodom, rječnikom i literaturom) / priredila Anica Nazor. Rijeka : Državni arhiv u Rijeci ; Družba braće hrvatskoga zmaja, 2009. Pp. 7-12.

Deković, Darko. Glagoljica i glagoljaštvo u gradu Rijeci : istraživanja o riječkom glagoljaškom krugu. Zagreb, 2008. (Ocijenjena, ali zbog smrti autora neobranjena doktorska disertacija u rukopisu.)

Dekljaracija OBERIU, Afiši Doma Pečati №. 2, Leningrad 1928. // Harms, Daniil Ivanovič. Izbrannoe / edited and introduced by George Gibian. Würzburg : Jal-Verlag, 1974. Pp. 285-298.

Drei Schriften – Drei Sprachen : Kroatische Schriftdenkmäler und Drucke durch Jahrhunderte / Die Autoren der Ausstellung Anica Nazor, Josip Bratulić, Mirko Tomasović. Zagreb : Erasmus naklada, 2002.

Flaker, Aleksandar. Proza u trapericama : prilog izgradnji modela prozne formacije na građi suvremenih književnosti srednjo- i istočnoevropske regije. Zagreb : Biblioteka Razlog, 1976.

Flaker, Aleksandar. Ruska avangarda. Zagreb : Sveučilišna naklada Liber ; Globus, 1984.

Foretić, Dalibor. Hrid za slobodu : dubrovačke ljetne kronike 1971.-1996. Dubrovnik : Matica hrvatska, 1998.

Gaudemet, Jean. Decretals, False. // Encyclopedia of the Middle Ages I A-J / edited by Andre Vauchez in conjunction with Barrie Dobson and Michael Lapidge. Cambridge (England) : J. Clarke, 2000. P. 419.

Gilles, Henri. Glosses, Legal. // Encyclopedia of the Middle Ages I A-J / edited by Andre Vauchez in conjunction with Barrie Dobson and Michael Lapidge. Cambridge (England) : J. Clarke, 2000. Pp. 611-612.

Grce, Mirjana. Izlošci koji graniče sa senzacijom. // Novi list, Rijeka, 16. listopada 2010, 67.

Hercigonja, Eduard. Tropismena i trojezična kultura hrvatskoga srednjovjekovlja. Zagreb : Matica hrvatska, 1994.

Hocke, Gustav René. Svijet kao labirint. Zagreb : "August Cesarec", 1991.

Jembrih, Alojz. Konzul Istranin, Stjepan. // Hrvatski biografski leksikon. Zagreb : Leksikografski zavod Miroslav Krleža, 2009.

Jolles, André. Jednostavni oblici. Zagreb : Studentski centar Sveučilišta u Zagrebu, 1978.

Kemiveš, Mirko. Dolazak kapucina u Varaždin i znameniti kapucini tijekom 300 godina varaždinskog samostana = La venuta dei cappuccini a Varaždin e i cappuccini celebri del convento durante 300 anni di presenza. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13(2001), 23-146.

Kožičić, Šimun. Od bitija redovničkoga knjižice. Rijeka, 1531. Knjiga 1: Faksimil; Knjiga 2: Latinična transkripcija glagoljskog teksta (s uvodom, rječnikom i literaturom) / priredila Anica Nazor. Rijeka : Državni arhiv u Rijeci ; Družba braće hrvatskoga zmaja, 2009.

Круминг, Андрей. Ранние глаголические издания в библиотеках СССР. // Slovo 34(1984), 225-255.

Laszowski, Emil. Dokinuće Reda kapucina u Zagrebu g. 1788. // Emil Laszowski. Stari i novi Zagreb. Zagreb : Školska knjiga, 1994. Pp. 166–171.

Marjanić, Suzana; Anica Vlašić-Anić. Narušavanje teatra kao kocke : razgovor sa Zlatkom Burićem-Kićom. // Zarez 210-211(2007), 48-49.

Marjanić, Suzana. Urbani rituali Kugla-glumišta ili estetizacija uličnoga svagdana : razgovor s Anicom Vlašić-Anić. // Zarez 191, VIII(2006), 38-40.

Mihaljević, Milan; Anica Vlašić-Anić. Novootkriveni glagoljski fragmenti u riječkoj kapucinskoj knjižnici. // Sprache und Leben der frühmittelalterlichen Slaven : Festschrift für Radoslav Katičić zum 80. Geburtstag / Herausgegeben von Elena Stadnik-Holzer und Georg Holzer. Wien : Peter Lang, 2010. Pp. 95–124.

Paravicini Bagliani, Agostino. Gregory IX, Pope (c. 1170-1241). // Encyclopedia of the Middle Ages I A-J. / edited by Andre Vauchez in conjunction with Barrie Dobson and Michael Lapidge. Cambridge (England) : J. Clarke, 2000. P. 639.

Pelc, Milan. Pismo – knjiga – slika : uvod u povijest informacijske kulture. Zagreb : Golden marketing, 2002.

Pešut, Damjan. Etnička i konfesionalna podjela nakon oslobađanja Like od Turaka. // Senjski zbornik 24(1997), 85-130.

Radovi zavoda za znanstveni rad HAZU u Varaždinu (12-13) / Zagreb ; Varaždin : HAZU 2001.

Repertoar hrvatskih kazališta : 1840-1860-1980. Knj. 1. / priredio i uredio Branko Hećimović. Zagreb : Globus ; JAZU, 1990.

Rječnik crkvenoslavenskoga jezika hrvatske redakcije = Lexicon linguae slavonicae redactionis croatiae = [illegible] / urednici Biserka Grabar, Zoe Hauptová, Franjo Većeslav Mareš. Zagreb : Staroslavenski institut, 2000.

Rusko hrvatski ili srpski frazeološki rječnik / u redakciji Antice Menac. Zagreb : Školska knjiga, 1979.

Šagi, Bono Zvonimir. Kapucinska knjižnica u Varaždinu. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 8-9(1996), 103–109.

Šagi, Bono Zvonimir. Pastoralna djelatnost kapucina u Varaždinu = L'attività pastorale dei frati cappucini a Varaždin. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13(2001), 165–174.

Šagi-Bunić, Tomislav Janko. Redovnička zajednica kojoj je pripadao sluga Božji o. Leopold Bogdan Mandić : (Kratak pregled povijesti franjevaca kapucina u Hrvatskoj). // Da Valdiporro, Pietro. Blaženi Leopold kapucin iz Herceg-Novog. Zagreb : Kršćanska sadašnjost, 1976. Pp. 373–403.

Šarčević, Jure. Dolazak kapucina u Varaždin = L'arrivo dei cappuccini nelle regioni della Croazia. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13(2001), 115–121.

Šimić, Marinka. Izložba "Od bitija kapucinskoga fragmenti: povodom 400. obljetnice Kapucina u Rijeci i Hrvatskoj" (Rijeka, 15. 10. – 25. 12. 2010). // Slovo 61(2011), 407-410.

Štefanić, Vjekoslav. Glagoljica u Rijeci. // Zbornik "Rijeka". Zagreb : Matica hrvatska, 1953. Pp. 393-434.

Štefanić, Vjekoslav. Glagoljski rukopisi jugoslavenske akademije. I dio: Uvod, Biblija, apokrifi i legende, liturgijski tekstovi, egzorcizmi i zapisi, molitvenici, teologija, crkveni govori (homiletika), pjesme. Zagreb : JAZU, 1969.

Tenšek, Zdenko Tomislav. Kapucini : katolički red u svijetu i kod nas = I Cappuccini : un ordine cattolico nel mondo e tradi noi. // Radovi zavoda za znanstveni rad HAZU u Varaždinu 12-13(2001), 105–114.

UCLA Library: Digital Collections. Charles E. Young Research Library. Corpus Juris Canonici (1582) [cited: 2010-11-15]. Available at: http://digidev.library.ucla.edu/canonlaw/

Vialova, Svetlana. Glagoljski fragmenti Ivana Berčića u Ruskoj nacionalnoj biblioteci : faksimili. Zagreb : Hrvatska akademija znanosti i umjetnosti ; Ruska nacionalna biblioteka ; Staroslavenski institut, 2000.

Вялова, Светлана Олеговна. Глаголические фрагменты Ивана Берчича в Российской национальной библиотеке : описание фрагментов. Загреб : Хорватская академия наук и искуств ; Русская национальная библиотека ; Старославянский институт, 2000.

Vlašić-Anić, Anica. Harms i dadaizam. Zagreb : Hrvatsko filološko društvo, 1997.

Vlašić-Anić, Anica. International Medieval Congress (450-1500), Leeds 10-13 July 1995. // Slovo 47-49(1999), 345-347.

Vlašić-Anić, Anica. Glagoljica u knjižnicama kapucinskih samostana. // Glagoljica i hrvatski glagolizam : zbornik radova s međunarodnoga znanstvenog skupa povodom 100. obljetnice Staroslavenske akademije i 50. obljetnice Staroslavenskoga instituta (Zagreb-Krk, 2.-6. listopada 2002.) / uredili Marija-Ana Dürrigl, Milan Mihaljević, Franjo Velčić. Zagreb : Staroslavenski institut ; Krk : Krčka biskupija, 2004. Pp. 341–354.

Vlašić-Anić, Anica; Darko Tepert. Hebrejsko-aramejski fragmenti *Knjige Izlaska* (FgCap VlaTep) novootkriveni u riječkoj kapucinskoj knjižnici. // Zbornik međunarodnog znanstvenog skupa 400 godina kapucina u Rijeci i Hrvatskoj, Rijeka 13.-16. listopada 2010. / urednik Goran Crnković. Rijeka: Matica hrvatska, Ogranak u Rijeci. (In press)

Vlašić-Anić, Anica. Kafka, Kugla, Harms : mimikrija lijepog na poprištu estetike mučnine. // Oko književnosti : osamdeset godina Aleksandra Flakera / uredio Josip Užarević. Zagreb : Disput, 2004. Pp. 121-136.

Vlašić-Anić, Anica. Kugla glumište, Zagreb. // Drugi hrvatski slavistički kongres, Osijek, 14-18. rujna 1999. : zbornik radova / uredile Dubravka Sesar, Ivana Vidović Bolt. Zagreb : Hrvatsko filološko društvo ; Filozofski fakultet, 2001. Pp. 659-665.

Vlašić-Anić, Anica. Varaždinske uvertire u "Kapucinski 'glagoljički Bolero'". // Četvrti hrvatski slavistički kongres, Varaždin – Čakovec, 5. – 8. rujna 2006. : zbornik sažetaka / uredio Marko Samardžija. Zagreb : Hrvatski slavistički odbor Hrvatskoga filološkog društva, 2006. Pp. 126–127.

Vlašić-Anić, Anica. Varaždinski list hrvatskoglagoljskoga misala (FgVar2). // Slovo 61(2011), 123-167.

Further reading

Nazor, Anica. A. A. Круминг, Славянские старопечатные книги глаголического шрифта в библитеках СССР : проблемы рукописной и печетной книги. // Slovo 30(1980), 132-137.

Schmidt, Heinrich P. Heribert von Salurn O.M.C. (1637-1700) als Prediger, Phil. Diss. (Masch.) Innsburck 1946. // BIBLIEX. Bibliographie européenne des exempla. [cited: 2010-10-11] Available at: http://www.bing.com/search?q=Schmidt

Vlašić-Anić, Anica. Izložba "Od bitija kapucinskoga fragmenti : povodom 400. obljetnice Kapucina u Rijeci i Hrvatskoj" : [deplijant]. Rijeka : Hrvatska kapucinska provincija sv. Leopolda Bogdana Mandića, Kapucinski samostan Gospe Lurdske u Rijeci, 2010.

Vlašić-Anić, Anica. Izložba "Od bitija kapucinskoga fragmenti : povodom 400. obljetnice Kapucina u Rijeci i Hrvatskoj (Pomorski i povijesni muzej Hrvatskog primorja u Rijeci, 15. listopada do 25. prosinca 2010. g.)" // 400. godina kapucina u Hrvatskoj : Rijeka 1610.-2010. : zbornik međunarodnog znanstvenog skupa 400 godina kapucina u Rijeci i Hrvatskoj, Rijeka 13.-16. listopada 2010. / urednik Goran Crnković. Rijeka : Matica hrvatska, Ogranak u Rijeci. (In press)

Vlašić-Anić, Anica. Najnovija otkrića glagoljice u knjižnici riječkoga Kapucinskoga samostana Gospe Lurdske. // Zbornik međunarodnog znanstvenog skupa 400 godina kapucina u Rijeci i Hrvatskoj, Rijeka 13.-16. listopada 2010. / urednik Goran Crnković. Rijeka : Matica hrvatska, Ogranak u Rijeci. (In press)

Vlašić-Anić, Anica. Riječki crescendo "Kapucinskoga 'glagoljičkoga Bolera'". // Peti hrvatski slavistički kongres, Rijeka, 07.-10. rujna. 2010. : zbornik sažetaka / uredila Marija Turk. Rijeka : Hrvatski slavistički odbor Hrvatskoga filološkog društva ; Filozofski fakultet Sveučilišta u Rijeci, 2010. Pp. 36–37.

Biographical sketch

Dr. Anica Vlašić-Anić finished study of the Comparative Literature and the Russian language and literature at the Faculty of Philosophy in Zagreb, Croatia where she got Masters degree for *Harms and Dadaism* thesis in 1992, and PhD for *Harms and Kafka* in 2006 (under the mentorship of Ph. D. in Phil Aleksandar Flaker, full professor) in philology in the field of Slavic Studies. Since 1981 she is working at the Old Church Slavonic Institute in Zagreb on a project *Dictionary of the Church Slavonic Language of the Croatian Redaction,* while since 1993 she is working on the project *Zagreb glossary of culture in the 20th century.* She attended many domestic and international conferences (England, Switzerland, Russia, Slovenia, FYR Macedonia, Serbia). Along with a number of papers she published a book in 1997, *Harms and Dadaism (Harms i dadaizam,* Hrvatsko filološko društvo).

Research Interests: 1. Dadaism, Harms, Vvedenskij, OBERIU, Franz Kafka. 2. *Glagolitsa in the libraries of Capuchin monasteries* in Croatia and Europe. 3. Three collections of parchment fragments containing Croatian Glagolitic, Latin, Ancient Greek and Hebrew-Aramaic codices – that have served as covers for printed books (the cultural-historical aspects; the problems of restoration and conservation; palaeographic and linguistic analyses of fragments; organisation the exhibition).

FRAGMENTI PERGAMENTNIH KODEKSA NA KORICAMA STARIH KNJIGA

Sažetak

Autorica predstavlja vlastita najnovija otkrića u knjižnicama kapucinskih samostana u Hrvatskoj: *Varaždinsku, Riječku* i *Karlobašku zbirku FgCapVla (Fragmenta Cappuccinorum Vlašić).* To su tri respektabilne zbirke pergamentnih fragmenata hrvatskoglagoljskih, latinskih, grčkih i hebrejsko-aramejskih kodeksa 13.–15. st. koji su stoljećima služili kao zaštitni ovitci na koricama, materijal za uvez hrptova ili zakrpe oštećenih listova tiskanih knjiga iz 15.–18. st. S polazištem u proživljenom iskustvu znanstveno-istraživačke radosti, zanosa i neiscrpne inspiracije novootkrivenim rijetkostima, posebnu pozornost posvećuje: 1. kulturnopovijesnim aspektima avangardno-pionirskoga *'traganja u trapericama' za glagoljicom u knjižnicama kapucinskih samostana;* 2. problematici restauracije i konzervacije svih pergamena i knjiga na kojima su otkrivene; 3. rezultatima paleografsko-lingvističkih analiza nekih dosada istraženih fragmenata – hrvatskoglagoljskih i hebrejsko-aramejskih; 4. koautorskoj izložbi Vlašić-Anić–Sabalić: "*Od bitija kapucinskoga fragmenti: povodom 400. obljetnice Kapucina u Rijeci i Hrvatskoj*" (Rijeka, 15. X. – 25. XII. 2010.).

Ključne riječi: kapucinski samostan, glagoljica, fragment pergamentnih kodeksa, korice knjige

XML TO VISUAL TAGS MIGRATION
PROPOSED METHODOLOGIES FOR THE RESEARCH OF DIGITISED CROATIAN MEDIAEVAL GLAGOLITIC MATERIAL

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Abstract

Manuscripts are often fundamental sources for researchers in many disciplines, and nowadays this research is enhanced by new tools brought up by information technology. In this article, different methodologies of manuscript research in digital environment based on annotation are described. In the first part of the article, the annotation itself and the XML (eXtensible Markup Language) are explained. In the second part, different types of annotation methodologies are proposed for two types of researches, TEI and TEIMark that serve for encoding of transcribed versions of manuscripts and are proposed for researches based on a text, and DocMark that serves for encoding and analysing of digitised versions of manuscripts and is proposed for researches based on a text together with its physical context. Additionally, History Integrator software which places manuscripts into the time and space framework, with additional multimedia information is described.

Keywords

digital humanities, annotation, XML, TEI, image markup tool, web-based encoded documents analysis, Croatian Mediaeval Glagolitic material

Introduction

Manuscripts are often fundamental sources for researchers in many disciplines, for example in palaeography, codicology, linguistics, history, art history, musicology etc. Therefore, manuscript heritage collections are very important and need to be preserved, protected, described and made available for research. Those tasks are nowadays enhanced by information technologies which provide new possibilities of this research. It is obvious that the demands of the humanities nowadays stimulate the transformation of the technologies, and vice versa, the technologies change and direct humanities' research. This is the case with manuscript studies also, as they are enriched by new tools and new possibilities that provoke and direct new researches and methodologies.

One of the best known and used methodologies for manuscript research in digital environment is TEI annotation, based on XML, which we will present among other methodologies in this article. The prerequisite of using TEI is to transcribe a document. Once a transcript is available, the user can encode a text. Mostly, it is used for linguistic, text based research, as indicated by the name (*Text Encoding Initiative*). Despite many advantages of that methodology, the loss of context of a researched text in terms of visibility of characteristics of codices as physical objects can disable certain types of research based on manuscript as material, and not just linguistic objects. The examples are some types of palaeographical or codicological researches that need an insight into a material context of a text like the research of *mise en page*, morphology of letters, distinguishing among various hands on the same manuscript, etc. That approach is described by Elena Pierazzo and Peter A. Stokes who uphold a codicological approach to manuscript research led by the idea of "putting the text back into context" and stop forcing the scholars "to consider the text first".[1] Pierazzo and Stokes brought to mind that "the fact that the text was transmitted to us by means of a specific physical object which has been organised in a certain way and preserved in one place or another has all sorts of consequences in the way we understand and receive that text."[2] They uphold the idea that for the understanding of a text in a manuscript, it is fundamental to

1 See more on the subject in: Stokes, Peter A.; Elena Pierazzo. Putting the text back into context : a codicological approach to manuscript transcription. // Codicology and paleography in the digital age 2 / edited by Franz Fischer, Christiane Fritze, Georg Vogeler. Norderstedt : Herstellung und Verlag, 2010. Pp. 397-430.

2 Ibid., p. 398.

study the layout, the type of script, the type of writing support, the binding and other physical elements that are usually main features for identifying the scribe, scriptorium, date and place of production, etc. Following that idea, we propose a methodology of manuscript research based on annotation of digitised images, instead of transcribed texts, which is appropriate for the research of features dependent on physical, rather than linguistic characteristics of manuscripts. The tool that enables this methodology will also be presented in this article. Finally, History Integrator, a computer program that visualises information on researched manuscript by placing it in the context of time and place of its production, recording the history of its movements and present-day location, will be described.

Annotations tools and History Integrator visualisation computer program are examined in this article in respect of research of specific Croatian mediaeval corpus, as well as in respect of general features concerning manuscript research. In addition to usual, expected issues occurring during manuscripts research in the digital age, like low readability etc., a researcher of Croatian mediaeval corpus encounters a range of specific problems resulting from the frequently quoted difficulty due to the use of three languages and three alphabets. The corpus was written in three alphabets: Glagolitic, Latin and Bosnian variant of Cyrillic scripts, called *bosanica* or *bosančica*, and in three languages: Church Slavonic, Croatian redaction of the Church Slavonic language and Latin.[3] Since the Croatian Mediaeval Glagolitic Corpus is in the focus of this article, we should mention the evolution of Glagolitic script from its rounded form to the specific Croatian type, angular Glagolitic script, as well as various inter-scriptural and other cultural influences which had diverse effects in different text types and thus affected the modifications in the morphology of letters, page setup, the use of certain linguistic elements, book format and alike.[4] The above mentioned diversity of Croatian Mediaeval scripts and letter forms in each script heretofore prevented former attempts of building OCR (Optical Character Recognition) programs that could be applied to Croatian Glagolitic manuscript material, so the transcription of that material can be hard and time consuming.

3 More on the subject see in: Hercigonja, Eduard. Trojezična i tropismena kultura hrvatskog srednjovjekovlja. 2. dopunjeno i izmijenjeno izd. Zagreb : Matica hrvatska, 2006.

4 Žagar, Mateo. Osnovni procesi konstituiranja ustavne glagoljice. // Bъlgari i Hъrvati prez vekovete II / ur. Rumjana Božilova. Sofija : IK Gutenberg, 2003. P. 31.

Some researchers of Croatian Glagolitic manuscripts, as well as the researchers of other manuscript material, base their research mainly on linguistic elements, while some of them base it mainly on physical features. While proposing different methodologies for those researches, TEI and TEIMark for basically linguistic and DocMark for physically oriented researches, our intention was to avoid the transcription of texts in cases when the text itself was not the focus of the research, but rather physical and other visual features of the manuscript. Different tools will be proposed for those sometimes interwoven but mostly different kind of researches.

In his article on challenges, perspectives and questions imposed during exploration of manuscript collections in the countries of Eastern and South-Eastern Europe, Erich Renhart stresses scientific aspects of those collections that should be examined and points out the importance of interdisciplinary collaboration in the statement that epigraphy, calligraphy, codicology, palaeography, bibliography, linguistics, art history, history, and other fields of study equally meet on the same object – the manuscript.[5] Although interdisciplinary collaboration is well-known in the field of manuscript studies, it has started to flourish when digital technologies entered the field and enabled projects based on collaboration of various researchers. Inman, Reed and Sands described it in the book on the collaboration in the humanities: "Interdisciplinary aided by the digital technologies seems to be a hallmark of the contemporary humanities, and consequently, collaborative projects gathering scientists from various fields of study have become increasingly prominent in the humanities in recent years".[6] While proposing methodologies for manuscript research in this article, we had in mind the necessity of collaboration of various researchers and scientists on the same manuscript. Therefore, all of the methodologies are based on providing appropriate virtual space for collaboration.

5 See: Renhart, Erich. Tracing our written heritage : challenges, perspectives, questions. // Summer School in the Study of Old Books, Zadar, Croatia, 28 September to 2 October 2009 : proceedings / edited by Mirna Willer and Marijana Tomić. Zadar : Sveučilište, 2010. P. 107.

6 Inman, A. James; Cheryl Reed; Peter Sands. Preface: Issues and options for electronic collaboration in the humanities : a framework. // Electronic collaboration in the humanities : issues and options / edited by James A. Inman, Cheryl Reed, and Peter Sands. Mahwah : Lawrence Erlbaum Associates, 2004. P. XVIII.

Annotation

Annotation is generally referred to as "being the process of adding notes to a text or diagram giving explanation or comment.[7] A more specific definition of annotation in our context is the one by the World Wide Web Consortium's (W3C) Annotea project, which states that "By annotations we mean comments, notes, explanations, or other types of external remarks that can be attached to any Web document or a selected part of the document without actually needing to touch the document".[8] This definition, however, should be handled cautiously as there is still an open debate about the issue of whether annotations should be stored within a digitised document or remotely, as it is being suggested by the Annotea team.[9]

Texts are more than sequences of encoded glyphs, because they have structure, content and multiple readings. Encoding or markup is a way of making specific features implicit to a person, explicit to a machine. The growing amount of information that is associated with the text by means of markup requires structuring which does not necessarily result in identical combinations or groupings of units of information. Andreas Witt and Dieter Metzing[10] distinguish between annotation level referring to the conceptual level of information represented in markup, and annotation layer referring to the technical realisation of markup.

The term *level* refers to a model involving theoretical concepts of a specific research discipline. In linguistics, there are several sub-disciplines which investigate different aspects and modalities of natural language and natural language description such as phonology, morphology, syntax, and semantics, which are often called the linguistic levels of description. Thus, an annotation unit (an XML element or attribute) will refer to one level while another annotation unit may refer to another level of linguistic description. In that sense, different levels of markup can be found in one annotated text. But even at one linguistic description level, different types of analyses can be represented which we still consider as different conceptual levels of markup. The

7 Oxford Dictionaries. Concise Oxford English Dictionary. 11th ed. Oxford : University Press, 2008. P. 53.

8 Annotea project : overview [cited: 2011-12-01]. Available at: http://www.w3.org/2001/Annotea/

9 Ibid.

10 Linguistic modeling of information and markup languages / editors Andreas Witt, Dieter Metzing. Heidelberg [etc.] : Springer, 2000. Pp. 1-22.

term *layer*, on the other hand, refers to the technical realisation of a modelling task. What it means exactly depends thus on the annotation system employed: in transcription systems based on the annotation graph framework,[11] for example, a layer corresponds to a single labelled path which spans the transcribed text. Another example of a technical realisation is the use of different XML documents to store annotations of one text, each XML file then corresponds to one annotation layer.

In this article we will concentrate only on the *layer* level, which is technology, so we will name the setting of markers, which are called tags in XML-tagging, in order to differentiate it from the process of *level* marking, which we usually call *annotation*. This has been underlined in the title of the article.

XML (eXtensible Markup Language) as TEI container

XML is a specification for storing information and for describing the structure and meaning (semantics) of that information.[12] It is a meta-markup language that defines a syntax in which other domain-specific markup languages (like TEI, Text Encoding Initiative[13]) can be written. The XML specification enables users to define their own markup language. The only condition is that these newly created tags adhere to the rules of the XML specification.

An XML element is the most basic unit of XML document. It can contain text, attributes, and other elements. A typical XML element is comprised of an opening tag (which can contain attributes with their associated values), content, and a closing tag. The example (with arbitrary names and values) is shown in Figure 1.

The first 'bibl' element has five nested elements (twice 'title', 'author', 'publisher' and 'date') mixed with text. The first 'title' element has an attribute called 'stage' whose value is 'a1', and content 'The Interesting story...'. The element has an opening tag with a name written between less than (<) and greater than (>) signs. The name of the element should describe its purpose and, in particular, its contents. An element is generally concluded with a closing tag, comprised of the same name

11 Bird, Steven; Mark Lieberman. A formal framework for linguistic annotation. // Speech communication 33, 1-2(2001), 23-60.

12 W3C. Extensible Markup Language (XML) [cited: 2011-12-01]. Available at: http://www.w3.org/XML/

13 TEI: Text Encoding Initiative [cited: 2011-12-01]. Available at: http://www.tei-c.org/index.xml

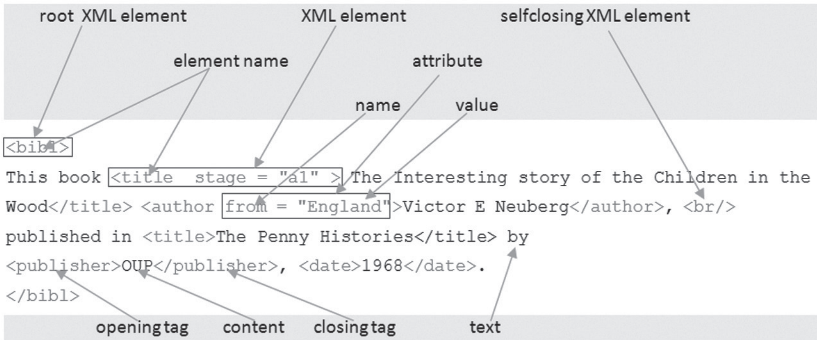

Figure 1.
XML notation

preceded with a forward slash, enclosed in the less than and greater than signs. The exception to this is called an empty element which may be "self-closing".

Elements may have attributes. Attributes, which are contained within an element's opening tag, have quotation-mark delimited values that further describe the purpose and content (if any) of the particular element. Information contained in an attribute is generally considered to be metadata; that is, information about the data in the element (e.g. the author is from England, in the example above), as opposed to the data (e.g. 'Victor E. Neuberg') itself. An element can have as many attributes as desired, as long as each has a unique name.

XML has a structure that is extremely regular and predictable. It is defined by more than 100 different rules, although only several of them are significant (i.e., the root XML element is required, every element must have a closing tag, elements must be properly nested, elements' and attributes' names are case sensitive and an attribute's value must always be enclosed in quotation marks). If an XML document satisfies these rules, it is considered well-formed. Once a document is considered to be well-formed, it can be used in many different ways.

XML predefines no elements at all, but the documents built from them are not completely arbitrary. They must be valid – their structure has to meet some other rules. Good forming is the minimum criterion necessary for XML processors and browsers to read XML documents (files), so these rules are designed to be understood by software rather than human beings. There are two ways to define the structure of an

XML document - either written with a DTD (Document Type Definition) or with the XML Schema language. These structural definitions (or schemas) specify: the name of the root element, names of all elements used, names and data types (strings, date, number etc.) and (occasionally) default values for their attributes, rules about how elements can nest, and a few other things, depending on the schema language. A schema does not specify anything about what XML elements are, what their content "means".

TEI provides a framework for the definition of more than 500 useful textual distinctions (XML elements with their associated attributes), and also provides a set of modules that can be used to define schemes making those distinctions. These schemes ensure that:

- TEI documents use only predefined elements, attributes and entities,
- The same thing is always called by the same name,
- TEI documents are well-formed and valid (enforcing structural rules).

For TEI users the most popular XML schema is Relax NG, although there are many TEI documents verified by simple DTD scheme, which is nowadays outdated.

Since XML tags (and TEI too) are created from scratch, those tags have no inherent formatting and the browser cannot know how to display them. Therefore, it is the user's job to specify how an XML/TEI document should be displayed using general purpose programming languages (like Python, Java, Ruby) or using XML-markup language named XSL, or eXtensible Stylesheet Language. XSL is actually made up of three languages: XSLT, for transforming XML documents; XPath, for identifying different parts of an XML document; and XSL-FO, for formatting an XML document. XSL lets one manipulate the information in an XML document into any format one needs; most frequently into HTML, or an XML document with a different structure than the original (Figure 2).

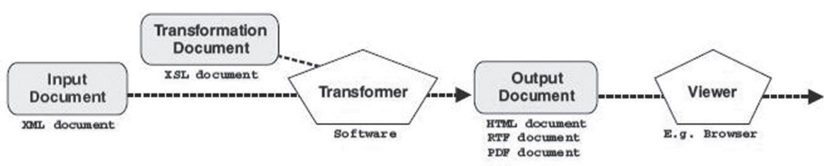

Figure 2.
Transformer software

As it might be seen from the diagram, we need the Transformer - software which abiding by certain rules will turn our XML document into an output document of different format (e.g. HTML or PDF) which we might be able to browse or view in a different way, with a special browser/viewer.

Proposed methodologies for manuscript research

Word markup procedure using TEI (Text Encoding Initiative)

In their study of ancient books, the book historians and philologists often need to markup, count, compare or perform some similar action on some part of a text or a text component such as personal names, places, foreign words or even linguistic categories (nouns, verbs, adjectives, etc.). If they did this without using computer, they usually circled or underlined such words in their scientific research on the copies of the original text or they even created the supporting text content as a list of personal names, foreign words etc. Such research data served to confirm or refute the set scientific theories.

However, in using computer for the text markup procedures it is also possible to implement some standard editing programs such as MS Word or Open Office. For the markup of a computer-readable text, like a Glagolitic and transliterated version, a common editor's comment function can very well serve the purpose, as shown in the Figure 3:

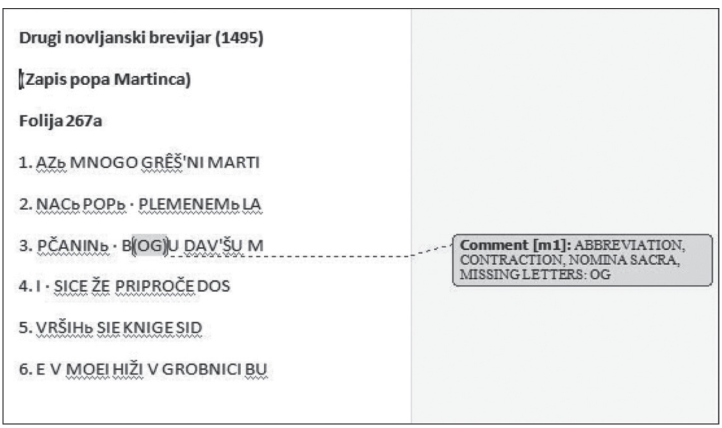

Figure 3.
Encoding of acronyms in a Glagolitic text of the the *Second Novljanski Breviary* using the comment function in MS Word – a word processing program

However, if a scientist wishes to search, scan or even extract the highlighted text, this method of labelling will become insufficient. Word processing programs allow the implementation process of markup without any possibility to elaborate the tags and selected words; therefore, they are similar to manual word selection, without the use of computers. Consequently, other markup procedures have been proposed for word selection using computer, among which the most outstanding are related to the use of tagging (markup) languages and their applications (programs).

TEI (*Text Encoding Initiative*) guidelines are widely used for encoding of texts from human sciences. TEI represents the word encoding standard which has been developing since 1990, and has experienced as many as five versions so far (P1-1990 up to P5- 2007). The TEI specification provides an extremely rich set of elements for almost all conceivable text types (prose, poetry, drama, novel and alike) with appropriate attributes,[14] although in practice, in individual cases, a much smaller number of elements is associated with each text type. The TEI standard modularity is one of its most conspicuous features, because the scientist may adapt it or customize it to his/her own needs. Sometimes it will refer to some ancient book, sometimes to some mediaeval codex manuscript and alike. Depending on the text type, in particular considering the form and content, the TEI standard recommends the use of certain subset of TEI elements. This means that each scientist may freely mark up the text for his/her project but s/he is also required to construct, as we have mentioned, his/her own scheme document (DTD, XML Scheme or RELAX NG) where s/he shall define the selected subset of elements from the TEI specification as well as their application in the text markup procedure.[15] One among the most popular TEI standard-customizations is *TEI-Lite*, first published in 1995, and currently consisting of (only) 145 elements, but it meets the requirements of 90 % text markup projects within the TEI community.[16] The TEI-Lite is also the first step in the implementation of TEI markup texts. Since each and every XML is expandable, whereas the TEI happens to be only an XML variant, it is possible to add into the TEI pro-

14 Accurate number of TEI elements and attributes in the TEI standard (at the beginning of 2011) is 503 elements and 210 attributes.

15 In this sense we say that the user performs some customization or personalization of the TEI standard to his/her own needs.

16 TEI by example : tutorials : introduction to text encoding and the TEI [cited: 2011-12-01]. Available at: http://tbe.kantl.be/TBE/modules/TBED00v00.htm

gram some completely new, one's own elements, along with the already selected set of TEI or TEI-Lite elements, as well as to introduce elements from any other set of elements, such as MARC 21 or MathML. To customize the TEI set of elements to one's own needs, from the P5 version onwards, it is possible to use the special network software – *Roma*.[17] In the Roma interface (Figure 4) it is possible to choose exactly those elements and attributes which meet the specific requirements of a text encoding, and which would finally produce (generate) the associated scheme document.

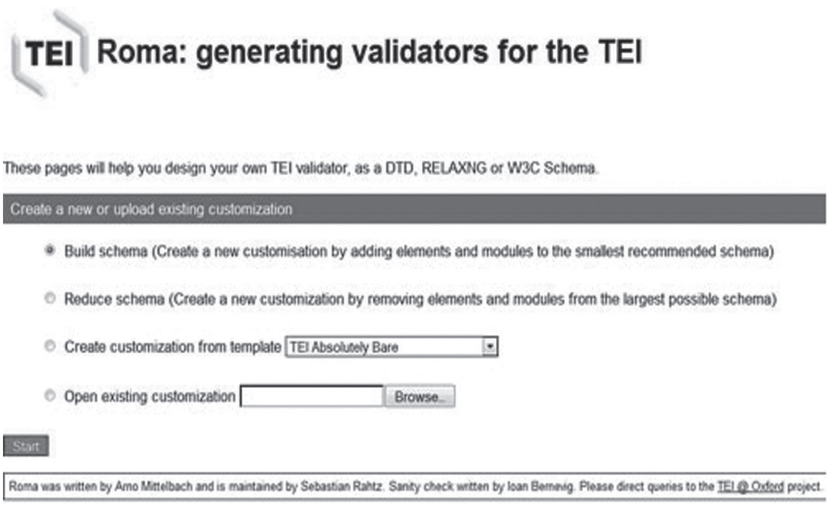

Figure 4.
Roma, the network software for the TEI customization to one's own needs

Having generated the appropriate scheme document, it is necessary to select the XML editor for the word markup procedure. Apart from the text which needs to be marked, editor will also load the generated scheme, which will cover all allowed elements and attributes (as to where and how) implemented by the user in the text markup procedure; to be more precise, it will control and manage the text encoding. Nowadays there are numerous XML editors on the market, among which the best-known are: Oxygen XML Editor[18] and Altova XML-

17 Roma : generating validators for the TEI [cited: 2011-12-01]. Available at: http://www.tei-c.org/Roma/

18 <Oxygen/> XML Editor [cited: 2011-12-01]. Available at: http://www.oxygenxml.com/

Spy[19] as a commercial, and PSPad[20] and Notepad++[21] as free (open-source) solutions. For example, with the Oxygen XML Editor the text markup procedure is highly facilitated due to the possible choice of elements and attributes, as determined by the previously loaded scheme document (Figure 5).

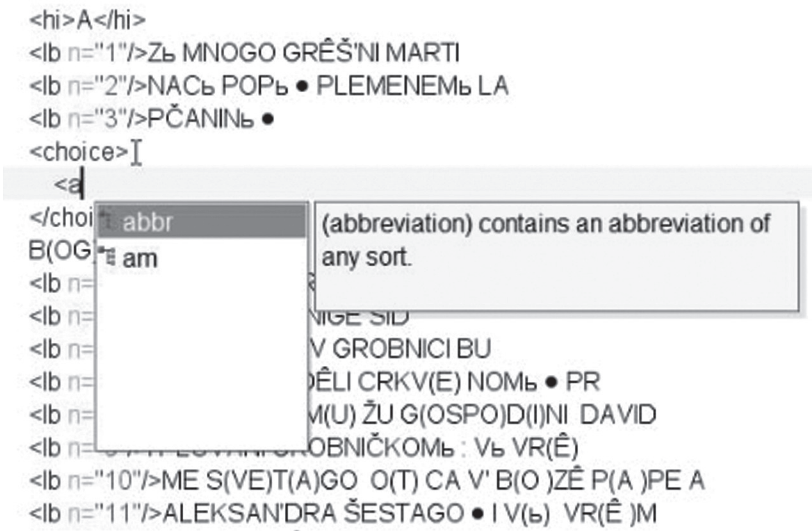

Figure 5.
Implementation of the text markup procedure using *Oxygen XML Editor*

The TEI annotated text needs to be processed or elaborated if it is to provide the scientist with the quantitative research data (e.g. frequency of certain elements in the text) or lists of the selected data types and alike. Figure 6 shows the list of all words (in colour) containing the grapheme 'nj' obtained using the XSLT program. In this way it is possible to count the selected elements, to list them, compare them, etc., by means of the XSLT program's XPath and XSL functions.

19 Altova XMLSpy : XML editor for modeling, editing, transforming, & debugging XML technologies [cited: 2011-12-01]. Available at: http://www.altova.com/xmlspy.html
20 PSPad [cited: 2011-12-01]. Available at: http://www.pspad.com/
21 Notepad++ [cited: 2011-12-01]. Available at: http://notepad-plus-plus.org/

U	Piſanju	i	ſstampanju	ricih
zamerſsenja	ima	tako	da	nike
nego	druge	i	tako	smetnja
slova	na	izuſschivanje	ricſih	metati
kolikobi	u	naſs	iezik	potribito
na	izuſschivanje	naſsih	ricſih	manjkaju
nemore	dochi	na	iedinoſt	itako
ſva	kolika	ta	mucſnoſt	dolazi
naſsi	Alli	ier	nadopuniti	po
pomochna	slova	neſtoie	kod	dvoice

Ukupan broj označenih grafema: 66

Ukupan broj **grafema** *'nj'*: 17

Piſanju
ſstampanju
zamerſsenja

Figure 6.
With XSLT it is possible to display the selected words in another colour by means of TEI

The text from the field of humanities marked by the TEI standard provides the researcher with the opportunity to analyse words not only quantitatively but also qualitatively, e.g. to generate the controlled dictionary of names based on selected names from text. However, the processing of the selected words using XSLT or any other program language (Java, Python or Ruby) requires additional knowledge and programming skills for every single application. Unfortunately, a general TEI tool for all kinds of tasks that are set before the scientists who want to process each digitised document or a transcribed manuscript has not been developed yet.

TEIMark: a web-based editor

TEIMark is the conceptual solution of a web-based editor for encoding text using TEI standard. Web-based means that application is accessible over the Internet and the only thing needed to use it is a web browser. TEIMark is developed using jQuery and JavaScript technologies on the client side and PHP programming on the server side. The base of the project is TinyMCE visual editor which is expanded to support TEI XML tags and attributes. TinyMCE is an open-source, platform independent WYSIWYG (what you see is what you get) editor (Figure 7).

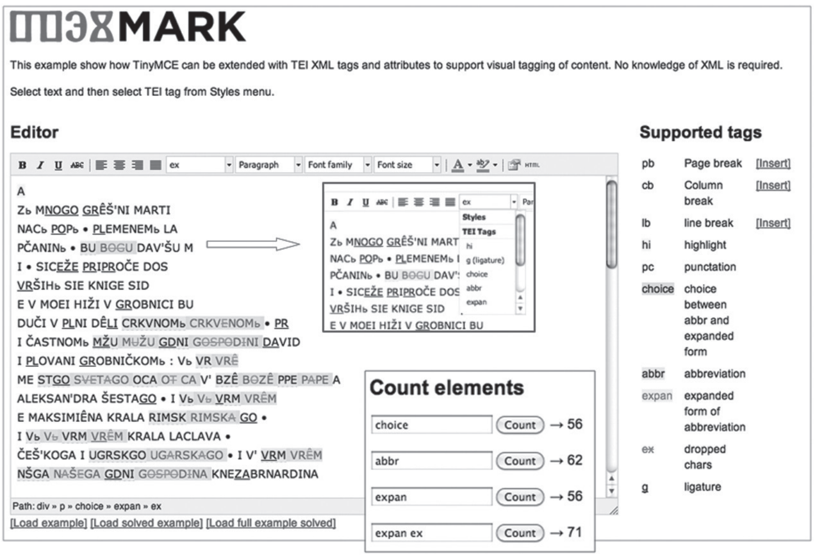

Figure 7.
Application workflow demonstrated with a 10-line example from the the *Second Novljanski Breviary.*

Encoding is done by selecting the words, characters or symbols we want to markup and selecting a proper TEI tag from styles dropdown menu (so virtually no XML knowledge is necessary). Tags are made visible by using different colours and type treatments (legend for supported tags is shown next to the editor). The nested tags are also supported. Depending on the chosen tag there is a visual distinction between different tags. After encoding is done the output can be saved as a standard TEI XML file.

The second part of the application is the ability to edit TEI XML header. This is done in different text fields because visual editor is used only for content while headers and other metadata are kept logically separated. In this part of application the complete TEI XML file, including headers and content can be downloaded, too. The third part of the TEIMark is an interface for counting elements that are visually encoded using editor. Counting is done by jQuery selectors so it is easy to count nested elements or elements with specified attributes (e.g. for number of dropped characters within expanded form of abbreviation *expan ex* is put into the field). Any marked up element like punctuations, ligatures or ligatures within abbreviations can be counted. Some Glagolitic web fonts are also included, so they can be chosen from the font menu to display the text in Glagolitic font.

The TEIMark program allows the users to: load ordinary or transliterated text into editor; make selections from words, characters and symbols and encode them with TEI tags using drop-down menu; insert page, column and line breaks using legend of supported tags; edit raw TEI XML header; download final TEI XML file which includes header and encoded content; analyse and count encoded elements by writing single tag or combination of tags; and select text and display it in one of two Glagolitic typefaces.

DocMark: software for visual encoding of digitised images

As indicated by its name, TEI (Text Encoding Initiative) is the most appropriate for text based researches. But, in a wide range of palaeographic and codicological researches, as well as in those in the field of art history etc., it is not the text that is in the centre of a research, but its physical context which is hidden when one works on a transcribed version of a document. It is, for example, impossible to research a *mise en page* or to distinguish among different hands in the same manuscript if a research is conducted on the transcribed text, and not on the image of it. Following that approach, initiated by Elena Pierazzo and Peter A. Stokes and their idea of “putting the text back into context”,[22] we are proposing a tool for the research of the digitised manuscripts. It allows a research on features that are not visible in the transcript of a document, like a change of morphology of a letter made by different scribes or any notes made in the rich history of researched manuscripts, the bindings, the holes in the parchment etc.

22 See more on the subject in Stokes, P. A.; E. Pierazzo. Op. cit., pp. 397-430.

Since the 1950s digital imaging has begun to revolutionise manuscript research by providing broader and lower-cost access to higher-quality manuscript images, and by facilitating the research through improving legibility of damaged text etc.[23] As Fischer and Sahle point out that "digital facsimiles convey a great number of original features and characteristics and can be easily provided and shared",[24] it is undoubtedly recognised among scholars that research in palaeography, codicology, art history, history of the book and other disciplines can be greatly facilitated by means of manuscript facsimiles provided along with codicological data and descriptive texts.

Software that enables such an approach to encoding and processing of digitised documents is DocMark. It provides encoding of digitised image by setting tags directly to the digital facsimile. In this way it becomes possible to encode target elements on the document without losing of a number of material properties of the document, otherwise lost in the transliterated text, to set a number of the same tags on the documents written in different languages and/or scripts and to later analyse (of individual elements, their comparisons, etc.), as well as to browse the documents' base by the encoded elements.

DocMark, a web based computer system, is using new WebGL/Javascript/HTML5 and Ruby/SQLite technology. Before encoding, the author assigns some feature/category (analogue to selection of some TEI tag) to every tag. It is also possible to add a special description to every single tag within the same type. Upon tag selection, the user sets the desired visual tag by clicking onto a desired place for a document image. There are several tag types (e.g. a triangle, a square, an arrow, a cross etc.) and several hundred pre-assigned symbols (obtained from the right-click menu trees) in different colours, sizes and transparencies (Figure 8).

DocMark also offers a kind of a collaboration platform which enables researchers to work at one or several layers over the same document image, either locally or remotely through the network.

Precise measurement and marking of particular parts of a document is also possible. Among tags there are also lines which can be

23 Griffin, Carl W. Digital imaging : looking toward the future of manuscript research. // Currents in Biblical research 5, 1(October 2006), 58-72.

24 Fischer, Franz; Patrick Sahle. Introduction: Into the wide – into the deep : manuscript research in the digital age. // Codicology and paleography in the digital age 2 / edited by Franz Fischer, Christiane Fritze, Georg Vogeler. Norderstedt : Herstellung und Verlag, 2010. P. XI.

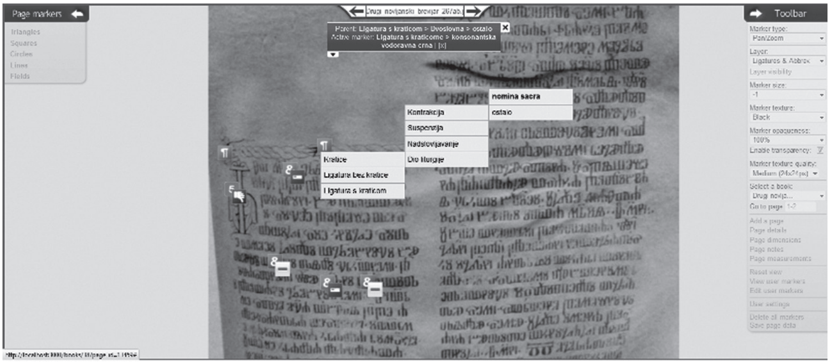

Figure 8.
Visual encoding of digitised page of the the *Second Novljanski Breviary* using DocMark

drawn by the researcher from one position to another in order to encode the researched area in the document. All tags, measurement and descriptions are stored in a database and are retrievable. Documents can be searched by all encoded features, tags can be analysed and compared on one or several documents, while document can be viewed with all or some specific tags, which enables a complete visualisation of encoded features (Figure 9).

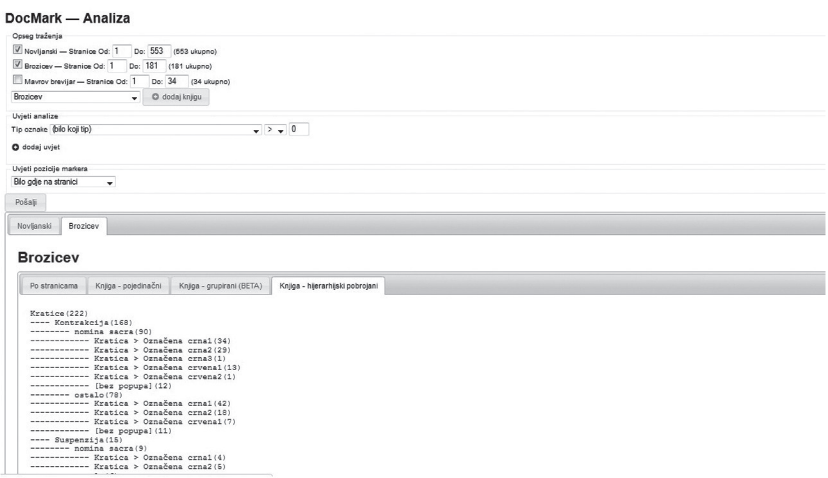

Figure 9.
An analysis of material encoded using DocMark

There are similar projects, yet in terms of conception and technology they are different: TILE,[25] Image Markup Tool,[26] and Edition Production & Presentation Technology (EPPT)[27] facilitate document tagging, but the result is an XML record. In the case of DocMark, the original image of a document is preserved, while layers with relevant information on all set tags with their accurate positions are stored in a computer database.

History Integrator

As the text is not only a sequence of encoded glyphs, the document/manuscript, too, is not exclusively made up of sequences of files stored in a computer database, but is part of a culture, space and time in which it occurred. To visualise this important segment of the manuscript, the authors of DocMarc have developed a computer program called History Integrator. It connects documents by the time of their origin, the place where they were created or are currently kept, and by the information they contain. The time axis is made by the MIT Simile project and the area is covered by Google Maps.

The encoding of digitised documents has been presented in both variants so far: as transcribed (digitised) text and as an image of the manuscript. For the first one, editor (TEImark) has been proposed whereby the user would not have to be familiar with the XML-technology, but only with the TEI classification and its labels, whereas for the second one – visual encoding – setting up of visual tags/markers in layers above the document has been proposed. All that remains is the inclusion of documents into the history, in terms of time and space (spatial and temporal coordinates). It is also a kind of document indexing, but not any more of letters, words or characters they consist of, but of the documents themselves. Moreover, this new designation into the time and space scale (at a country, city, or even building level, in Google map perspective) provides linking with the digitised document. The user chooses an author who was entered into the timeline scale (e.g. Blaž Baromić from 1450); then s/he obtains basic information on him,

25 TILE: Text-Image Linking Environment [cited: 2011-12-01]. Available at: http://mith.umd.edu/tile/

26 The UVic Image Markup Tool Project [cited: 2011-12-01]. Available at: http://tapor.uvic.ca/~mholmes/image_markup/

27 Edition Production & Presentation Technology (EPPT) [cited: 2011-12-01]. Available at: http://eppt.org/eppt/

a list of his works, and if the works have been digitised and saved, then s/he gets the corresponding links, too. By clicking on such a link s/he may read, browse and search the document by tags entered through the DocMark, for each and every page - this is the key integration property of the History Integrator and the DocMark program.

Each user in a collaborative project can contribute his/her own content to each and every data element (author, document, event and alike) published in the History Integrator. In this way a new kind of visual encyclopaedia can be created, because apart from the published material, descriptions, explanations and supplementary details are added, too.

History Integrator is a program currently used for development and testing of new ideas in the field of humanities. This refers in particular to the concept of information with its contents, place of origin, and the route it made, its current storage, time of its creation or any subsequent modification. Information may refer to people, events and/or their work. So the route made by a certain book, place and fragment contents, authors' biographies can be recorded, but the digitised works by the same author may be also retrieved, even those tagged by the agreed metatags (either by TEIMark or by DocMark) (Figure 10).

The program provides for the setting, modification and deletion of information entered about author, event or work, as well as interconnection of data elements from different users into desired units.

Every user disposes of a time and space axis (taken from MIT open-source project) onto which h/she enters his/her particular data (event or term). These terms represent categories which have to be hierarchically placed one upon another, for the sake of navigation and availability. The categories conform to a thesaurus structure (a tree) and may be easily adapted to future ontological records (graphs). In defining of a new term, the user shall use the previously built up structure, so s/he shall search and find the higher term (super-category) to which the particular term actually belongs. If a higher category is not available, the word becomes a new root (source) of future sub-terms. The result is a qualitative categorisation (classification) of information. Every word may, by thesaurus' rules, have one or more synonyms and one or more similar words.

The terms are described by additional data which are entered into a computer database by means of an online editor or can be retrieved from a web site. The described programs include all details needed for

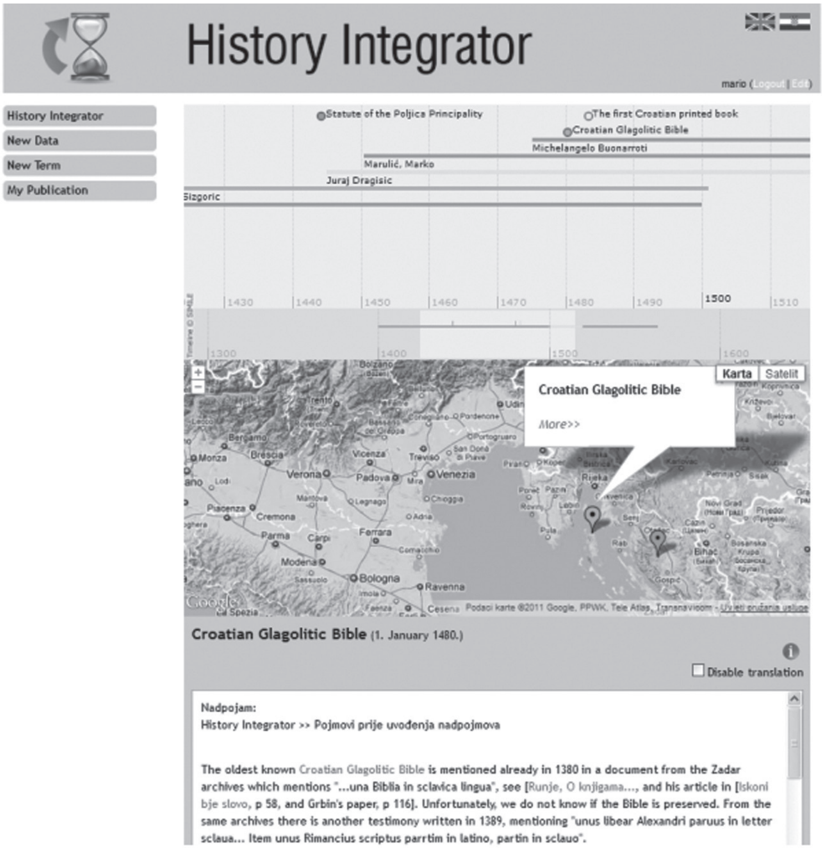

Figure 10.
History Integrator

RDF (Resource Description Framework) publishing in linked data global cloud, but this is part of another story.

If the information content disposes of a term which has been already entered into the database, the term will be underlined, so the user may (if s/he places the mouse cursor above the underlined word or a phrase) get a window with the description of this term. The structure is recursive, therefore in the data of the newly created window all familiar terms have been underlined, too, which provides for the opening of new (sub)windows and data cohesion in all directions (over synonyms and similar terms). In this way it is possible to perform automated tagging of terms in information content where XML-tags are set around the found term by the predefined scheme. This has largely accelerated the tagging of documents; major work has been done by computer, however, manually performed, individual interventions always remain possible. This is the first step in a quick data preparation, for a cloud computing - linked data in the semantic web.

Being a web application it allows collaboration among users which has been developed in order to avoid repetition or redundancy, such as entering the already recorded information. Moreover, the program History Integrator provides each and every user with a possibility to pick from other users a piece of information (only the one which has been offered, shared and/or allowed) and place it on their time and space axis or on their tree of terms. In the same way, they can offer their own work to other users, to the extent they deem appropriate. In case that several users have coded the same information and offered it to others, the user may select only one piece of information. In this way the effectiveness of cohesion has been solved and redundant information reduced.

Conclusion

In this article, different methodologies of manuscript research in digital environment based on annotation have been described. For two different types of researches, those based on a text, and those based on a physical context, different types of annotation methodologies are proposed: TEI and TEIMark that serve for encoding of transcribed digitised manuscripts, and DocMark for encoding and analysing of digitised versions of manuscripts. Additionally, History Integrator software which places manuscripts into the time and space framework with additional multimedia information is described. The common characteristic of the described programs is that they have been developed under the supervision of humanities' scientists, and that they have not been run on local computers but online, through Internet. Such an option provides many scientists from different branches of humanities with the possibility to jointly collaborate on the same manuscript, regardless of a computer or operating system used, since they need only one program for their work – a web browser. Ensuring platform for virtual collaboration of remote scientists working on the same manuscript is also considered as one of prerequisites for manuscript research in the digital age which is enabled both by TEI based and image tagging based software.

References

Altova XMLSpy : XML editor for modeling, editing, transforming, &debugging XML technologies [cited: 2011-12-01]. Available at: http://www.altova.com/xmlspy.html

Annotea project : overview [cited: 2011-12-01]. Available at: http://www.w3.org/2001/Annotea/

Bird, Steven; Mark Lieberman. A formal framework for linguistic annotation. // Speech communication 33, 1-2(2001), 23-60.

Edition Production & Presentation Technology (EPPT) [cited: 2011-12-01]. Available at: http://eppt.org/eppt/

Fischer, Franz; Patrick Sahle. Introduction: Into the wide – into the deep : manuscript research in the digital age. // Codicology and paleography in the digital age 2 / edited by Franz Fischer, Christiane Fritze, Georg Vogeler. Norderstedt : Herstellung und Verlag, 2010. Pp. XI-XVI.

Griffin, Carl W. Digital imaging : looking toward the future of manuscript research. // Currents in Biblical research 5, 1(October 2006), 58-72.

Hercigonja, Eduard. Trojezična i tropismena kultura hrvatskog srednjovjekovlja. 2. dopunjeno i izmijenjeno izd. Zagreb: Matica hrvatska, 2006.

Inman, A. James; Cheryl Reed; Peter Sands. Preface: Issues and options for electronic collaboration in the humanities : a framework. // Electronic collaboration in the humanities : issues and options / edited by James A. Inman, Cheryl Reed, and Peter Sands. Mahwah : Lawrence Erlbaum Associates, 2004. Pp. XVII-XX.

Linguistic modeling of information and markup languages / editors Andreas Witt, Dieter Metzing. Heidelberg [etc.] : Springer, 2000.

Notepad++ [cited: 2011-12-01]. Available at: http://notepad-plus-plus.org/

Oxford dictionaries. Concise Oxford English dictionary. 11th ed. Oxford: University Press, 2008.

<Oxygen/> XML Editor [cited: 2011-12-01]. Available at: http://www.oxygenxml.com/

PSPad [cited: 2011-12-01]. Available at: http://www.pspad.com/

Renhart, Erich. Tracing our written heritage : challenges, perspectives, questions. // Summer School in the Study of Old Books, Zadar, Croatia, 28 September to 2 October 2009 : proceedings / edited by Mirna Willer and Marijana Tomić. Zadar : Sveučilište, 2010. Pp. 107-118.

Roma : generating validators for the TEI [cited: 2011-12-01]. Available at: http://www.tei-c.org/Roma/

Stokes, Peter A.; Elena Pierazzo. Putting the text back into context : a codicological approach to manuscript transcription. // Codicology and paleography in the digital age 2 / edited by Franz Fischer, Christiane Fritze, Georg Vogeler. Norderstedt : Herstellung und Verlag, 2010. Pp. 397-430.

TEI: Text Encoding Initiative [cited: 2011-12-01]. Available at: http://www.tei-c.org/index.xml

TEI by example : tutorials: introduction to text encoding and the TEI [cited: 2011-12-01]. Available at: http://tbe.kantl.be/TBE/modules/TBED00v00.htm

The UVic Image Markup Tool Project [cited: 2011-12-01]. Available at: http://tapor.uvic.ca/~mholmes/image_markup/

TILE: Text-Image Linking Environment [cited: 2011-12-01]. Available at: http://mith.umd.edu/tile/

W3C. Extensible Markup Language (XML) [cited: 2011-12-01]. Available at: http://www.w3.org/XML/

Žagar, Mateo. Osnovni procesi konstituiranja ustavne glagoljice. // Bъlgari i Hъrvati prez vekovete II / ur. Rumjana Božilova. Sofija : IK Gutenberg, 2003. Pp. 31-42.

Biographical sketch

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OD XML-A DO VIZUALNOG OZNAČIVANJA PRIJEDLOZI METODOLOGIJA ZA ISTRAŽIVANJE DIGITALIZIRANE SREDNJOVJEKOVNE GLAGOLJIČKE GRAĐE

Sažetak

Rukopisi su često temeljni istraživački izvori za istraživače iz raznih disciplina. U današnje vrijeme ta su istraživanja potpomognuta novim alatima temeljenim na informacijskoj tehnologiji. U ovom članku opisane su različite metodologije temeljene na označivanju koje se mogu koristiti pri istraživanju rukopisa u digitalnom okruženju. U prvom dijelu članka objašnjeni su pojmovi označivanja i XML-a (eXtensible Markup Language). U drugom su dijelu prikazane rezličite metodologije temeljene na označivanju koje se mogu primijeniti u dvama vrstama istraživanja, i to TEI i TEIMark koji se koriste za označivanje transkribiranih inačica rukopisa i preporučuju se za istraživanja samih tekstova, i DocMark koji se koristi za označivanje i analizu digitaliziranih inačica rukopisa i preporuča se za istraživanja teksta u ukupnošću s njegovim fizičkim kontekstom. Uz to, opisan je History Integrator, program koji rukopise smješta u kontekst vremena i prostora te im nadodaje multimedijski sadržaj.

Ključne riječi: digitalna humanistika, označivanje, XML, TEI, alat za označivanje slika, analiza slika označenih u mrežnom okruženju, hrvatska srednjovjekovna glagoljička građa

II.

New Conceptual Models for Information Organization

LINKED DATA FOR MANUSCRIPTS IN THE SEMANTIC WEB

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Abstract
This paper briefly describes the basic concepts of Resource Description Framework (RDF), the basis of linked data in the Semantic Web. It then discusses how the elements of bibliographic metadata are identified and represented for machine-processing within the RDF environment, and the current status of elements specific to the cataloguing of manuscripts. The paper describes in detail a simple methodology for creating metadata in the form of RDF statements or triples from existing bibliographic records, using examples from manuscript descriptions. The paper concludes with a number of questions about the interaction of the manuscripts community with the Semantic Web.

Keywords
Resource Description Framework (RDF), linked data, Semantic Web, manuscript cataloguing, bibliographic namespaces, legacy metadata

Basic concepts of the Semantic Web and Resource Description Framework

The Semantic Web is the "web of linked data" envisioned by the W3C to "enable people to create data stores on the Web, build vocabularies, and write rules for handling data" and to "enable computers to do more useful work ".[1] Computers are networked on a global scale, operate 24 hours a day and seven days a week, and can process data in suitable formats much faster than a human being. The Semantic Web therefore needs a standard machine-processable format for stored data, vocabularies, and data-handling rules. The format recommended by the

1 W3C Semantic Web. Main page. Last modified: 2012 [cited: 2012-04-09]. Available at: http://www.w3.org/2001/sw/wiki/Main_Page

W3C is Resource Description Framework (RDF),[2] which stores data as simple, single statements known as triples, and supports rule-based processing. The ability to process rules allows a form of logical reasoning or inferencing, the "semantic" in the Semantic Web. While computers cannot determine the veracity of a single triple, they can detect incoherency in a set of triples using such rules.

A triple is so-called because it requires each statement to be in three parts: the subject of the statement, the nature or aspect of the subject, and a value for that aspect. The three parts are usually referred to, in order, as subject, predicate, and object. To all intents and purposes, this represents metadata or data about data; every triple has a subject which the statement is "about". For example, the simple statement "The title of this manuscript is 'Ode to himself'" can be represented by a triple with the subject "This manuscript", the predicate "has title", and the object value "Ode to himself": "This manuscript has title 'Ode to himself'", which has the same meaning as the original statement. Other examples of subject-predicate-object triples are "This letter" + "has author" + "Jane Doe", and "This codex" + "has material" + "papyrus".

There is a need for an unambiguous way of identifying the parts of a triple to allow efficient machine-processing. The labels used by humans, such as "This codex" and "has title" are not suitable because they are often ambiguous. Humans frequently refer to the same thing with different labels, and to different things with the same label. For example, does "title" refer to a designation of nobility, or the title of a manuscript, and does the latter include assigned titles and translated titles?

RDF requires the use of a Uniform Resource Identifier (URI) to identify components of a triple. A URI can be any combination of numbers and letters, provided it is unique. There is no intrinsic meaning to a URI; it is just a machine-readable identifying label. Human-readable labels such as "title" or "has title" can be associated with the URI for a particular predicate by using it as the subject of other triples such as "PredicateURIX" + "has label" + "title" or "PredicateURIX" + "has label" + "titre" or "PredicateURIY" + "has label" + "title of nobility".

The existing utility of the Web's Uniform Resource Locator (URL) can be exploited to create URIs. A URL is already machine-

2 W3C. RDF Working Group. Resource description framework (RDF). 2004 [cited: 2012-04-09]. Available at: http://www.w3.org/RDF/

readable with a regular syntax, and is unambiguous even at global scale. The combination of numbers and letters in a URI can look like a URL, for example "http://iflastandards.info/ns/isbd/elements/P1004", but it does not in principle lead to a Web page or other online document. There are advantages, however, in using a so-called http URI or "cool URI".[3]

RDF requires the subject and predicate of a triple to be URIs, while the object can be a URI or a literal string such as "Ode to himself". When the object of a triple is a URI, it is possible to match it to the subject of another triple, allowing the triples to be chained into "linked data".

The W3C Library Linked Data Incubator Group identified three categories of RDF representations.[4] A "dataset" is a collection of structured metadata describing things, such as manuscripts in an archive. A "value vocabulary" is a set of defined values such as a controlled terminology that can be used as the object of a triple in a dataset, for example a name authority file or list of subject headings. An "element set" is a set of defined properties and classes that can be used in a dataset, value vocabulary, or another element set to describe entities, attributes, and relationships of interest.

Identifying bibliographic metadata

It is necessary to assign URIs to the specific resources described by records in catalogues and finding aids, such as manuscripts, collections, digital surrogates, etc. These will be the subjects and objects of triples in a dataset, and require URIs. Vocabularies, authority files, subject headings, classifications, and other knowledge organization systems (KOS) need to be represented as value vocabularies so that their URIs can be the objects of triples. Triples with object URIs can form linked data, but triples with literal URIs cannot and effectively terminate a chain of one or more triples. Many controlled vocabularies used in bibliographic metadata have been published as value vocabularies, including Library of Congress Subject Headings (LCSH), French subject headings in

3 W3C. Cool URIs for the Semantic Web. W3C Interest Group note 03 December 2008 [cited: 2012-04-09]. Available at: http://www.w3.org/TR/cooluris/

4 W3C. Library Linked Data Incubator Group. Datasets, value vocabularies, and metadata element sets :
W3C Incubator Group Report 25 October 2011 [cited: 2012-04-09]. Available at: http://www.w3.org/2005/Incubator/lld/XGR-lld-vocabdataset-20111025/

Rameau, German subject headings in Schlagwortnormdatei (SWD), the Dewey Decimal Classification, and the many vocabularies in RDA: resource description and access. Mappings and other relationships between terms in different vocabularies have also been represented as linked data, for example the mappings between English, French, and German subject headings developed by the Multilingual Access to Subjects (MACS) project.[5]

It is also possible and appropriate to represent the attributes and relationships found in bibliographic schemas as RDF properties, each of which has its own URI, in an element set. These properties can then be used as the predicates in triples. Schemas published or being developed in RDF by library standards bodies include RDA, International Standard Bibliographic Description (ISBD), and Functional Requirements for Bibliographic Records (FRBR) and related models.[6] More information about the processes involved is available for RDA,[7] the Functional Requirements models,[8] ISBD,[9] and UNIMARC.[10]

Entities in schemas are usually represented in element sets as RDF classes, which define sets of things with common characteristics. In many cases it is possible to represent sub-types of entity either as a sub-class, a more specific property, or a term in a vocabulary; for example, "author" as a sub-type of "creator" can be represented as a sub-class of Creator, as the property "has author", or as the term "author" in a vocabulary of creative agents. Each approach has different advantages and disadvantages which need to be considered when using an element set to create a dataset of bibliographic linked data.

5 MACS: Multilingual Access to Subjects. Last updated: 2011 [cited: 2012-04-09]. Available at: http://www.nb.admin.ch/nb_professionnel/projektarbeit/00729/00733/index.html?lang=en

6 Dunsire, Gordon; Mirna Willer. Standard library metadata models and structures for the Semantic Web. // Library Hi Tech News 28, 3(2011), 1-12. Available at: http://www.emeraldinsight.com/journals.htm?articleid=1926531&show=abstract [cited: 2012-04-09].

7 Hillmann, Diane; Karen Coyle; Jon Phipps; Gordon Dunsire. RDA vocabularies : process, outcome, use. // D-Lib magazine 16, 1/2(2020). Available at: http://www.dlib.org/dlib/january10/hillmann/01hillmann.html [cited: 2012-04-09].

8 Dunsire, Gordon. Interoperability and semantics in RDF representations of FRBR, FRAD and FRSAD. // Concepts in context : proceedings of the Cologne Conference on Interoperability and Semantics in Knowledge Organization, July 19th-20th, 2010 / edited by Felix Boteram, Winfried Gödert and Jessica Hubrich. Würzburg : ERGON, 2011. Pp. 133-147.

9 Willer, Mirna; Gordon Dunsire; Boris Bosancic. ISBD and the Semantic Web. // JLIS.it: Italian Journal of Library and Information Science 1, 2(2010). Available at: http://leo.cilea.it/index.php/jlis/article/view/4536 [cited: 2012-04-09].

10 Dunsire, Gordon; Mirna Willer. UNIMARC and linked data. // IFLA Journal 37, 4(December 2011), 314-326. Also available at: http://www.ifla.org/files/hq/publications/ifla-journal/ifla-journal-37-4_2011.pdf [cited: 2012-04-09].

Schemas have differing purposes. The Functional Requirements family of models analyse the attributes of, and relationships between, entities which support sets of user-centred tasks. ISBD provides a record structure and content standard for the exchange of national bibliographic metadata. UNIMARC is an encoding standard for ISBD records and authority records based on Functional Requirements for Authority Data (FRAD). There is significant overlap in the entities, attributes, and relationships identified by each standard, but there has been little or no opportunity to avoid duplication in the RDF representations because of the differing stages of development and lack of a co-ordinating infrastructure. This is unlikely to be a significant issue in the future because alignments between standards can also be represented in RDF for machine-processing.

A namespace is a set of URIs with the same common root or "base domain" managed with a single infrastructure. Each element set of RDF classes and properties and each value vocabulary usually has its own namespace; for example "http://iflastandards.info/ns/isbd/terms/contentform/" is the base domain for the namespace for the ISBD content form vocabulary. URIs are created by adding a "local part" to the base domain; the local part must be locally unique, and the base domain must be globally unique. For example "http://iflastandards.info/ns/isbd/terms/contentform/" plus the local part "T1009" gives the URI "http://iflastandards.info/ns/isbd/terms/contentform/T1009" for the content form labelled "text".

The overlap between bibliographic standards results in the same, or very similar, properties in different namespaces; for example, both ISBD and RDA have properties for "title proper". This overlap extends to other namespaces relevant to bibliographic metadata, including Dublin Core and the Bibliographic Ontology. This results in a choice of which URI to use in a triple, which will be influenced by the context of the namespace and the relationship between the class, property, or value and other elements in the namespace and, indeed, other namespaces.

Identifying manuscripts

There are, as yet, no published namespaces exclusively intended to for application to manuscripts and their collections.

The general bibliographic namespaces contain elements and values which pertain to manuscripts as well as other forms of information resource, such as the property "title" and term "paper". In addition, some namespaces include elements that are specific to manuscripts. For example, there are over 40 properties[11] and 8 value vocabulary concepts[12] with "manuscript" in their labels in the Open Metadata Registry.[13]

The importance of representing metadata for manuscripts in RDF is exemplified by the development of Collex, "an open-source collections- and exhibits-builder designed to aid humanities scholars working in digital collections or within federated research environments like NINES [Nineteenth century Scholarship Online]".[14] Collex uses RDF "[t]o make the relationships between objects more explicit" and allow users to add their own descriptive tags to objects.[15]

Methodology for creating linked data from bibliographic records for manuscripts

Very large numbers of bibliographic records exist, but not as linked data. It is very difficult to estimate just how many. The largest union catalogue, OCLC's WorldCat, has several hundred million records in its database, but these have been contributed by a small minority of the world's libraries and archives. It is very likely the total number of records is in the billions. The number of distinct information resources described by those records is also unknown, as a single resource may be the focus of multiple duplicate records.

Most of the metadata contained in such records is of high quality relative to other sources of metadata, such as social networking websites ranging from Wikipedia to local reader circles. The metadata has usually been created by highly trained and experienced cataloguers and indexers using standards developed over decades. Each record may generate many triples, perhaps 30 from a single MARC record. There are therefore potentially very, very large numbers of triples currently locked inside catalogues and finding-aids. Releasing this data to the Semantic Web will provide raw material for the development of applications and services taking advantage of the utility of linked data, as well as promote professional standards and practices.

11 See: http://metadataregistry.org/schemaprop/search?sq=manuscript&commit=Search+Element+Sets [cited: 2012-04-09].

12 See: http://metadataregistry.org/conceptprop/search?concept_term=manuscript&commit=Search+Vocabularies [cited: 2012-04-09].

13 Open Metadata Registry [cited: 2012-04-09]. Available at: http://metadataregistry.org/

14 Collex [cited: 2012-04-09]. Available at: http://www.nines.org/about/software/collex/

15 Knight, Kim. Collex : research report. 2006 [cited: 2012-04-09]. Available at: http://transliteracies.english.ucsb.edu/post/research-project/research-clearinghouse-individual/research-reports/collex

From record to triples in 9 stages

The following methodology produces linked data triples from existing metadata records. It can be adapted to the creation of triples from scratch, and can be applied to any type of information resource, including manuscripts. No special software tools are required, and it is possible to carry out the process manually using a text editor. However, large-scale processing would require the development of specific programs and workflows to extract and map the data from multiple records, as for example in the projects involving the British National Bibliography.[16]

Step 1: Take a record

Linked data requires a description of a resource to be presented as a set of statements, with each statement giving a value which describes a specific aspect of the resource. This allows a single triple to represent each statement by storing the value as its object and the aspect as its predicate or property. The subject of every triple is the same: the resource itself.

For example, a description of a scientific manuscript might include information about its title, who wrote it and when, what subjects are covered, what material is used, and so on. This information needs to be laid out as a set of pairs of attributes and their values, as shown in Table 1.

Field/attribute	**Value**
Record ID	54321
Title	Notes on an electrical experiment
Author	Michael Faraday
Date	1845
LCSH	Impedance (electricity)
Material	Paper
Content form	Text

Table 1.
Attributes and their values for a simple description of a manuscript

16 Wilson, Neil. Establishing the connection : creating a linked data version of the BNB. 2011 [cited: 2012-04-09]. Available at: http://www.slideshare.net/nw13/establishing-the-connection-creating-a-linked-data-version-of-the-bnb

This is usually the way that information is stored as fields in, or available for export from, a machine-readable database. A unique value is required to act as an identifier for the set of statements. It will also be used as the identifier for the resource itself. The record identifier used in a machine-readable database is a useful source of the value.

Step 2: Disaggregate to single statements

The attribute/value pairs are reformatted into subject-predicate-object statements by using the record identifier as the subject of each statement, as shown in Table 2.

Record ID	**Attribute**	**Value**
54321	(has) title	Notes on an electrical experiment
54321	(has) author	Michael Faraday
54321	(has) date	1845
54321	(has) LCSH	Impedance (electricity)
54321	(has) material	Paper
54321	(has) content form	Text

Table 2.
Description formatted as a set of statements

For each statement, the attribute will form the predicate and the value will be the object. It helps to clarify the statement by making the predicate a verbal phrase. This can often be done by adding a simple possessive verb to the attribute label. For example, the last row of Table 2 can be stated as "The resource described by record 54321 has [the] content form Text".

Each statement can now be represented as an RDF data triple.

Step 3: Create URI for record

The subject of a triple must be a URI. Therefore it must be globally unique, and not used to identify any other resource. In this example "54321" may be unique to the database providing the record, but it cannot be guaranteed to be unique outside of that local environment.

Fortunately, the infrastructure which supports URLs for web pages and other documents can be used to generate a URI from a record identifier. The domain names used in URLs are unique – only one person or organization can control a domain at any one time. For example, the domain "www.nsk.hr" is licensed to the National and University Library in Zagreb, and is the basis of the URL for the Library's homepage: http://www.nsk.hr/.

A cultural heritage organization can create a "cool URI" for a resource in its collections by appending the corresponding record ID from the catalogue to a special domain, or a unique sub-folder of a general domain; for example, the special domain "MyCollectionX.com" plus "54321". Adding the "http://" prefix allows additional functionality, to give "http:// MyCollectionX.com /54321" as the URI. This is not a URL, and using it in a standard web browser will display a "page not found" error unless the organization has arranged for additional processing of the URI as if it were a URL.

Step 4: Replace record ID with URI

The record ID can now be replaced with the resource URI in the set of statements, as shown in Table 3.

Resource URI	**Attribute**	**Value**
mlx:54321	(has) title	Notes on an electrical experiment
mlx:54321	(has) author	Michael Faraday
mlx:54321	(has) date	1845
mlx:54321	(has) LCSH	Impedance (electricity)
mlx:54321	(has) material	Paper
mlx:54321	(has) content form	Text

Table 3.
Statements with the subject replaced by a URI

The resource URI is given as a compact URI (CURIE).[17] The first part, "mlx:", is an abbreviation for "http:// MyCollectionX.com/". This makes it easier for human application developers to refer to the URI, and the abbreviation is automatically expanded to obtain the full URI when processed by a computer program. The resource URI in the example can therefore be considered to be from the "My collection X" namespace, or just the "mlx" namespace. The namespace or base domain abbreviation is not fixed and each developer can choose their own, but ad hoc preferences are evolving as usage increases, especially with the schema namespaces discussed below.

17 W3C. CURIE Syntax 1.0 : a syntax for expressing compact URIs : W3C Working Group note 16 December 2010 [cited: 2012-04-09]. Available at: http://www.w3.org/TR/curie/

Step 5: Find URIs for attributes

The predicate in each statement about the resource is represented by an RDF property. RDF requires that the predicate in a triple is a URI, so the next step is to find a URI for a property matching the attribute in each statement.

Some bibliographic metadata communities have represented their schemas in RDF, with properties based on schema attributes and relationships. The URIs assigned in these representations usually have a base domain common to the schema; that is, they are managed in a namespace in the same way as the URIs for individual resources in the example collection. For example, such element set namespaces have been published for Dublin Core terms (dct), ISBD (isbd), FRBR (frbrer), RDA (rda...), Bibliographic Ontology (bibo), and others.

Attributes can be directly matched to RDF properties if they are taken from a schema that has published properties in its own namespace. For example, if a manuscript record was created using the consolidated edition of ISBD, then the attribute "Dimensions" has a corresponding property "has dimensions" in the ISBD element set namespace, with the URI "http://iflastandards.info/ns/isbd/elements/P1024".

If the source of an attribute is not known, or the schema does not have an RDF namespace, then the attribute should be matched to an equivalent property in a published element set namespace. In order to minimise loss of information, a property with the same, or nearly similar, definition as the attribute should be chosen. In order to avoid semantic incoherency, the property needs to have the same or broader definition as the attribute. If the property has a narrower definition, there is a possibility that values assigned to the attribute in any specific record will lie outside of the definition, or meaning or semantic, of the property.

There is no requirement that attributes used in a record must be matched to properties from the same namespace. Instead, it is possible to match attributes to properties from different namespaces. This can be very useful when seeking the closest possible equivalent property for each attribute. The aim is to obtain the URI of a property that has the same or broader definition as the attribute.

The first attribute in the example record is "title" or "has title". There are similar properties in most of the bibliographic element set namespaces because it is an important attribute. In some schemas, it is designated as mandatory, for example ISBD, or "core", as with RDA.

In fact, some namespaces offer a bewildering number of properties that may match a title attribute. For example, ISBD has nearly 40 properties in its namespace with "title" in the label, ranging from "has title" to "has note on parallel titles and parallel other title information". Choosing the nearest match involves comparing the definition of the attribute with the definition of the property, and taking into account additional information such as scope, cataloguing rules for the attribute, and context. For example local manuscript cataloguing guidelines may specify a method for assigning a title when the item being described lacks one; this may be very different from the approach taken by international book cataloguing rules. Workflows for choosing an appropriate property are beginning to appear, such as the LODE-BD recommendations for the AGRIS network.[18]

Other namespaces may only have one property for title, for example Dublin Core terms. Such properties will usually have a very broad definition, and are not always suitable if information loss between the statement and the triple is to be minimised. Examples of possible matches to the example record's title attribute are given in Table 4. These are taken from the Dublin Core terms, ISBD, and RDA element set namespaces.

Namespace	**Property label**	**Property definition**
dct	title	A name given to the resource.
isbd	has title proper	Relates a resource to the title proper (the chief name of a resource, i.e. the title of a resource in the form in which it appears on the preferred source of information for the resource).
rda	Title proper	The chief name of a resource (i.e., the title normally used when citing the resource).

Table 4.
Examples of "title" properties from different namespaces

If we assume that the record is based on ISBD, we can choose the "has title proper" property, with the URI "http://iflastandards.info/ns/isbd/elements/P1014", or compact URI "isbd:P1014".

18 Subirats Imma; Marcia Zeng. Report on how to select appropriate encoding strategies for producing Linked Open Data (LOD)-enabled bibliographic data. [Version 1.1] [cited: 2012-04-09]. Available at: http://aims.fao.org/lode/bd

Note that it is not possible to make such an obvious decision for some of the other attributes from the record because ISBD does not cover attributes such as “author” or “LCSH” or other types of heading or entry point. That is, the record may be based on ISBD, but it is not a purely ISBD record. This is why the ability to choose properties from different namespaces is important.

So there is no ISBD property for the next attribute, “author”. The nearest equivalent properties from the Dublin Core terms and RDA namespaces are given in Table 5.

Namespace	**Property label**	**Property definition**
dct	creator	An entity primarily responsible for making the resource.
rda	author	A person, family, or corporate body responsible for creating a work that is primarily textual in content, regardless of media type (e.g., printed text, spoken word, electronic text, tactile text) or genre (e.g., poems, novels, screenplays, blogs). Use also for persons, etc., creating a new work by paraphrasing, rewriting, or adapting works by another creator such that the modification has substantially changed the nature and content of the original or changed the medium of expression.

Table 5.
Properties corresponding to the “author” attribute

In this instance, the RDA property is likely to be closer in meaning to the “author” attribute than the Dublin Core terms property, because the RDA property has a similar label, and “primarily textual in content” in the definition narrows the focus. The URI of the RDA property is “http://rdvocab.info/roles/author” or “rdaroles:author” in compact form. The remaining attributes, with the exception of “LCSH”, can be matched to RDF properties in similar ways, as shown in Table 6.

Attribute	Property definition	Property compact URI
(has) date	Relates a resource to the date on which it is officially offered for sale or distribution to the public, usually given in the form of a year.	isbd:P1018
(has) base material	The underlying physical material of a resource.	rdagr1:baseMaterial
(has) content form	Relates a resource to a category that reflects the fundamental form or forms in which the content is expressed.	isbd:P1001

Table 6.
Attributes matched to property URIs

Note that match of the "date" attribute requires more information than available in the property definition. This information is found in the text of the consolidated edition of ISBD.

The attribute "LCSH" requires some additional processing. Library of Congress Subject Headings is a controlled vocabulary of subject topics, so the attribute can be considered to be a sub-attribute of "(has) subject". Other sub-attributes used in other records might include "Dewey Decimal Classification" or "Art and Architecture Thesaurus". In RDF, the vocabulary used for the values of a general attribute is implicit in the URI for a specific value, if a URI has been published. LCSH is one of several such "value vocabularies" that have been represented in RDF, so a URI can be found for all specific basic topics, as discussed below.

The "LCSH" attribute can therefore be represented by a more general "subject" attribute and matching property. A suitable property is available in the Dublin Core terms namespace, with the definition "The topic of the resource" and compact URI "dct:subject".

Step 6: Replace attributes with URIs

The attributes in the statements derived from the example record can now be replaced by the matching property URIs, as shown in Table 7.

Subject URI	Attribute property URI	Value
mlx:54321	isbd:P1014	Notes on an electrical experiment
mlx:54321	rdarole:author	Michael Faraday
mlx:54321	isbd:P1018	1845
mlx:54321	dct:subject	Impedance (electricity)
mlx:54321	rdaGr1:baseMaterial	Paper
mlx:54321	isbd:P1001	Text

Table 7.
Statements with the attribute replaced by a property URI

Step 7: Find URIs for values

If object of a triple is a URI rather than a literal value, then a machine can link it to the subject URI of another triple. This is the basic idea of linked data in the Semantic Web.

Values in the record which are taken from controlled vocabularies may have URIs. If the vocabulary has a representation in RDF, each term will have a URI, required for the subject of triples storing data about each term, such as its definition, and preferred and alternate labels or names, etc.

Bibliographic authority files traditionally control the labels used as headings for "authors", including artists, performers, directors, and other roles, and subject topics and classification notations. More recently, RDA has introduced controlled vocabularies for many other bibliographic attributes, and ISBD uses controlled terms in its area 0 for content form and media type. URIs for the values in the example record may therefore exist for the author, subject, material, and content form statements. They are unlikely to exist for the title and date statements, as these are not usually controlled. There is an RDF representation of the Virtual International Authority File (VIAF).[19] Searching for "Michael Faraday" leads to the heading "Faraday, Michael, 1791-1867". This has the URI, of "http://viaf.org/viaf/38158158", displayed as a "Permalink" on the VIAF website. This can be given the compact URI "viaf:38158158".

Library of Congress Subject Headings has an RDF representation available from the Library of Congress Authorities & Vocabularies

19 VIAF: Virtual international authority file. © 2010-2011 [cited: 2012-04-09]. Available at: http://viaf.org/

service.[20] The URI for the subject heading "Impedance (electricity)" is given as "http://id.loc.gov/authorities/subjects/sh85064610". A compact form is "lcsh:sh85064610".

RDA has a controlled vocabulary for base materials, with an RDF representation available from the Open Metadata Registry.[21] The concept "paper" has the URI "http://rdvocab.info/termList/RDA-baseMaterial/1011", which can be shortened to "rdabm:1011". The ISBD vocabulary for content form also has an RDF representation in the Open Metadata Registry. The concept "text" has the URI "http://iflastandards.info/ns/isbd/terms/contentform/T1009", which can be given as the compact URI "isbdcf:T1009". It is worth noting that the same URI has preferred labels for "text" in Spanish, as "texto", and in Croatian, as "tekst".

Step 8: Replace values with URIs

The values of the statements corresponding to the example record can now be replaced with URIs where available, as shown in Table 8.

subject	**predicate**	**object**
mlx:54321	isbd:P1014	"Notes on an electrical experiment"
mlx:54321	rdarole:author	viaf:38158158
mlx:54321	isbd:P1018	"1845"
mlx:54321	dct:subject	lcsh:sh85064610
mlx:54321	rdaGr1:baseMaterial	rdabm:1011
mlx:54321	isbd:P1001	isbdcf:T1009

Table 8.
Set of RDF triples derived from statements

Each statement has been reformulated as an RDF triple, with a subject and predicate URI, and an object URI or literal. Literals are enclosed in double quotes.

20 Library of Congress. Authorities and vocabularies [cited: 2012-04-09]. Available at: http://id.loc.gov/

21 Metadata Management Associates RDA base material. Last updated 2009 [cited: 2012-04-09]. Available at: http://metadataregistry.org/vocabulary/show/id/35.html

Step 9: Publish triples (linked data)

The final step is to publish the set of RDF triples derived from the example record. Triples can be stored and displayed in a number of formats, called serializations. One of these uses terse triple language (ttl), which makes it easier to see the three-part structure of each triple. If compact URIs are used, the set of triples must be preceded by a declaration of the abbreviations used, so that the proper URI can be reconstituted automatically. The ttl serialization of the example triples is shown in Figure 1.

```
@prefix dct: <http://purl.org/dc/terms/> .
@prefix isbd: <http://iflastandards.info/ns/isbd/elements/> .
@prefix isbdcf: <http://iflastandards.info/ns/isbd/terms/contentform/> .
@prefix lcsh: <http://id.loc.gov/authorities/subjects/sh85041643> .
@prefix mlx: <http://.../> .
@prefix rdabm: <http://rdvocab.info/termList/RDAbaseMaterial/> .
@prefix rdaGr1: < http://rdvocab.info/elements> .
@prefix rdarole: <http://rdvocab.info/roles/> .
@prefix viaf: <http://viaf.org/viaf/> .
mlx:54321 isbd:P1014 “Notes on an electrical experiment” .
mlx:54321 rdarole:author viaf:38158158 .
mlx:54321 isbd:P1018 “1845” .
mlx:54321 dct:subject lcsh:sh85064610 .
mlx:54321 rdaGr1:baseMaterial rdabm:1011 .
mlx:54321 isbd:P1001 isbdcf:T1009 .
```

Figure 1.
TTL serialization of a set of triples

The triples can now be used to link to other triples. A human-readable version of the original example record can be reconstituted using triples from the value vocabularies which link to the preferred labels for the concepts. For example, a triple in the ISBD content form vocabulary has the URI for “text” concept as its subject, with a URI for the property “preferred label” as its predicate, and the literal “text” as its object. The property is itself taken from the Simple Knowledge Organization System (SKOS) element set. Similarly, VIAF uses a property from the Friend of a Friend (FOAF) element set to link the URI for a person to the authorized form of their name, while LCSH uses a property from the Metadata Authority Description Schema (MADS) to link the URI for a subject to the authorized form of heading.

Another way of displaying triples is as a graph, in which nodes represent the subject and object of a triple, with a connecting line representing the predicate. A round node is used for a subject or object URI, while a rectangular node displays an object literal. The connecting line uses an arrow to indicate the direction from subject to object. The RDF graph for the reconstituted record is shown in Figure 2.

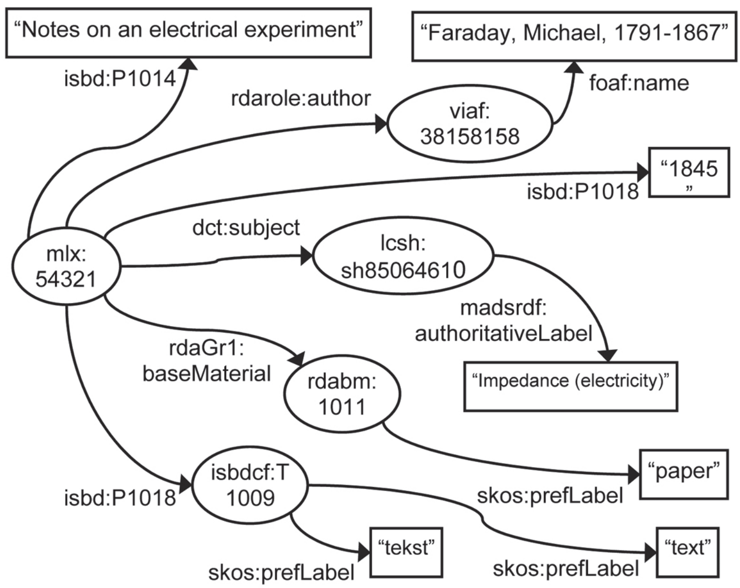

Figure 2.
RDF graph of linked data corresponding to an example record for a manuscript

The graph includes the Spanish and Croatian translations of the ISBD content form, showing how useful the linked data approach can be: these terms can be used by Spanish and Croatian speakers to find the manuscript described.

Any of the URI (round) nodes in the graph can be linked to a node in another graph or set of triples by matching the URI. For example the manuscript graph could be linked to the graph of a digitized version or a commentary by using properties based on entity relationships. Ultimately, the Semantic Web may consist of a single, very large graph connecting all information resources.

Conclusion

The utility of metadata for manuscript resources can be improved by representation in RDF as linked data for the Semantic Web. There is currently no widely-available infrastructure focussing specifically on manuscripts, but components of element sets and value vocabularies for general bibliographic resources are likely to cover many of the specific needs of manuscript scholarship and curation. It is possible to create linked data from scratch, or convert it from existing metadata records, using small-scale manual methods.

This paper leaves a number of questions for further study, research, and application:

- Is there a need for new RDF classes and properties to describe aspects of manuscripts that are not covered by general library and archive element sets?
- Is it more efficient and effective to create RDF triples describing manuscripts from scratch, or by creating the metadata in existing record structures and then converting it?
- What tools are required to create, store, and publish triples for manuscripts more effectively?
- What kinds of systems are needed to integrate manuscript metadata into semantic resource discovery services?
- Will a semantic view of metadata for manuscripts lead to changes in cataloguing and indexing practices, and what training will be required for manuscript cataloguers and indexers?

References

Collex [cited: 2012-04-09]. Available at: http://www.nines.org/about/software/collex/

Dunsire, Gordon. Interoperability and semantics in RDF representations of FRBR, FRAD and FRSAD. // Concepts in context : proceedings of the Cologne Conference on Interoperability and Semantics in Knowledge Organization, July 19th-20th, 2010 / edited by Felix Boteram, Winfried Gödert and Jessica Hubrich. Würzburg : ERGON, 2011. Pp. 133-147.

Dunsire, Gordon; Mirna Willer. Standard library metadata models and structures for the Semantic Web. // Library Hi Tech News 28, 3(2011), 1-12. Available at: http://www.emeraldinsight.com/journals.htm?articleid=1926531&show=abstract [cited: 2012-04-09].

Dunsire, Gordon; Mirna Willer. UNIMARC and linked data. // IFLA Journal 37, 4(December 2011), 314-326. Also available at: http://www.ifla.org/files/hq/publications/ifla-journal/ifla-journal-37-4_2011.pdf [cited: 2012-04-09].

Hillmann, Diane; Karen Coyle; Jon Phipps; Gordon Dunsire. RDA vocabularies : process, outcome, use. // D-Lib magazine 16, 1/2(2020). Available at: http://www.dlib.org/dlib/january10/hillmann/01hillmann.html [cited: 2012-04-09].

Knight, Kim. Collex : research report. 2006 [cited: 2012-04-09]. Available at: http://transliteracies.english.ucsb.edu/post/research-project/research-clearinghouse-individual/research-reports/collex

Library of Congress. Authorities and vocabularies [cited: 2012-04-09]. Available at: http://id.loc.gov/

MACS: Multilingual Access to Subjects. Last updated: 2011 [cited: 2012-04-09]. Available at:
http://www.nb.admin.ch/nb_professionnel/projektarbeit/00729/00733/index.html?lang=en

Metadata Management Associates RDA base material. Last updated 2009 [cited: 2012-04-09]. Available at: http://metadataregistry.org/vocabulary/show/id/35.html

Open Metadata Registry [cited: 2012-04-09]. Available at: http://metadataregistry.org/

Subirats Imma; Marcia Zeng. Report on how to select appropriate encoding strategies for producing Linked Open Data (LOD)-enabled bibliographic data. [Version 1.1] [cited: 2012-04-09]. Available at: http://aims.fao.org/lode/bd

VIAF: Virtual international authority file. © 2010-2011 [cited: 2012-04-09]. Available at: http://viaf.org/

Willer, Mirna; Gordon Dunsire; Boris Bosancic. ISBD and the Semantic Web. // JLIS.it: Italian Journal of Library and Information Science 1, 2(2010). Available at: http://leo.cilea.it/index.php/jlis/article/view/4536 [cited: 2012-04-09].

Wilson, Neil. Establishing the connection : creating a linked data version of the BNB. 2011 [cited: 2012-04-09]. Available at: http://www.slideshare.net/nw13/establishing-the-connection-creating-a-linked-data-version-of-the-bnb

W3C. Cool URIs for the Semantic Web. W3C Interest Group note 03 December 2008 [cited: 2012-04-09]. Available at: http://www.w3.org/TR/cooluris/

W3C. CURIE Syntax 1.0 : a syntax for expressing compact URIs : W3C Working Group note 16 December 2010 [cited: 2012-04-09]. Available at: http://www.w3.org/TR/curie/

W3C. Library Linked Data Incubator Group. Datasets, value vocabularies, and metadata element sets : W3C Incubator Group Report 25 October 2011 [cited: 2012-04-09]. Available at: http://www.w3.org/2005/Incubator/lld/XGR-lld-vocabdataset-20111025/

W3C. RDF Working Group. Resource description framework (RDF). 2004 [cited: 2012-04-09]. Available at: http://www.w3.org/RDF/

W3C Semantic Web. Main page. Last modified: 2012 [cited: 2012-04-09]. Available at: http://www.w3.org/2001/sw/wiki/Main_Page

Biographical Sketch

Gordon Dunsire is an independent consultant since 2010. Before that he was Depute Director (2002-2009) and Head (2009-2010) of the Centre for Digital Library Research, University of Strathclyde, Glasgow. His current research activity is focussed on the Semantic Web and includes: representation of metadata content and structure standards, development of application building blocks such as application profiles, and development of alignment and mapping methodologies for elements from different schema and communities. He publishes widely in the field.

He has received several professional awards, and is a member or chair of a number of professional affiliations such as CILIP Dewey Decimal Classification Committee, CILIP/BL Committee on RDA, DCMI Advisory Board, DCMI Bibliographic Metadata Task Group, IFLA Classification and Indexing Section, IFLA FRBR Review Group, IFLA Namespaces Technical Group, and IFLA ISBD Review Group. He was a member of the W3C Library Linked Data Incubator Group.

POVEZANI PODACI ZA RUKOPISE U SEMANTIČKOM WEBU

Sažetak

U radu se ukratko opisuju osnovni pojmovi Okvira za opis građe (RDF: Resource Description Framework), osnove za povezane podatke u semantičkom webu. Raspravlja se o identifikaciji bibliografskih metapodataka i njihovom prikazu za strojnu obradu u okruženju RDF-a te o trenutnom statusu elemenata specifičnih za katalogizaciju rukopisa. Rad detaljno opisuje jednostavnu metodologiju za izradu metapodataka u obliku RDF tripleta iz postojećih bibliografskih zapisa na primjerima opisa rukopisa. Zaključuje se s brojnim pitanjima o interakciji zajednice koja proučava rukopise i semantičkog weba.

Ključne riječi: Okvir za opis građe (RDF: Resource Description Framework), povezani podaci, semantički web, katalogizacija rukopisa, bibliografski imenski prostori, baštinski metapodaci

The Challenges of Manuscript Description in the Information Landscape of the Modern Library

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Abstract

The article begins with an overview of the broad traditions of manuscript description and a detailed account of the different types of manuscripts and their interlinking with general library collections. Today's cataloguing of manuscripts is integrated into the information landscape of the modern library: the article discusses the presentation of manuscripts on websites, specialized databases for manuscripts at local or national level and the integration of manuscript descriptions into general comprehensive online catalogue systems, illustrating the opportunities and problems of these options. The article also considers databases for particular features of manuscripts (bindings, watermarks, etc.), research surveys and discusses how they can be integrated into manuscript cataloguing. The use of authority files, the challenges of portals and the impact of digitization on manuscript cataloguing are discussed. The article considers the options for integrating existing material into modern internet architectures and presenting descriptions at different levels for different audiences.

Keywords

cataloguing of manuscripts, integration of manuscript catalogues in the modern information landscape, databases for manuscripts

The tradition and legacy of cataloguing manuscripts

Historical manuscripts are the oldest holdings in libraries. It is not surprising then that they are not only witnesses to the history of text traditions, ownership and provenance, reading and studying (and thus knowledge and culture) but that they also have a long tradition of being assembled in collections and being described and catalogued. Manuscripts have been listed ever since they were first integrated into collections and libraries, mainly in hand-written lists of holdings, inventories, lists of treasures, and then before long in catalogues. Usually these repertories comprised short entries but the knowledge they contain about the items and their relevance for today's tracing of the history of a manuscript should not be underestimated. From the beginning of the 19th century, libraries began to publish printed catalogues of manuscripts in order to make these unique items known to a growing international community of research and knowledge interested in these resources. Usually manuscripts have been the first part of a library's collection to be communicated to an audience wider than the local institutional community, and so they can be considered to be the pioneers of today's general availability of catalogues on the internet.

Printed catalogues have developed from original short entries into presenting more and more detailed descriptions of these unique manuscript items. The development of these descriptions has gone hand in hand with an increase in knowledge and intense research activities, mainly in codicology and palaeography but also through the interest of art history in illuminations.

Manuscripts are not only described in the context of library cataloguing. We also find detailed descriptions, sometimes exclusively, in exhibition catalogues. Whenever manuscripts are loaned for exhibition, they should be described to the highest standards by knowledgeable curators, and these descriptions should be published in the exhibition catalogue and made available on the Internet. As pioneers of this practice, early travel literature provides numerous descriptions of valuable items in library or museum collections. Detailed descriptions of manuscripts, mostly created by specialists, are given in auction catalogues. And finally, for the most outstanding manuscripts, there are commentaries in facsimile editions of prestigious mostly illuminated manuscripts. Critical text editions also provide detailed descriptions of manuscripts which are a primary or important source for establishing texts.

The modern library information landscape offers opportunities for presenting existing information thanks to the digitization of these resources and their appropriate linking to a machine-readable record of the manuscript.

The earliest examples of cataloguing from the 16th century show two different approaches to presenting manuscripts, both of which are still familiar to us today. One is 'holdings centred', with one catalogue for manuscripts and print; and the other is the creation of separate catalogues for manuscripts and printed books, probably in order to reflect the uniqueness of manuscripts or to take account of the different methods and knowledge necessary for reading or consulting these items. Both approaches are also followed in the grouping of books into a broad subject approach: theology, law, medicine, literature, etc., reflecting the traditional systematic order of books in libraries. This subject approach is once again a requisite nowadays in order to create pathways into digital libraries.

It was not until the 19th and 20th centuries with the development of knowledge of palaeography and codicology for manuscripts, and the aim and increasing feasibility of international data sharing in the world of IFLA's universal bibliographic control for printed books, that differences in the cataloguing traditions and the needs of manuscripts and printed books began to be underlined and developed. In the modern information landscape of the late 20th and early 21st centuries, however, new technological approaches to cataloguing - with the use of authority files and standardized more flexible formats and character sets, the integration of different resources (maps, printed music, audiovisual material, electronic resources, etc.) into a single catalogue and the opportunities for digitization - allow us and, indeed, put pressure on us to create a common information retrieval environment for all forms of information resources. This encompasses manuscripts as well as printed books and reaches far beyond these two categories of traditional library material.

Differentiation of manuscripts

In order to understand the challenges of manuscript description in the information landscape of the modern library, it is worth considering what is meant by the term 'manuscripts' and the kind of differentiation which must be taken into account. In fact, the world of manuscripts is far from being homogenous, and this translates into cataloguing and description. The most common understanding is that manuscripts are the earliest records of written and surviving text culture, the 'books' existing prior to the invention of printing. The main materials are papyrus, parchment and paper but also textile materials (silk), etc. But there are even older records: cuneiform tablets, wax tablets and wood inscriptions, which pre-date manuscripts, but for descriptive purposes they are often considered as part of manuscript culture.

Manuscripts are appreciated as part of the text tradition and must be carefully described in this respect, but they are also unique cultural items as art and museum objects. They are therefore to be described in detail as material objects. This concerns their layout, for example, and in particular their illumination, bindings and provenance.

Usually a chronological division is made between medieval and modern manuscripts. The line is usually drawn around 1530/1550, at the point at which printed book culture was firmly established. But this should not allow us to forget that a flourishing manuscript culture continued into the 17^{th} and 18^{th} and even the 19th centuries, a subject that has not yet been sufficiently studied and appreciated both in its differences and complementarities to the printed book. A very important distinction is that between manuscripts which are books and codices and manuscripts which are (archival, literary) papers such as letters, autographs, notes and notebooks, a live tradition until the present when documents of this kind are slowly being abandoned and replaced by 'born digital' resources. These papers, which are sometimes (and misleadingly) called 'modern manuscripts' are also traditional library materials, shared with the world of archives.

Manuscripts have not only transmitted texts throughout the centuries; we also have manuscript maps, architectural plans and globes. Music manuscripts are among the most numerous and are still flourishing.

Inside a library's collection useful distinctions are made between West European, Oriental, Asian, Latin American, Australian and African manuscripts; languages or groups of languages may be distinguished; and a differentiation made between text manuscripts, illuminated manuscripts and music or maps manuscripts.

All these distinctions and categories have their own proper characteristics and demands and have an important influence on the description and cataloguing of these documents.

Last but not least, manuscripts do not stand alone in a library's collection but are interwoven in different ways with other parts of the collection. We become more and more aware of the unity of manuscripts and print in composite volumes, where a manuscript is bound with printed items. Manuscript fragments can be found on or in bindings. We find bound codices in archival papers; and very often a collection of letters, which has been bound as a codex in early modern times, is now part of the codex collection because of its physical aspect. Legacies of papers can often comprise 'libraries' mainly of printed books and other documents, for example, photographs and various collections, etc. These variations have to be taken into account in description and cataloguing, and a way has to be found to deal with them. All this argues in favour of not isolating manuscripts from the rest of the collection but integrating them within general information tools in an appropriate way.

Modern cataloguing of historical manuscripts

Today's description and cataloguing of historical manuscripts is integrated into the information landscape of the modern library, which means that it is shaped by the opportunities and challenges of computerization and the Internet. Within this landscape three approaches to manuscript description can be distinguished: presentation on different websites; the establishment of specialized library databases for historical manuscripts (or archival papers) at local or national level; and the integration of manuscript descriptions into general comprehensive online catalogue systems.

All three approaches rely on the same technical infrastructure, and so they should not be considered as mutually exclusive but as converging: they may even be considered as a step-by-step approach aimed at the best description of the manuscripts item by item and the collection as a whole.

Websites

Since historical manuscripts are unique, they make a unique contribution to shaping and defining a library's special distinctive and different character. Libraries are therefore proud to describe their manuscript collections on their homepages and via the web.

Depending on the number of manuscripts and the state of cataloguing of the collection, libraries can offer either a short or a more complete overview. As well as general descriptive text, a website can make available lists of various types, for example, a list of manuscript shelfmarks, which are of particular importance, being the unique identifiers of these items. The lists can be in different order: chronological, linguistic, by subject and by provenance. This may be the opportunity to communicate or establish a structure within the collection, presenting collection level descriptions.

It goes without saying that digital copies of complete or parts of manuscripts can be linked to this type of information. Detailed manuscript descriptions created by a text processing system and established as a pdf file can also be linked to individual items in these lists.

Nowadays this information is easily retrievable by a simple Google search and so the manuscripts are widely disseminated without any major publishing effort, an enormous service to research worldwide. It is therefore important to give the name of the author of the description where it is of academic standard and to point to the 'in progress' state of the description along with a date.

The website also allows the presentation of a list of historical catalogues describing the manuscripts linked to a digital copy of the catalogues (without copyright restrictions). It is not important whether this catalogue or list is handwritten or printed, but it should contain some structured guidance for users in order to facilitate browsing and navigation in the digital images. Exhibition catalogues may be advertised or even made available here as well.

The website offers many opportunities for adding short-term established information and other features, for example, educational material, lists of bookmarks and library stamps, an overview of paleographical and codicological features or a detailed account of the restoration of an item.

Although presentation through a website is a necessary and important factor in making the collection known, this can never be a long-term investment even although websites are now harvested for long-term archiving. A living website is continuously reconstructed and recreated and links can break and features disappear, so it needs continuous care and migration. It is certainly not a final and secure place for information on manuscripts.

Specialized manuscript cataloguing databases

Cataloguing is more than a website presentation since its impact is far greater than merely making the collection known. It is essentially directed towards users, allowing them to find, identify, select and obtain access to items. Nowadays it also serves to ensure the visibility of an item in wider contexts (portals, on the Web), and it may allow direct access to a digital copy of the original. Thus today's cataloguing is closely linked to metadata provision and data migration and transfer, ensuring that data are not just kept in one context but can be integrated into other wider contexts. Cataloguing is governed by concepts, standards and rules. In an online environment formats are essential.

The academic cataloguing of historical manuscripts aims to describe them in extensive detail for researchers. Traditionally intended for publication in printed catalogues and enjoying – before digitization – the rare opportunity of inspecting the unique manuscript thoroughly and from a scholarly perspective, manuscript cataloguing has tended to take quite an independent approach in the extension of the description and use of terminology. Nevertheless, in order to ensure a financially viable approach with comparable results, rules were established or emerged from following the practice of famous exemplary manuscript catalogues. In Germany, the main funding agency for academic manuscript cataloguing, Deutsche Forschungsgemeinschaft, published guidelines and rules since 1973[1] and set a target for the number of manuscripts to be catalogued every year, thus imposing a limit on the uncontrolled growth of information. Today experienced manuscript cataloguers realise that they are only guiding research in pointing to the item, indicating lines that should be followed for further research, and that enabling comparison and overview are important aspects for a consistent approach. On the other hand, the availability of a growing number of excellent information resources, not least digitized manuscripts, enables better identification and comparison, which also takes time for identification and evaluation. So manuscript cataloguing has gone from a very individual highly descriptive approach to greater standardization; and it will again be modified to some extent by the hitherto unimaginable visual availability of digital copies open to everyone on the Internet.

In the late 1990s the German national database for manuscripts, Manuscripta Mediaevalia, was developed under the auspices of Deutsche Forschungsgemeinschaft.[2] In spite of various shortcomings, it is

1 Richtlinien Handschriftenkatalogisierung / Deutsche Forschungsgemeinschaft, Unterausschuß für Handschriftenkatalogisierung. 5. erw. Aufl. Bonn-Bad Godesberg : Dt. Forschungsgemeinschaft, 1992 [cited: 2012-05-10]. Available at: www.manuscripta-mediaevalia.de/hs/katalogseiten/HSKRICH.htm. 1973, a first separate edition was published, followed by a second in 1974 and a third in 1983. The latest 5th edition is currently under revision taking into account the new developments of cataloguing within a database.

2 Fabian, Claudia. Le catalogage des manuscrits médiévaux et de la Renaissance sur le réseau moderne informatique des bibliothèques : un apercu des expériences allemandes. // Linking the worlds of script and print : catalogues of European manuscripts and early printed books. London : CERL, 2009. Pp. 1-15; Fabian, Claudia. Die Handschriftenerschließung im Wandel : modernste Methoden für ältestes Kulturgut. // Information, Innovation, Inspiration : 450 Jahre Bayerische Staatsbibliothek / hrsg. Von Rolf Griebel und Klaus Ceynowa ; Redaktion Klaus Haller. München : K. G. Saur, 2008. Pp. 167- 190; Positionspapier der Handschriftenzentren : Katalogisierung, Digitalisierung, Präsentation / Claudia Fabian, Robert Giel, Christian Heitzmann, Christoph Mackert, Eef Overgaauw, Alessandra Sorbello-Staub, Bernhard Tönnies, Bettina Wagner. // Das Mittelalter 14, 1(2009): Furor, zorn, irance. Pp. 140-148. [Berlin : Akademie-Verlag] [leicht aktualisierte Version]. // Zeitschrift für Bibliothekswesen und Bibliographie 56, 5(2009), 281-286.

an advantage for a library to catalogue, describe and retrieve this material in the widest possible context and not to build its own special catalogues using Word Access or individually defined XML structures. These local specialised databases tend to fall into oblivion, often not surviving their creators, since online catalogues need continuous care, migration and adaptation. If a specialised cataloguing system is needed because of the specific descriptive requirements of, say, historical manuscripts, the wider the context the better it is for their ongoing care and adaptation and for today's vital integration into the modern information landscape.

The German manuscripts database, Manuscripta Mediaevalia, is based on XML, TEI-P5. It thus clearly shows its origins in the web publishing community. The TEI –Text Encoding Initiative, P5 standard for manuscripts, was meant for Internet presentation. Another approach to historical manuscript descriptions is provided by EAD, the Encoded Archival Description, which is widely used in archives and for manuscript cataloguing by the Bibliothèque nationale de France, for instance.

Manuscripta Mediaevalia and similar manuscript databases provide highly differentiated structures and substructures, which allow extensive free text descriptions and handle layout issues. Their value lies in the flexibility of the format, which allows the hosting of rich scholarly detailed descriptions which cannot easily fit within the format restraints of a general library catalogue. They are structured within the P5 framework according to the needs of the material. It is possible to accommodate a number of descriptions for single items within Manuscripta Mediaevalia. The records are not only item specific but also author (or catalogue) oriented. A different record can be made available for the text and the illuminations and different records may be presented to translate different historical approaches. In order to regroup them for the user, the OPAC interface builds a 'shelfmark record' 'on the fly', which points to the different full records.

Like most manuscript databases, Manuscripta Mediaevalia serves two purposes: cataloguing and access. It therefore consists of two layers: a cataloguing layer offering an editor, with a database in MXML (Manuscriptum XML); and an access layer, providing the OPAC, the Internet-accessible user interface (http://www.manuscripta-mediaevalia.de). The OPAC is intended to serve the needs of a particular public, namely research in these areas and manuscript specialists, and it is conceived as developing more and more into a portal approach. An English language user interface is under development. The OPAC offers differentiated search options for the 75,000 available manuscript descriptions via a drop down menu; searches can be limited to digital available copies or iconographic information. The portal gives a complete listing for Germany and a selective listing for some other countries where manuscripts are held ('Handschriftensammlungen') and of existing manuscript catalogues ('Handschriftenkataloge'), again according to place and language and material. The search facility could serve the research community very well if it had not to struggle with different degrees of completeness and different record structures which make satisfactory searches difficult. Some records comprise only the shelfmark and the index information from the printed catalogue with a link to the printed catalogue image; others consist of full text generated from OCR but do not give index information; and others make full use of the database with a full text description and index entries.

The database offers a number of linking options. URNs and URLs lead to the images of digitized manuscripts. From the very beginning, Manuscripta Mediaevalia was constructed to point to digitized images of printed catalogues, and it enables this after the necessary copyright issues have been cleared with printed catalogue publishers. The database allows the integration of authority files, although the inclusion of national authority files with regular updates has created foreseeable problems with maintenance. The database also allows the use of standard manuscript-specific vocabulary and terminology by enabling individual standardized vocabularies to be built, but again the maintenance of these files and vocabularies is another issue. Last but not least, OAI structures allow the distribution of information from this database to other relevant contexts. The integration of Web 2.0 features and semantic web options are on the agenda. A short glimpse at the content of a manuscript record shows the multiplicity of possible interlinking in a larger semantic web context, for example, to a bindings database like Einbanddatenbank (EBDB) (www.hist-einband.de) quoted by standard numbers;[3] to a watermark database like Piccard Online (www.piccard-online.de), quoted by standard numbers; to the

3 Einbanddatenbank [cited: 2012-05-10]. Available at: http://www.hist-einband.de/zitierweise.shtml. Stempel (s) EBDB s000000, Rollen (r) EBDB r000000, Platten (p)EBDB p000000, Werkstätten/Buchbinder (w) EBDB w000000. With the prefix and the six digit number a clear link can be automatically generated.

ISTC or Gesamtkatalog der Wiegendrucke, quoted by standard numbers; to persons and places accessible through national authority files or the Virtual Authority File (VIAF). There already are and will continue to be many more options, too.

Manuscripta Mediaevalia is not the only national database for manuscripts, although it is one of the earliest and it is the one that attempts to make the best use of legacy cataloguing. There are other national initiatives as, for example, Calames in France and Manus in Italy. The Swiss digitization project 'e-codices' also offers a centrally fed and administered cataloguing database and a very good OPAC interface. This project shows very clearly how existing manuscript descriptions can be utilized by recataloguing or by intellectual control over entering information in a database.

Nowadays local presentations of manuscripts should either be subsets of larger databases or they should be a first temporary approach, in which case Word or Excel files are just as good as more sophisticated XML structures. As automatic transfer into a larger database is a long and time-consuming process, a new manual input from a machine-readable document using simple cut and paste seems to be the safer and quickest way. This also allows for the necessary standardisation of search terms which might differ or go beyond index terms in a printed catalogue.

The OAI structuring of the manuscript database will also allow the harvesting of this information into modern central indexes for data retrieval. This means that although it is being kept in a different information resource, the data can be made accessible in an overall information landscape.

Records for manuscripts in such a specialized environment present a number of particular challenges. There is the issue of legacy data from printed catalogues. This can and should be made available in the manuscript database. The first step may be to add images of the printed catalogue to a short record for the manuscript. The shortest imaginable form is a note of the owning library and the shelfmark. The approach taken by Manuscripta Mediaevalia has been to integrate index information into the database in order to allow users to make the type of searches for which the index of a printed catalogue was previously consulted. What the user will not find in this record though is the most basic and concise information about authors and title, content, year and place and collation, all of which is information which could easily be keyboarded from the headings of a printed catalogue.

Today it is easy to OCR a digitized version of a printed catalogue and to tag it in an XML structure making use of the layout principles. In this way a more structured full-text search may be offered to the user. This was the second approach in Manuscripta Mediaevalia. The format today (MXML, Manuscripta XML) allows for this information, making a distinction between descriptive full- text paragraphs of what is called the 'print version' and access points which are index entries.

Germany's manuscript cataloguers now have different ways of inputting their descriptions into Manuscripta Mediaevalia. Some use the MXML editor offered by the database and catalogue in an online system which hides incomplete or not yet authorized 'in progress' records from users. The editor also helps in the processing of a 'printable' catalogue. Others, like those in the Bavarian State Library, prefer to continue working in a simple Word environment. As soon as a description is finished, it can be published as a pdf file on the library's website and OPAC environment. The pdf file is labelled 'work in progress', with a date and the name of the cataloguer. When all the descriptions to be published in a printed catalogue have been completed, the cataloguers re-edit their work, establish the necessary index entries, update the reference literature information, and make comparisons and draw conclusions from this broader overview. All this implies a reworking of the Word document with the manuscript description and it is only when it is finalized for print that this record, which is then considered stable, is also keyboarded by a librarian into the Manuscripta Mediaevalia database. The task of the librarian is not only to cut and paste the correct parts of the Word document into the appropriate full-text paragraphs of the 'print version', but also to edit the standardized entries and establish links to the full text as well as to authority files inside and outside the context of Manuscripta Mediaevalia.

The digital images from the printed catalogue are added to the database at a much later stage, in line with licence agreements with publishers. They are then also accessible from each individual description. The added value of this exercise is that it gives full access to the printed catalogue, and to those parts such as the introduction or, in the case of catalogues of illuminated manuscripts, comprehensive stylistic chapters which for the time being cannot yet be reproduced in the database. This shows that Manuscripta Mediaevalia is essentially a cataloguing database and not a publishing database.

This procedure highlights a major concern for database maintenance. How should the editing of existing records be handled? How should new information be added when considering a longer time span than the actual life of the database? For the time being, Manuscripta Mediaevalia is much more of a static tool, intrinsically related to printed catalogues and trying to provide online access, than it is a living database in its own right and development. This issue also has to do with copyright issues – the author of an academic manuscript description cannot be considered a normal cataloguer but rather the creator of a work for which the author has copyright until 70 years after death, even if the exploitation of this work lies with the library or funding institution. How can one keep the description made by its creator and allow for updating, integration of new information, modification of outdated or even incorrect information or simply adding more detailed information about, say, illuminations in a manuscript which has not been described by an art specialist first but through a text-oriented approach? There are options for creating different versions which might help to find a solution to this question. For the time being, very few libraries add information with a date and a name into existing descriptions and most create a new record, especially for specific new descriptions for texts or illuminations. The updating of reference literature is also a serious question. The description has been created on the basis of consulting reference works quoted within the record. Can new references be added without reworking the description? Again, there is no common vision yet on how to deal with this issue. For larger collections the solution lies in a reference database outside Manuscripta Mediaevalia but accessible from each record.[4]

Another challenge for the database lies in the language of cataloguing. The language is not only German but a highly specialist language, full of abbreviations and requiring a good level of understanding of this type of material. On the Internet this information is available to everyone – specialists and the 'interested general public'. This is desirable when the digitized manuscripts themselves are visible on the Internet and require further explanation. Technical facilities (such as mouse-over, linking to general information tools, eventually even using 'text mining' methods) may cater for better explanations but nevertheless

4 E.g.: Forschungsdokumentation Handschriften [cited: 2010-05-10]. Available at: http://www.bsb-muenchen.de/Forschungsdokumentation.172.0.html; see: Gullath, Brigitte; Wolfgang-Valentin Ikas. Zum Nutzen von E-Zeitschriften, Datenbanken und Internet-Publikationen. Neue Wege im Ausbau der BSB-Forschungsdokumentation zu Handschriften und Seltenen Drucken. // Zeitschrift für Bibliothekswesen und Bibliographie 58 (2011), 72-76.

most of the issues again involve manual editing of information. There are two approaches which would help in making our manuscripts more accessible and comprehensible to the general public, and which need to be included in our cataloguing and our databases in order to spread from there into wider contexts: a (broad) subject approach which can then be of guidance particularly in conjunction with a well prepared chronological and geographical approach. We see examples today in the World Digital Library and Europeana. Temporal and spatial information is already included in the records but it needs to be modified or developed in order to allow meaningful searching, for example, just think about statements like 'late 15th century' or 'Southern Germany'. A subject approach needs to be defined in a very broad sphere taking account of the ancient and medieval structures of knowledge. A list of generic terms relevant for this kind of material could be defined and made available in a multilingual approach through the CERL Thesaurus.

The second requirement is for a generally readable and intelligible description or presentation of a manuscript, a kind of abstract of all the knowledge detailed within the record, giving succinct information on what is special about the manuscript to non-specialist users. This sort of description is used in the World Digital Library (where the text is even read out); it is proposed for Europeana; and it is what makes the Swiss e-codices appear user friendly. The format definition of manuscript databases should allow for the insertion, presentation and conveying of this type of information. It could then be translated into English or even presented in a multilingual approach.

The language of cataloguing is also a concern as manuscripts from one country may be dispersed to several holding institutions in today's world or described by specialists worldwide in their own languages, and so there are many reasons for favouring a multilingual approach to manuscript cataloguing. In the context of Manuscripta Mediaevalia, this is a concern for the full text structure and for the index terms which since they use a controlled standard terminology, ideally an authority file, could also allow for a multilingual approach.

Another issue is the scope of the database. Calling the database Manuscripta Mediaevalia makes one wonder immediately how descriptions of post-medieval manuscripts, the *recentiora*, are handled. Many are already in Manuscripta Mediaevalia although because of its title they would not be expected there. Too narrow a definition of a specialized database implies the distribution of descriptions for items in one collection into various specialised systems, in different cataloguing tools according to the material. It is no surprise that we have a papyrus database, an oriental manuscripts database, a music manuscripts database (RISM online) and a database for archival papers, autographs and letters (Kalliope). It is up to the library to decide which tools to use to catalogue its collection. Each of these databases is optimized for its particular material and that indeed forms its strength and value, but each demands different rules, standards and formats and thus presents a challenge for curators.

The time may have come for a European or international consolidated approach to material of this kind, but there does not seem to be a European or international tool for manuscript cataloguing, although both Manuscriptorium and Manuscripta Mediaevalia offer their databases and services to a number of countries. There are, however, a growing number of portals ensuring presentation and access as, for instance, The European Library, the CERL portal and Europeana. It remains both a challenge and an ongoing task for specialized databases to present their data as meaningfully and exhaustively as possible to these and other portals.

Integration of manuscript records into general catalogues

Nowadays the integration of manuscript records into general library catalogues has reappeared as an alternative or parallel approach in manuscript cataloguing. This approach depends on general library policy. It will only be taken by those libraries whose aim is to integrate all their material into one cataloguing system. This approach has been enabled by the development of the cataloguing rules and database formats which allow the recording of such diverse materials as printed books, maps, music, photographs, audiovisual material and born digital material in one system. It is eased by the application of UNICODE, which allows the use of a wide character set, and by a more and more flexible definition of fields and field lengths. Although a MARC format for manuscript encoding has existed since the late 1990s, developed in the US in parallel to the definition of the MASTER DTD in Europe, it is still evident that a detailed description for a manuscript – as in the example of Manuscripta Mediaevalia - cannot be fully integrated into a general system. It is difficult to describe the different parts of a manuscript in sufficient detail, especially with incipit and explicit information, to give detailed listings of illustrations and to describe the binding and the page layout, sometimes even the provenance. All this would require the building of a particular and sophisticated application profile. Nevertheless, even quite a standard MARC record allows the inclusion of enough concise information about a manuscript to make it retrievable in a global context. Such a concise MARC record must be carefully defined and structured but it should make the best reuse or reinterpretation of existing fields. The definition may be guided more by access points than by the descriptive elements. It is of primary importance to document this format well and to ensure consistent coding (stating that it is a manuscript or even an illuminated manuscript) in order to treat the record in a particular way when it is technically possible to do so. Special attention should be given to the unique identifier, which is usually the shelfmark. Manuscript specialists tend to say that this is the best and most reliable way to identify and cite a manuscript, much better than author and title. In the Bavarian State Library, we therefore decided to put the shelfmark in the title field of each manuscript record. As manuscript shelfmarks are rather similar, the name of the institution precedes the shelfmark. If a title exists or has been established, the location and shelfmark are added after the title preceded by a blank dash blank. Even the uninitiated user of a general OPAC can understand that this record denotes this particular manuscript.

Example:
Augustinus, Aurelius
De magistro – BSB Clm 6322
Frankreich, 2. Hälfte 9. Jh.
I + 26 Bl. - Pergament

The integration of manuscript records into the general library catalogue has a lot of advantages. It ensures that they have the same long-term survival prospects as all the library's other records. Today the online catalogue is the library's only memory of holdings. It will thus be maintained, archived, saved, migrated and cared for to the best of the institution's capacity. This implies continuously improved user access to the information. The records do not only remain in the context of the library but are disseminated through various channels in line with different agreements. Accordingly, knowledge about the most valuable and unique items in the collection is distributed in the same way as other material, and, thanks to OAI structures, the easy transfer of data is a reality. The data can thus go into various portals, for example, the CERL portal, Karlsruher Virtueller Katalog, WorldCat and Manuscriptorium.

In today's information landscape the various linking structures provided by online catalogues are a particular asset. The records are linked to authority files, at least for personal and institutional names, and they are accessible by OPEN URL or SFX linking methods or they can make use of these links to navigate to other information resources. In the Bavarian State Library we integrate the manuscript shelfmark preceded by a unique text string into a particular field. If this is present, the system knows from the introductory string to which other systems to interrelate, for example, to the database for research documentation. Along with the uniform titles from the printed catalogue in yet another field, the system can automatically offer a link to a digitized catalogue image (in Manuscripta Mediaevalia, on a local server, in the digital library) or to a full catalogue description of the manuscript in Manuscripta Mediaevalia.

Nowadays there are even more options for access to fuller descriptions of manuscripts. There is the possibility of catalogue enrichment, adding a pdf file to a record and a file which is full text indexed and searchable. This can be done by the same methods which we use to add a table of contents for modern books. For this enrichment we can even think about using entries, say, in exhibition catalogues when they give interesting descriptions of manuscripts. In the near future it will be possible to unite the full information in the machine-readable Manuscripta Mediaevalia description to a common index. The manuscripts thus profit in a particular way from the technologically most advanced IT structures. Even the fear of some users that manuscripts may be lost in the overall general catalogue is outdated nowadays. It is possible to create individual 'views' – for example, manuscripts only – and faceted options can guide users to select or deselect manuscripts identified by a search. The full development of the OPAC, with suggest functions or implementations of Web 2.0 facilities and services, is also available for manuscripts. In a more traditional way, once manuscript records are in the general catalogue, the circulation or acquisition tools of an integrated library system can be made fully beneficial for manuscripts administration.

Even for those who cannot imagine cataloguing manuscripts in a general catalogue, the question of defining metadata for manuscripts must be addressed when it comes to digitization of the originals. If the digital objects are catalogued within the general catalogue, the day will come when digitized manuscripts must be entered in the system, and then the question will arise why OPAC access is being given to a surrogate without ensuring this for the original.

The general catalogue provides the broadest context. It shows the cultural tradition translated in the library collection as a whole. The integration of manuscripts allows users to make true and unexpected discoveries, keeps the awareness of these testimonies alive, and serves not least as one of these necessary propedeutics and incentives to manuscript studies.

Today's challenge is to prepare manuscript information for the semantic web. There are good examples of successful datamining in XML texts, a procedure which could be applied to detailed descriptions more easily than to short MARC records. The RDF approach, which allows the provision of linked open data, will be applied very soon to general catalogues where manuscript information will be of particular value.

It is only fair to mention that the integration of manuscript records in the general catalogue also has its shortcomings and challenges. It needs particular forms of adaptation and strict observation of rules and format prescriptions; and it does not yet allow the full description of the item. There are real issues of data integrity. Authorship is not an issue with these short records and so data can be changed quite easily by anyone; and the records are not sufficient to trace the history of knowledge about a manuscript. There is also an effect on data retrieval: a lot of information is left to full text search and does not thus allow the building of object specific indexes. The use of particular authority files or standardized vocabularies may be more difficult and will be a matter for the cataloguer without much technical assistance.

The sophisticated pathways from the short record to the full information (on another server) or to the research documentation via SFX or OPEN URL may only be intelligible to an informed public. They are not easily - and certainly not automatically - transferable into secondary portals and information environments.

Authority files

Authority files are a particular concern both in specialised and general catalogues. Whereas in a general catalogue the information to be controlled or linked to authority files is pre-defined, a specialised environment may allow for much more control and linking. Consequently, the entities in manuscript cataloguing which can be linked to an authority file need to be carefully defined. These certainly include names of persons and institutions for which existing general authority files can be used. New records required for manuscripts should be created in these files, e.g. for places, where a number of regions may not yet be authority file controlled, and for names of scribes and former owners. Besides this, a number of particular vocabularies in codicology, palaeography, illumination and titles are needed for a manuscript description. It is a real challenge to establish these in the context of an authority file or a thesaurus file. In some areas authoritative data are already available. They can be linked to the description by using standard identifiers, e.g. to special databases for bookbindings and watermarks.[5] A standard file for titles, also giving incipit and explicit information, and a standard file for reference works would be of great help in manuscript cataloguing. As these tasks are large and shared within the international community, the ideal place to gather this kind of information is at international level. The CERL Thesaurus built up by the Consortium of European Research Libraries already brings together a lot of this information and allows the maintenance and development of new resources in a multilingual environment making the best use of existing resources.[6]

Distribution of records

In our information landscape, records do not remain within the system in which they are created. The implementation of OAI structures allows for the harvesting of data and the definition of RDF triples for reuse within the Open Data environment, including Internet-based research projects. It is in the best interests of a data provider to see his data distributed as widely as possible. Here again general catalogues have an easier time than specialized databases. It is also noticeable that most portals provide simple broad access to data based on the central Dublin Core fields. A lot of portals like Europeana and the World Digital Library and OCLC's OAISTER focus only on digitized material. Manuscripts can play a major role in cultural portals, and many por-

5 Einbanddatenbank. Ibid.

6 Consortium of European research Libraries. CERL Thesaurus [cited: 2012-05-10]. Available at: http://www.cerl.org/web/en/resources/cerl_thesaurus/main; see: Fabian, Claudia. New conceptual models for information organization of authority data in the European context. // Summer School in the Study of Old Books : proceedings / edited by Mirna Willer and Marijana Tomic. Zadar : Sveuciliste, 2010. Pp. 237- 258.

tals such as the very early Digital Scriptorium, the online manuscript library of the University of California and the Swiss e-codices project specialize in manuscripts. A number of subject portals or projects offer different research approaches in themes, texts, reconstruction of libraries: examples include the Roman de la Rose Project, the New Testament Project and the Avicenna Project.

Other portals such as the CERL Portal and The European Library wish to integrate information about manuscripts whether they are digitized or not, and the inclusion of existing specialised databases is of great interest. The CERL portal already gives access to Calames, Manuscriptorium and MANUS among others, but it is an ongoing effort to integrate all of these specialised databases and to make sure that careful mapping and indexing of the very heterogeneously structured information in these databases permits overarching, meaningful and material specific retrieval. The way in which the CERL Thesaurus is integrated into this search is an interesting example of using external authority files to enhance the quality of retrieval in a heterogenous and multilingual environment.

The number of these portals shows the importance for the owning library of not only providing digital copies of its manuscripts but also of presenting full and detailed descriptions, which can then be enhanced by more specialized information in other portals or projects. The EC-funded project Europeana Regia shows how important it is for manuscripts not only to be added to the general gateway to culture, Europeana, but also to be maintained in their home environment (which may be a local catalogue as well as a national database) and define standards for metadata, digitization of manuscripts and quality control in this area.[7] The portals offer secondary multi-aspect faceted approaches to

7 Europeana Regia [cited: 2012-05-10]. Available at: http://www.europeanaregia.eu/en. Europeana Regia funded by the European Commission under the Information and Communication Technology Policy Support Programme (ICT PSP), from January 2010 to June 2012 digitised more than 874 rare and precious manuscripts, with the collaboration of five major libraries (Bibliothèque nationale de France (BnF), project leader, Bayerische Staatsbibliothek, Munich (BSB), the Universitat de València Biblioteca Històrica (BHUV), the Herzog August Bibliothek, Wolfenbuttel (HAB) and the Koninklijke Bibliotheek van België – Bibliothèque royale de Belgique (KBR). It comprises three collections that are currently dispersed and which represent European cultural activity at three distinct periods in history: the Biblioteca Carolina (8th and 9th centuries), the Library of Charles V and Family (14th century) and the Library of the Aragonese Kings of Naples (15th and 16th centuries). The reports of the different workpackages (among them metadata management for manuscripts, best practice for digitization of precious manuscripts, quality control aspects) will become publicly available at the end of the project.

a document, which is their particular value, but they cannot replace or supersede the responsibility of the institution for describing as exhaustively as possible all the parts of its collection and maintaining this information in a living, harvestable and re-usable form for the long term.

Digitization of manuscripts

With the increasing digitization of manuscripts new challenges arise for manuscript description. The metadata for the header of the digital object can be derived from a concise catalogue record and translated into the XML structure. New issues arise when it comes to creating a table of contents or a page by page analysis of the digital copy, indicating so-called structural metadata directly linked to the page of the digital object. Not only must the structure of information (METS, TEI) be defined but also the content provided in this context and the use of a consistent and intelligible vocabulary. This kind of information will have a great influence on manuscript cataloguing. Whereas for the time being it is part of a full academic description, usually in a comprehensive synoptic analysis from where it is taken and translated into an analytical form to help and guide the user browsing the digitized document, the question arises as to how cataloguing may be modified taking into account the scope of this analytical information structure. It is conceivable that an incipit will no longer be listed in a detailed catalogue description but only as structural metadata pointing immediately to the image. The same is true for information on illuminations. The success and implementation also depends on the possibility of making these structural metadata searchable and indexed in a differentiated way, which is likely to happen. Full-text retrieval based on transcriptions or editions of a given text is the next step. We see that this has already been achieved in Google Book Search based on OCR reading of printed texts; the route for manuscripts is much longer but it is open.

Research surveys

For all manuscript collections it is advisable to keep an up-to-date research survey, listing published (and even, as far as available, unpublished) information about individual manuscripts. This information is not only helpful to manuscript cataloguers but also to all academic users. Nowadays, a machine-readable research survey can be made accessible from a manuscript description. Whereas a description always relies on the knowledge about a manuscript at a given time, the research survey will also help the user to be aware of ongoing research on a manuscript – and that is what the cataloguing of the manuscripts is meant to encourage. A lot of these surveys already exist in machine readable form and can be addressed through manuscript-oriented portals. A more recent approach is to disclose restoration documents to users as well, as it has been done in the Codex Sinaiticus project (http://codexsinaiticus.org). This is particularly helpful if digital images of the original are available. The restoration surveys help users to understand the appearance of individual pages of the manuscript, to know about missing parts, and sometimes to read or decode restoration information given within a codex.

Conclusion

The cataloguing and description of manuscripts has been on the agenda of libraries ever since they first came into collections. Thanks to the technological advances of the modern information landscape, the impact of manuscript cataloguing keeps growing in importance and in audiences. It is fascinating to see how the most modern of technological developments can be used to serve the oldest testimonies of culture in our libraries.

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References

Consortium of European research Libraries. CERL Thesaurus [cited: 2012-05-10]. Available at: http://www.cerl.org/web/en/resources/cerl_thesaurus/main

Einbanddatenbank [cited: 2012-05-10]. Available at: http://www.hist-einband.de/zitierweise.shtml

Europeana Regia [cited: 2012-05-10]. Available at: http://www.europeanaregia.eu/en

Fabian, Claudia. Le catalogage des manuscrits médiévaux et de la Renaissance sur le réseau moderne informatique des bibliothèques : un apercu des expériences allemandes. // Linking the worlds of script and print : catalogues of European manuscripts and early printed books. London : CERL, 2009. Pp. 1-15.

Fabian, Claudia. Die Handschriftenerschließung im Wandel : modernste Methoden für ältestes Kulturgut. // Information, Innovation, Inspiration : 450 Jahre Bayerische Staatsbibliothek / hrsg. Von Rolf Griebel und Klaus Ceynowa ; Redaktion Klaus Haller. München : K. G. Saur, 2008. Pp. 167- 190.

Fabian, Claudia. New conceptual models for information organization of authority data in the European context. // Summer School in the Study of Old Books : proceedings / edited by Mirna Willer and Marijana Tomic. Zadar : Sveučilište, 2010. Pp. 237- 258.

Forschungsdokumentation Handschriften [cited: 2010-05-10]. Available at: http://www.bsb-muenchen.de/Forschungsdokumentation.172.0.html

Gullath, Brigitte; Wolfgang-Valentin Ikas. Zum Nutzen von E-Zeitschriften, Datenbanken und Internet-Publikationen. Neue Wege im Ausbau der BSB-Forschungsdokumentation zu Handschriften und Seltenen Drucken. // Zeitschrift für Bibliothekswesen und Bibliographie 58 (2011), 72-76.

Positionspapier der Handschriftenzentren : Katalogisierung, Digitalisierung, Präsentation / Claudia Fabian, Robert Giel, Christian Heitzmann, Christoph Mackert, Eef Overgaauw, Alessandra Sorbello-Staub, Bernhard Tönnies, Bettina Wagner. // Das Mittelalter 14, 1(2009): Furor, zorn, irance. Pp. 140-148. [Berlin : Akademie-Verlag] [leicht aktualisierte Version]. // Zeitschrift für Bibliothekswesen und Bibliographie 56, 5(2009), 281-286.

Richtlinien Handschriftenkatalogisierung / Deutsche Forschungsgemeinschaft, Unterausschuß für Handschriftenkatalogisierung. 5. erw. Aufl. Bonn-Bad Godesberg : Dt. Forschungsgemeinschaft, 1992 [cited: 2012-05-10]. Available at: www.manuscripta-mediaevalia.de/hs/katalogseiten/HSKRICH.htm.

Biographical sketch

Dr. Claudia Fabian is Head of Manuscripts and Rare Books Department, Bayerische Staatsbibliothek, München since 2004, she was Head of Department of Users Services (2000-2004), and Head of Alphabetical Cataloguing within the Cataloguing Department (1986-2000). She holds Dr. phil., Classical Philology, has professional training as academic librarian and as teacher for Latin and French. She studied Latin and French at the universities of Munich and Paris, Sorbonne.

She is member of the Consortium of European Research Libraries (Advisory Task Group and Executive Committee) since 1990, IFLA's Rare Book and Manuscripts Section since 2009, and LIBER's Steering Committee for Preservation and Heritage Collections and member of the LIBER board since 2010. She is chair or member of various national and regional bodies for manuscripts and early printed books. She is involved in a number of national or regional projects in the area of manuscripts and early printed books, co-responsible for the mass digitization projects funded by Deutsche Forschungsgemeinschaft for manuscripts and early printed books, and responsible for the EU funded project Europeana Regia under the leadership of Bibliothèque nationale de France since January 2010.

IZAZOVI OPISA RUKOPISA U INFORMACIJSKOM KRAJOLIKU MODERNE KNJIŽNICE

Sažetak

Članak započinje pregledom opsežnih tradicija opisa rukopisa i detaljnim prikazom različitih vrsta rukopisa i njihovog povezivanja s općim knjižničnim zbirkama. Danas je katalogizacija rukopisa integrirana u informacijski krajolik moderne knjižnice: u članku se raspravlja o prezentaciji rukopisa na mrežnim mjestima, o specijaliziranim bazama podataka za rukopise na lokalnoj i nacionalnoj razini i integraciji opisa rukopisa u opće, sveobuhvatne online kataložne sustave te se ilustriraju mogućnosti i problemi ovih opcija. U članku se raspravlja i o bazama podataka za posebne značajke rukopisa (uvezi, vodeni žigovi itd.) i pregledima istraživanja te se razmatraju mogućnosti njihova uključivanja u katalogizaciju rukopisa. Raspravlja se i o korištenju normativnih datoteka, problemima portala i utjecaju digitalizacije na katalogizaciju rukopisa. U članku se razmatraju mogućnosti integracije postojeće građe u modernu internetsku arhitekturu i prikaza opisa na različitim razinama i za različite vrste korisnika.

Ključne riječi: katalogizacija rukopisa, integracija kataloga rukopisa u suvremen informacijski krajolik, baze podataka za rukopise

NAME AUTHORITY CONTROL
FROM CONCEPTUAL MODEL TO THE SEMANTIC WEB AND LINKED DATA

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Abstract
The article focuses on the field of name authority control, specifically on personal names with the aim of describing the process of representing FRAD (*Functional Requirements for Authority Data*) conceptual model in RDF (*Resource Description Framework*), the W3C standard in order to research into the issues of its functionality in the Semantic Web and linked data environment. The practical example about the issues of expressing authority data in RDF triples is shown, while some problems encountered in this process are recognized.

Keywords
name authority control, FRAD: *Functional Requirements for Authority Data*, RDF: *Resource Description Framework*, Semantic Web, linked data

Introduction

Libraries maintain and provide for their users verified and authorized metadata, the value of which is authenticated by the internationally agreed standards and national cataloguing rules. Such approach to serving users' needs should be continued by designing the next generation library services – services adapted to the Semantic Web and linked data environment. In order to meet this task it is necessary to represent bibliographic standards in the tools and standards of that environment – in the *de facto* standard of the Semantic Web, World Wide Web Consortium's (W3C) RDF (*Resource Description Framework*).[1]

1 W3C. RDF: Resource Description Framework Primer, W3C Recommendation 10 February 2004 [cited: 2012-03-29]. Available at: http://www.w3.org/TR/rdf-primer/

The research in the field of representing IFLA's[2] bibliographic standards in RDF started in 2007 by its Cataloguing Section's FRBR Review Group.[3] The conceptual model for bibliographic data – FRBR[4] was the first to be considered; it was followed by the two remaining FR family of conceptual models – FRAD for authority data[5] and FRSAD for subject authority data.[6] In 2008 the ISBD Review Group's ISBD/XML Study Group,[7] of the same IFLA's section, started the project on representing ISBD, the standard for bibliographic description in RDF. By the end of 2011 all these standards were published,[8] while as of February 2012, the ISBD[9] and FRBR namespaces are providing dereferencing services to their individual class and property level. Some of the published ISBD and FR family model's namespaces are already in use in different library services which release bibliographic data as Open Linked Data.[10]

This article will focus on the field of name authority control, specifically on personal names with the aim of describing the process

2 IFLA: International Federation of Library Associations and Institutions [cited: 2012-03-29]. Available at: http: //www.ifla.org

3 IFLA. Cataloguing Section. FRBR Review Group [cited: 2012-03-29]. Available at: http://www.ifla.org/en/frbr-rg

4 Functional requirements for bibliographic records : final report / IFLA Study Group on the Functional Requirements for Bibliographic Records. München : K. G. Saur, 1998. Current text including amendments and corrections to date, available at: http://www.ifla.org/en/publications/functional-requirements-for-bibliographic-records [cited: 2012-03-29].

5 Functional requirements for authority data : a conceptual model / edited by Glenn E. Patton ; IFLA Working Group on Functional Requirements and Numbering of Authority Records (FRANAR). Final report, December 2008 / approved by the Standing Committees of the IFLA Cataloguing Section and IFLA Classification and Indexing Section, March 2009. München : K. G. Saur, 2009. See also: Functional requirements for authority data (FRAD) : modifications and errata for the 2009 text, November 2011 at: http://www.ifla.org/files/cataloguing/frad/FRADerrata2011.pdf [cited: 2012-03-29].

6 Functional requirements for subject authority data (FRSAD) : a conceptual model / IFLA Working Group on Functional Requirements for Subject Authority Records (FRSAR) ; editors Marcia Lei Zeng, Maja Žumer, Athena Salaba. Berlin ; München : De Gruyter Saur, 2011. Version, June 2010 available at: http://www.ifla.org/files/classification-and-indexing/functional-requirements-for-subject-authority-data/frsad-final-report.pdf [cited: 2012-03-29].

7 IFLA. Cataloguing Section. ISBD Review Group. ISBD/XML Study Group [cited: 2012-03-29]. Available at: http://www.ifla.org/en/node/1795. The list of presentations related to ISBD in RDF, as well as detailed reports of the Study Group's activities see at this web page.

8 Dunsire, Gordon; Mirna Willer. Standard library metadata models and structures for the Semantic Web. // Library hi tech news 28, 3(2011), 1-12. Earlier version available at: http://www.ifla.org/files/hq/papers/ifla76/149-dunsire-en.pdf [cited: 2012-03-29].

9 IFLA. Cataloguing Section. ISBD Review Group and ISBD/XML Study Group. ISBD namespaces published, 8 February 2012 [cited: 2012-03-29]. Available at: http://www.ifla.org/en/news/isbd-namespaces-published

10 See: University Library Mannheim, and national libraries of Germany, UK, France and Spain.

of representing FRAD conceptual model in RDF in order to research into the issues of its functionality in the Semantic Web and linked data environment. At the moment, this is the only IFLA standard for name authorities[11] which is represented in RDF. Namely, the work on representing *Guidelines for Authority Records and References*,[12] IFLA's document on which FRAD conceptual model is based, has not been considered, while the work on representing UNIMARC format for machine readable cataloguing of authority data[13] has not started yet, although some general directions for representing both UNIMARC authorities and bibliographic data formats in RDF have been researched and proposed.[14]

Background: paradigm shift in name authority control

IFLA's work on standardizing content of bibliographic records and procedures for their functioning within the local catalogue, and for their exchange for the purpose of building local/national as well as multinational cooperative catalogues started in 1961 with the *International Conference on Cataloguing Principles* that was held in Paris.[15] The concept of Universal Bibliographic Control (UBC) was adopted at the conference. The concept implied that a bibliographic entity of inter-

11 The term name authorities is used here to cover personal, corporate body and family names, as well as titles which are considered as access points, and taken into consideration by the FRAD conceptual model. It should be noted that IFLA's UNIMARC format for authority data includes also other types of access points (entities) such as Trademark, Printer/Publisher Device, Place and Date of Publication, Performance, Provenance, etc., Collective title, etc.

12 Guidelines for authority records and references / recommended by the Working Group on an International Authority System ; approved by the Standing Committee of the IFLA Section on Cataloguing and the IFLA Section on Information Technology. 2nd ed. München : K. G. Saur, 2011. Note that the relation of this document to FRAD is parallel to the one between ISBD and FRBR.

13 UNIMARC manual : authorities format / edited by Mirna Willer. 3rd edition. München : K. G. Saur, 2009.

14 Dunsire, Gordon. UNIMARC, RDA and the Semantic Web. // International cataloguing and bibliographic control (ICBC) 39, 2(April/June 2010), 37-40. Based on a paper presented to the World Library and Information Congress: 75th IFLA General Conference and Assembly, 23-27 August 2009, Milan, Italy. Available at: www.ifla.org/files/hq/papers/ifla75/135-dunsire-en.pdf [cited: 2012-03-29]; Dunsire, Gordon; Mirna Willer. UNIMARC and Linked Data. // IFLA Journal 37, 4(December 2011), 314-326. Also available at: http://www.ifla.org/files/hq/publications/ifla-journal/ifla-journal-37-4_2011.pdf [cited: 2012-03-29].

15 International Conference on Cataloguing Principles, Paris, 9th-18th October, 1961: Report. London : International Federation of Library Associations, 1963. Reprinted in: International Conference on Cataloguing Principles, Paris, 9th-18th October, 1961: Report. London : Clive Bingley, 1969.

est to the user of a bibliographic service should be represented by *one form of a name*, while that form of name should be established by the bibliographic agency of the entity's origin. That form of name was labelled *uniform heading*, while all other forms should be considered as variants, and should point to the uniform one. The aim of the UBC is, therefore, to enable any user anywhere in the world in any of bibliographic sources (e.g., catalogue, bibliography, list) to find all works (in whatever manifestation) by the chosen entity *collocated under that one form of name*.[16]

Why is an entity represented by different forms of names? The annotated edition of the *Statement of Principles* prepared by Eva Verona and associates (1971) gives a list of causes due to which variations in a personal author's name or a form of name may arise. The examples of these are: "variant spellings of a name, different romanizations of a name originally not written in the roman script, different phonetic transcriptions, different linguistic forms, use of complete and incomplete forms, change of status, arbitrary or legal change of name or form of name, use of pseudonyms, nicknames, clandestine names assumed for political activities or other assumed names, generic appellations, etc., and use of the title of another work".[17] Thus, the objective of the bibliographic information organization is to recognize the causes of different forms of names, categorize them, and provide the method or mechanism to link them functionally in a particular catalogue to meet the *collocation function* of the catalogue.

Although the international agreement and published guidelines, lists and rules were declaratively accepted by the national bibliographic agencies, the real world requirements proved that strict adherence to the principles of the UBC was not sustainable. The reason for such a development can be found not only in the diversity of resources in different languages, scripts, and therefore cultural and publishing variants that become part of library collections, and which have to be recorded according to the needs and requirements of the local user (e.g., known form, or language form of a name), but also according to technical possibilities of the local system to record, index, and enable search and

16 Anderson, Dorothy. Universal Bibliographic Control : a long term policy, a plan for action. Pullach/ München : Verlag Dokumentation, 1974.

17 Statement of Principles adopted at the International Conference on Cataloguing Principles Paris, October, 1961. Annotated ed. with commentary and examples by Eva Verona assisted by Franz Georg Kaltwasser, P. R. Lewis, Roger Pierrot. London : IFLA Committee on Cataloguing, 1971. Pp. 9-11.

retrieval of specific scripts in which the original name is written. The change of the technical form of the catalogue from the card catalogue to WebPAC exposes such local solutions to network environment and global use and re-use, and their specificities become apparent more than when the catalogue served its local, relatively well defined audience. When a record becomes a part of a cooperative, often international catalogue whether physical or virtual, the differences in the treatment of forms of names as authorized or variant access points become apparent, and the need to put those forms of names for the same entity into some kind of relation becomes imperative.[18]

The solution to such a situation was found by two international projects which have by now turned into fully developed services: the CERL Thesaurus[19] which focuses on European printed heritage in the hand-press period (up to *c.* 1830), and VIAF: Virtual International Authority File designed primarily by the national libraries and the OCLC as the technical and logistic support to this physical, cooperative authority database.[20] The functionality of universal name authority control as envisaged in 1961 and onward as bilateral exchange, has evolved into exposing authority data[21] to interested parties, each of which is enabled to consult a variety of sources, and re-use a part or whole of a record, or a mash-up of data which better suits their needs and their local user requirements.

The evolution of the concept of UBC from the exchange to exposing library data can be seen as co-current at the conceptual level with the development of what is known as the Semantic Web and linked data.[22] The Semantic Web is defined simply as a "web of data",

18 See more on these issues in: Willer, Mirna. Name authority control paradigm shift in the network environment. // Frameworks for ICT policy : government, social and legal issues / edited by Esharenana E. Adomi. Hershey, PA : IGI Global, 2010. Pp. 182-205. DOI: 10.4018/978-1-61692-012-8.ch012

19 Consortium of European research Libraries. CERL Thesaurus [main information at:] http://www.cerl.org/web/en/resources/cerl_thesaurus/main; [access at:] http://thesaurus.cerl.org/cgi-bin/search.pl [cited: 2012-03-29].

20 VIAF: Virtual International Authority File [main information at:] http://www.oclc.org/research/activities/viaf/, [service available at:] http://viaf.org/. As of 4 April 2012, VIAF has transitioned from an OCLC Research prototype to an OCLC service; see: http://www.oclc.org/viaf/default.htm [cited: 2012-04-04].

21 The term which was used as opposed to *exchange* was *sharing*, but as that term still implies two parties in a process (direction one-to-many) regardless of its reiteration, the term *exposing* seems to better express the current situation.

22 Bizer, Christian; Tom Heath; Tim Berners-Lee. Linked data – the story so far. // International Journal on Semantic Web and Information Systems (IJSWIS) 5, 3(2009). Pre-print available at: http://tomheath.com/papers/bizer-heath-berners-lee-ijswis-linked-data.pdf [cited: 2012-03-29].

that is, it is "about two things. It is about common formats for integration and combination of data drawn from diverse sources, where on the original Web mainly concentrated on the interchange of documents. It is also about language for recording how the data relates to real world objects. That allows a person, or a machine, to start off in one database, and then move through an unending set of databases which are connected not by wires but by being about the same thing."[23] Therefore, in order to enable the functioning of this "web of linked data" it is necessary to build ontologies, that is, "collections of statements written in a language such as RDF that define the relations between concepts and specify logical rules for reasoning about them. Computers will "understand" the meaning of semantic data on a Web page by following links to specified ontologies."[24] IFLA's work on building such collections of statements – that is, representations of its standards and conceptual models in RDF has been done. This is the first step in the process of building functional linked data services; the next one would be, looking from the name authority data requirements, to build links between and among authority data which point to the same bibliographic entity of interest to the user but is defined by specific/different rules applied by different bibliographic agencies. Therefore it is important to form an agreement on the type of entities of interest within the bibliographic universe the libraries have a mandate to organize, but even more so, to agree on relationships, that is, their value and granularity that are valid among these entities. The FRAD conceptual model meets these requirements as the epitome of the theory and practice of the hundred and seventy years of what is considered to be the contemporary librarianship. The remaining part of this article will present and research into issues of representing FRAD in RDF, the Semantic Web standard, specifically from the aspect of linking between and among authority data.

23 W3C Semantic Web Activity [cited: 2012-03-06]. Available at: http://www.w3.org/2001/sw/

24 Berners-Lee, Tim; James Hendler; Ora Lassila. The Semantic Web. // Scientific American 17 May, 2001. P. 32. See also: Berners-Lee, Tim (with Mark Fischetti). Weaving the Web : the past, present and future of the World Wide Web by its Inventor. London : Orion Business Books, 1999.

FRAD in RDF

Introduction, or raison d'être

If we, for the moment, put aside the need of the library community to *represent* its standards not any more in the textual or machine readable exchange format (ISO 2709) forms, but in the form or a scheme required by the advancing technology, and focus on the broader scene to which bibliographic data will be *exposed*, libraries have to make sure that these data will be recognized as authoritative and authentic by the possible users. The users of the open linked data cloud[25] come from the most varied communities and with the most varied information needs,[26] and the success of libraries will be measured not only in serving their local users, cooperating in national/international catalogues, but also in "being there" for patrons unrecognized, and unpredicted by librarians.

For example, if one searches for "hieronymus sanctus" in Google, he or she will get 204,000 results (in 0.17 seconds) (Figure 1). The results presented on the first page already show a variety of sources that compete with those from libraries. The first one is the web page of "documentacatolicaomnia", the second one Wikipedia in Latin (la.wikipedia.org), followed by "oldedocuments" (16th century English notes in the **Sanctus Hieronymus** (1513) at the VPL), and "vialibri" (The World's Largest Marketplace for Old, Rare & Out-of-print Books), while the last result on the first page points to the (obscure) page called "worldcat.org/identities". If followed, the link will point to the beta version of the OCLC project of the same name – WorldCat Identities, the project which researches into integrating retrieval of the authority file with bibliographic one – the WorldCat bibliographic cooperative database/catalogue. Which one of these services will the user approach and use

25 Linked Data. Connect distributed data across the Web [cited: 2012-04-18]. Available at: http://linkeddata.org/

26 Consider in this respect Chris Anderson's seminal article "The Long Tail", and his following work. Anderson describes a business model for the digital age, in which he talks about how the Web changed the economy and therefore the culture which shifts away from "the tyranny of lowest-common-denominator fare, subjected to brain-dead summer blockbusters and manufactured pop. Why? Economics. Many of our assumptions about popular taste are actually artifacts of poor supply-and-demand matching – a market response to inefficient distribution." The answer to this is the Long Tail of niches of resources, that can be found "out there", and that can meet the most varied users' needs. Anderson, Chris. The Long Tail. // Wired 12.20(October 2004) [cited: 2012-03-06]. Available at: http://www.wired.com/wired/archive/12.10/tail.html. See for further reading Mossman, Katherine. Serving the niche : viewing libraries through Chris Anderson's & Long Tail's lens. // Library journal 07/15/2006 [cited: 2012-03-06]. Available at: http://www.libraryjournal.com/article/CA6349032.html; Storey, Tom. The Long Tail and libraries. // OCLC Newsletter April/May/June 2005, 6-11.

to meet his or her specific needs is part of the spirited debate going on for almost fifteen years now since the arrival of the World Wide Web.[27] It is good that people engage in spirited and enduring debates because they show that something is at stake, but the problem here is that the future of libraries is at stake, and if they want to continue performing their task and mission in guarding cultural heritage and disseminating knowledge they have to evolve their services.

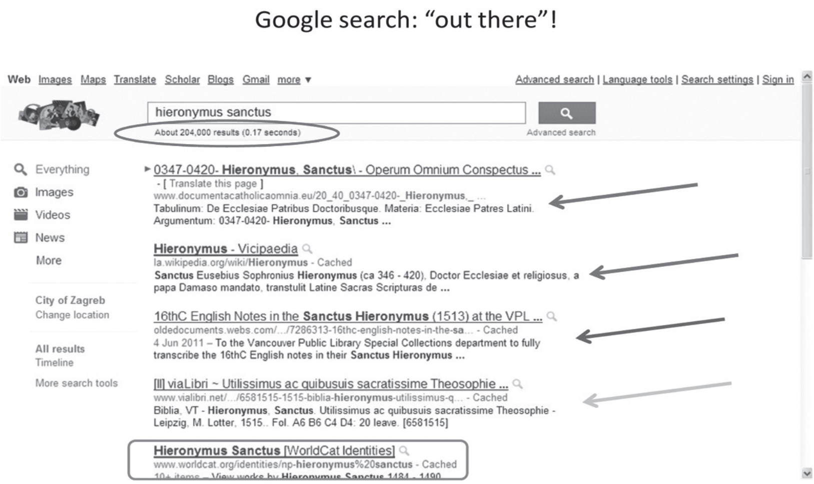

Figure 1.
Goggle search for "hieronymus sanctus" performed at 14th September 2011

RDF, namespaces and vocabulary management platform for publishing standards and models in RDF

RDF statement is defined as a *triple* statement. The structure of a triple is: subject – predicate – object. The subject identifies what the statement is about, such as the *thing* in general, e.g., a resource – a book, or an entity – author of a book. The predicate identifies the specific aspect of the subject being described, that is, the relation between subject and object, such as a resource *has edition statement*, or an entity *has*

27 See for example: Calhoun, Karen. The changing nature of the catalog and its integration with other discovery tools : final report, March 17, 2006 : prepared for the Library of Congress [cited: 2012-03-06]. Available at: http://www.loc.gov/catdir/calhoun-report-final.pdf; The Library of Congress Working Group on the Future of Bibliographic Control. On the record : report, January 9, 2008 [cited: 2012-03-06]. Available at: http://www.loc.gov/bibliographic-future/news/lcwg-ontherecord-jan08-final.pdf

appellation (name). The object identifies or presents the value of that aspect, such as "3rd ed.", or "Hieronymus Sanctus". The object can be a value which is identified by a controlled vocabulary, such as a personal name authorized by a specific authority file, e.g., "Hieronymus, Sophronius Eusebius" authorized by The German National Library, or a literal string, such as "3rd ed." or a personal name without external authentication. In the case when the value of the object is identified, the object becomes the subject of another triple thus forming, in this example, two linked data triples.

RDF requires that subject and predicate of a triple be expressed as URIs: Uniform Resource Identifiers,[28] while object can be a literal or a string of characters for which no semantic value is expressed, or another URI. In the first case of our example, "3rd ed." is a literal, while in the latter the object is represented by a URI the semantic value of which is expressed by the identifier of The German National Library's record in which authorized form of a person's name is established, i.e. "Hieronymus, Sophronius Eusebius".

The subject of a RDF triple statement, or the *thing* the statement is about, may be defined by its type as a *class*. In the FR family model the *class* corresponds to FR entities, or the key objects of interest to users, such as work, person, family, etc. The predicate or verb phrase of a triple is expressed as a *property*, and it corresponds to entity attributes and relationships of the FR family model. Each property may declare its *domain*, that is, the class (subject) to which it belongs, and *range*, that is the class of the object or the value of the property. For example, FR attribute *title of person* is represented in an RDF triple as a property with the class *Person* declared as its domain, while the range is not defined because this property's value can be a literal, that is, a personal name, or an identifier (URI) from an authority system. The FR relationship represented as a property, however, usually has to define both the domain and the range because FR family models define them as bi-directional between two entities. It is necessary therefore to express domain for the subject, and range for the object of such a property in a RDF triple sentence. For example, FRAD relationships *has appellation* and *is appellation of* are defined between entities *bibliographic entity* and *name*; the domain defined for RDF property *hasAppellation*[29] is class (subject)

28 W3C. Web naming and addressing : URIs, URLs, ... [cited: 2012-03-06]. Available at: http://www.w3.org/Addressing/#rfc3986

29 Notation used for the name of a class and property as represented in RDF in Open Metadata Registry.

BibliographicEntity (*frad:C1010*[30]), while its range (object) the class *Name* (*frad:C1006*) (Figure 2). The reverse is true for property *isAppellationOf*. The service which IFLA uses as the provider of the platform for publishing standards in RDF is Open Metadata Registry (OMR) managed by Metadata Management Associates.[31]

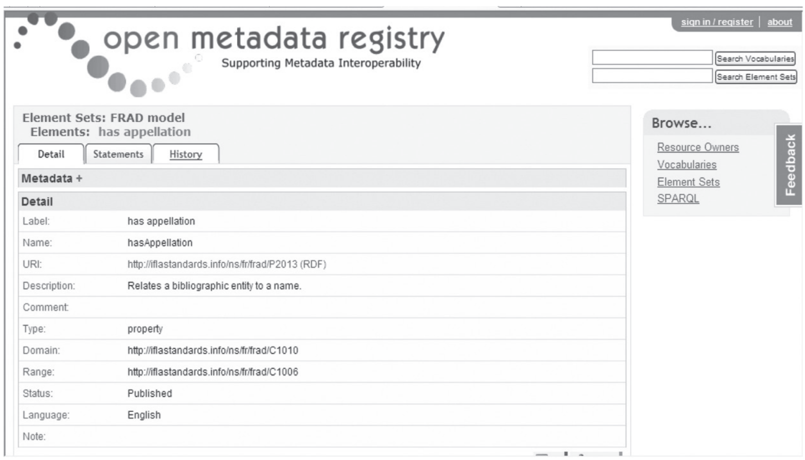

Figure 2.1
FRAD attribute *has appellation* published as RDF property *hasAppellation* in Open Metadata Registry

Figure 2.2
FRAD entity *bibliographic entity* published as RDF class *BibliographicEntity* in Open Metadata Registry

FRBR and FRAD in RDF

FRBR, the entity-relationship conceptual model designed to represent bibliographic universe "identifies and clearly defines the entities of interest to users of bibliographic records, the attributes of each entity, and the types of relationships that operate between entities. The intent was to produce a conceptual model that would serve as the basis for relating specific attributes and relationships (reflected in the record as discrete data elements) to the various tasks that users perform when consulting bibliographic records."[32] The entities FRBR defined are *work*, *expression*, *manifestation* and *item* as Group 1 entities, *person* and *corporate body*, with a later addition of *family* as Group 2 entities, and *concept*, *object*, *event* and *place* as Group 3 entities. In RDF they are represented as classes. As the FRBR, however, focused on bibliographic data as distinct from authority data, the Study Group on the Functional Requirements for Bibliographic Records recognized "the need to extend the model at some future date to cover authority data".[33] FRAD conceptual model was designed following the same methodology, but it covered only name authority data, excluding attributes and relationships associated with types of entities representing subject authority data, i.e., Group 3 entities. That task was dealt with by the FRSAD conceptual model.

IFLA's FRBR Review Group was formed in 2002 with the remit to support the development of the FRBR conceptual model, and promote its use as a reference model. In 2009, when all three models were publicly available, the Group took on the remit to review and maintain all three conceptual models as the "FRBR family of models". The decision to start the project on representing the FRBR model in RDF was made already in 2007, stimulated by the report from the Data Model meeting held at the British Library in London previously that year.[34] The task of the project was "to define appropriate namespaces for FRBR (entity-relationship) in RDF and other appropriate

30 Shortened notation for URI http://iflastandards.info/ns/fr/frad/C1010. IFLA Namespaces Task Group decided to use opaque URIs for FR family models and ISBD, rather than http://iflastandards.info/ns/fr/frad/BibliographicEntity because of a multilingual environment in which IFLA standards are used.

31 Open Metadata Registry [cited: 2012-03-06]. Available at: http://metadataregistry.org/

32 FRBR. Op. cit., p. 3.

33 Ibid., p. 4; see also p. 5.

34 Data Model Meeting, British Library, London 30 April - 1 May 2007 [cited: 2012-03-06]. Available at: http://www.bl.uk/bibliographic/meeting.html

syntaxes",[35] the approval of which marked the beginning of the work on declaring namespaces for FR family models in RDF.[36]

Understanding of the relationship among the three conceptual models is important because in the process of representing FR family models' entities, attributes and relationships in RDF it was necessary to agree to its methodology. As already mentioned, each FR model entity becomes a RDF class, while attributes and relationships become a RDF property. The problem to solve was the registration of namespaces for the models: should each model have its own namespace, that is, should classes and properties be represented in each model in their own right, or should they be represented in a prior model, and re-used where indicated in the FR model documentation? For example, if the FRBR entity *person* is represented in OMR as a class *frbrer:C1005*, and if its definitions in FRBR and FRAD are identical, there is no need to represent it again in the FRAD model namespace. The latter methodology was accepted by the FRBR Review Group, and the Group approved when the definitions can be considered identical. For example, the definition of the entity *person* in FRBR is "an individual", while in FRAD it is "an individual or a person or identity established or adopted by an individual or group. [FRBR, modified]."[37] Although the FRBR Review Group agreed that the different definitions are sufficiently great to require FRAD to create its own class for Person,[38] the class Person has not been represented by its own FRAD namespace in OMR.

This issue obviously needs further consideration: the difference in definitions in this case points to different concepts which will have to be resolved on the ontological level in order to be adequately resolved in linked data systems if libraries' data should be used as linked data outside the bibliographic universe. Namely, several questions could be therefore asked: Who or what is this instance of the class *Person* represented by the URI *frbrer:C1005*? Is it a real person with all of his or her identities (in the real world), or a person with only bibliographic identity, i.e., entity of interest to the bibliographic universe? How is such a

35 Dunsire, Gordon. Declaring FRBR entities and relationships in RDF, 2008/07/25 [cited: 2012-03-06]. Available at: http://www.ifla.org/files/cataloguing/frbrrg/namespace-report.pdf

36 Dunsire, Gordon. Interoperability and semantics in RDF representations of FRBR, FRAD and FRSAD. // Concepts in context : proceedings of the Cologne Conference on Interoperability and Semantics in Knowledge Organization July 19th-20th, 2010 / edited by Felix Boteram, Winfried Gödert and Jessica Hubrich. Würzburg : ERGON, 2011. Pp. 133-147.

37 FRBR. Op.cit., p. 25 [3.2.5].

38 Dunsire, G. Interoperability and semantics . Op. cit., p.142.

person identified (by URI) as an information resource on the web? Can a URI of an authority record in which the name of a particular person is recorded stand instead of that non-information resource? Such questions will necessarily also be part of the discussions about the harmonization of the FR family models which is part of the strategic plan of the IFLA Cataloguing Section, to be realized by the FRBR Review Group as planned for 2012-2013.[39]

However, within the bibliographic universe the problem is identified and defined, and can be considered to be solved at the practical level not only within a local catalogue but also at the level of the cooperative authority system VIAF. The difference in the definition of the entity *person* is a good example to test this statement. Namely, it is often the case that one bibliographic agency would recognize pseudonym(s) used by an individual as separate persona(s) and establish authorized forms for each persona with appropriate links between these forms, while other agency would recognize only one persona for an individual and the pseudonym(s) used for that person, and would establish one authorized form, while all the others would be treated as variant forms. The result of this is that in a cooperative or networked authority file the two treatments of the same "person" would clash, and a mechanism would need to be developed to resolve this issue in a transparent way for the user. A search in VIAF for one of the names retrieves two or more "headings" for the real name and the pseudonym(s): the example given in Figure 3 shows the result of the search for Mirković, Mijo – Mirković, Mijo, and author's pseudonym Balota, Mate. Although treated differently by the agencies in case, which can be seen by detailed analysis of the records, the algorithm developed by VIAF brought together or linked person's real name and the pseudonym, or, in FRAD terms, realized *person*-to-*person* relationship. Such a solution is transparent to users, and therefore could be considered satisfactory (understandable) within the bibliographic universe, that is, in the library community. FRAD, as a conceptual model for authority data recognizes such a situation[40] and that is the reason why its definition of the entity *person* is a modified FRBR one.

39 IFLA. Cataloguing Section. Strategic plan, 2011/2013: "Action plan for 2012: FRBR: Explore the preparation of a consolidated document for IFLA's FRBR family of conceptual models in an entity-relationship formulation" [cited: 2012-03-19]. Available at: http://www.ifla.org/en/node/1959

40 See, for this particular case: FRAD. Op. cit., p. 25.

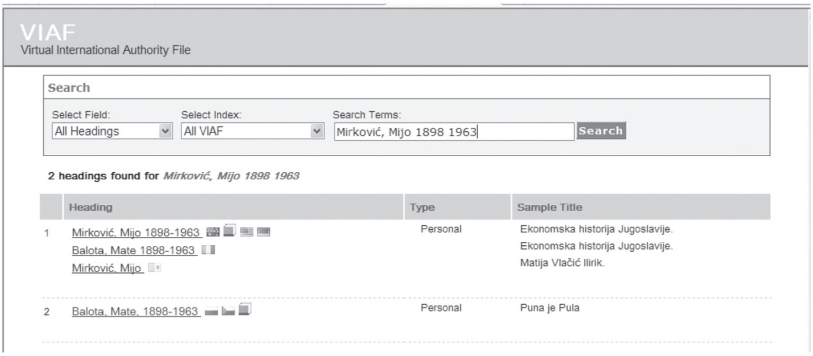

Figure 3.
Result of the retrieval for Mirković, Mijo in the VIAF: Virtual International Authority File

The FRAD relationship between persons, that is *pseudonymous relationship*, is defined as the relationship "between a 'real' person (i.e. an individual) and persona(ae) or identity adopted by that individual through the use of one or more pseudonyms".[41] This relationship is represented in RDF as two properties: *isPseudonymousPersonaOf*, and *hasPseudonymousPersona*, which is in line with the bi-directional type of *person*-to-*person* relationships defined in FRAD, and, indeed, as needed for expressing them as RDF properties. Consequently, both properties have defined class *Person* (*frbrer:C1005*) for their domain and range (Figure 4).

In the framework of representing the FRBR entity *person* as a RDF class, the question is whether it can be used as a class or domain for the FRAD attributes to the entity *person* expressed as properties in RDF? This is also enabled in OMR: FRAD attribute of a person *gender*, is represented as the property *hasGender* (*frad:P3029*), with the FRBR class *Person* (*frbrer:C1005*) as a domain. This is an example of the re-use of namespaces among the FR family models representations in RDF.

41 Ibid., p. 61 [5.3.1].

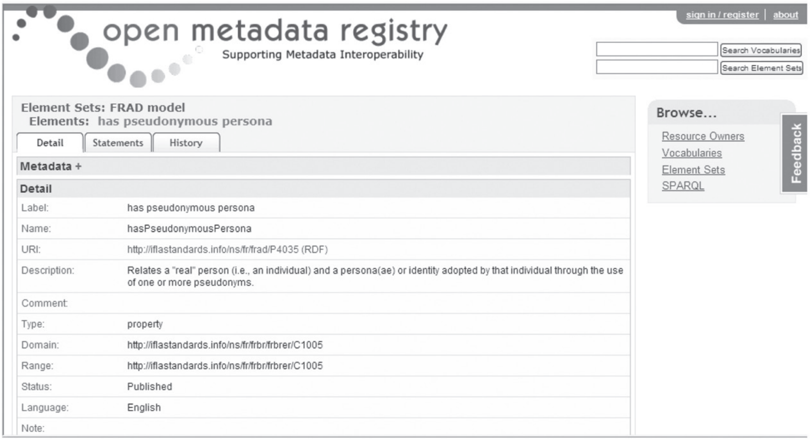

Figure 4.
RDA class *Person* (*frbrer:C1005*) defined as domain and the value of the range for the property *hasPseudonymousPersona*, i.e., FRAD's *pseudonymous relationship* between person and persona

FRAD in RDF

The conceptual FRAD model defines three fundamental entities, *bibliographic entities* that comprise all FRBR entities, *name* and/or *identifier*, and *controlled access point*. Additionally, entities *rules* and *agency* are defined. All these entities are represented as classes in RDF. The model defines four broad categories of relationships, the first category covering the relationships between the three fundamental entities *has appellation* and *is appellation of*, between *bibliographic entities* and entity *name*, and *is basis for* and *is based on* between entities *name* and *controlled access point*. The relationship *person*-to-*person*, one of which has already been mentioned, comes into to the second category of relationships.[42] The relationships are represented as properties in RDF.

Figure 5 displays the statements about authority data, that is, RDF triples as a graph. The example shows the treatment of authorized and variant forms of a person's name by a bibliographic agency using FRAD's entities and relationships as represented in RDF. The nodes are

42 For detailed description of the FRAD model with reference to old and rare books see: Willer, Mirna. Conceptual model for authority data : FRAD, and its application to old books. // Summer School in the Study of Old Books : proceedings / edited by Mirna Willer and Marijana Tomić. Zadar : Sveučilište, 2010. Pp. 207-223.

used for the subject and object of a triple, the connecting lines are used for predicates, while a rectangular node is used for an object that is a literal (information for the user). The arrow at the end of a connecting line is used to indicate the direction from subject to object.

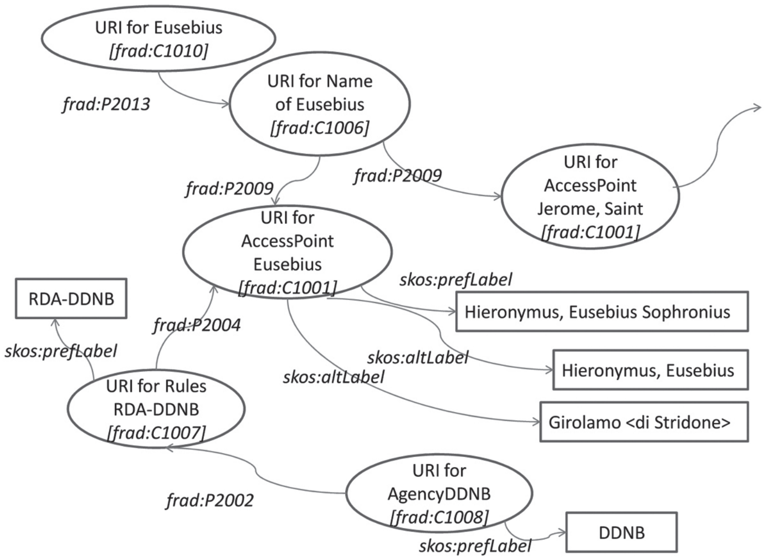

Figure 5.
RDF graph of linked data – an example of the treatment of authorized and variant forms of names

The relationship between subject "URI for Eusebius" (BibliographicEntity *[frad:C1010]*)[43] and object "URI for Name of Eusebius" (Name *[frad:C1006]*) is expressed by the property hasAppellation (*frad:P2013*), which, as already explained, has defined the class BibliographicEntity as a domain, and Name as a range. However, as the subject BibliographicEntity according to FRAD represents entities *person*, *corporate body* and *family*, it would be necessary to specify which entity is represented by the class Name; the FRAD subclass NameOfAPerson (*frad:C1012*) is defined in the OMR which could be used for this purpose, however the actual expression of this relationship and functionality should be further researched.

43 The reference to the class to which the subject belongs is given in the diagram in square brackets.

As a set of resources (books) that make the collection of a particular library has a particular set of forms of names by which the author is represented in those resources, and which need not be identical to a set of books in the collection of another library, these sets of names are identified in the graph by the "URI for AccessPoint Eusebius" (AccessPoint *[frad:C1001]*) and the "URI for AccessPoint Jerome, Saint" (AccessPoint *[frad:C1001]*).[44] The object of the previous triple – "URI for Name of Eusebius", has become the subject of another triple with property *isBasisNameFor* (*frad:P2009*) between it and the objects "URI for AccessPoint Eusebius" and "URI for AccessPoint Jerome, Saint". In the first URI we demonstrate that the treatment of access points – that is the authorized form of a name together with all variant forms, are governed by the rules (RDA-DDNB) which are applied by the agency (The German National Library: Die Deutsche Nationalbibliothek – DDNB). These two FRAD identities defined as classes in RDF, are represented as nodes in the graph with appropriate URIs: "URI for Rules RDA-DDNB" (Rules *[frad:C1007]*), and "URI for Agency DDNB" (Agency *[frad:C1008]*). The relationship among these three instances of classes is expressed in the following way: "URI for Agency DDNB" is a subject of a triple in which "URI for Rules RDA-DDNB" is the object, while the link between them is represented by the property *applies* (*frad:P2002*). This property has defined the class Agency as a domain, and Rules as a range. The object "URI for Rules RDA-DDNB" becomes a subject to a new triple to which the object is "URI for AccessPoint Eusebius". The link is defined by the property *govern* (*frad:P2004*), with Rules as a domain and AccessPoint as a range. The value of all the three classes is expressed using notation from SKOS (Simple Knowledge Organization System)[45]: *skos:prefLabel* for: Hieronymus, Eusebius Sophronius, RDA-DDNB and DDNB, and *skos:altLabel* in the case of variant forms of names: Hieronymus, Eusebius and Girolamo <di Stridone>. The identification of the authorized form as opposed to variant forms valid within a particular catalogue is thus established.

44 Each of these URIs can correspond to the URI of the authority record in the authority file of a particular local/national library.

45 W3C. SKOS Simple Knowledge Organization System [cited: 2012-03-19]. Available at: http://www.w3.org/2004/02/skos/

Conclusion

The new technical environment requires new standards, however, this article shows how the standards and models designed within the context of the preceding technology can evolve. The research and development of representing IFLA FR family of conceptual models in RDF, the standard of the Semantic Web has proved that possibility. However, it is necessary to understand the requirements of the new technology, and be able to re-conceptualize the existing concepts; in the case of FR family of conceptual models the asset is that they are the epitome of the cataloguing theory and practice of the last century and a half, and as such offer a firm foundation on which to build the next generation standards.

The additional value of the exercise in representing the FRAD model in RDF is that it informs back on the possible problems in the models that need further research. Namely, although mentioned in brief, FRAD entity attributes were not dealt with in this article. The attributes defined in FRAD to the entity *person* are represented in OMR as a class within the FRBR model *Person – frbrer:C1005*, and defined as such in OMR. However, if the application of FRAD in RDF as represented in Figure 5 is considered correct (it has followed all the rules and definitions), it shows that there is no way to attach attributes to the entity *person* as defined by FRAD, that is, properties to the class *Person* because there is no relationship or link between the FRAD class *BibliographicEntity* and FRBR class *Person*. Obviously, this problem will have to be researched from the aspect of re-use of represented classes from the prior model, and also within the project on the consolidation of FR family of conceptual models.

The article focuses on specific problems of representing instances of FRAD entity *person* as RDF triples within the bibliographic universe, however it also points to the issues that have to be discussed and researched of "positioning" bibliographic identities in relation to schemes and vocabularies of authority data providers outside the library sector.

References

Anderson, Chris. The Long Tail. // Wired 12.20(October 2004) [cited: 2012-03-06]. Available at: http://www.wired.com/wired/archive/12.10/tail.html

Anderson, Dorothy. Universal Bibliographic Control : a long term policy, a plan for action. Pullach/ München : Verlag Dokumentation, 1974.

Berners-Lee, Tim; James Hendler; Ora Lassila. The Semantic Web. // Scientific American 17 May, 2001.

Berners-Lee, Tim (with Mark Fischetti). Weaving the Web : the past, present and future of the World Wide Web by its Inventor. London : Orion Business Books, 1999.

Bizer, Christian; Tom Heath, Tim Berners-Lee. Linked data – the story so far. // International Journal on Semantic Web and Information Systems (IJSWIS) 5, 3(2009). Pre-print available at: http://tomheath.com/papers/bizer-heath-berners-lee-ijswis-linked-data.pdf [cited: 2012-03-29].

Calhoun, Karen. The changing nature of the catalog and its integration with other discovery tools : final report, March 17, 2006 : prepared for the Library of Congress [cited: 2012-03-06]. Available at: http://www.loc.gov/catdir/calhoun-report-final.pdf

Consortium of European research Libraries. CERL Thesaurus [main information at:] http://www.cerl.org/web/en/resources/cerl_thesaurus/main; [access at:] http://thesaurus.cerl.org/cgi-bin/search.pl [cited: 2012-03-29].

Data Model Meeting, British Library, London 30 April - 1 May 2007[cited: 2012-03-06]. Available at: http://www.bl.uk/bibliographic/meeting.html

Dunsire, Gordon. Declaring FRBR entities and relationships in RDF, 2008/07/25 [cited: 2012-03-06]. Available at: http://www.ifla.org/files/cataloguing/frbrrg/namespace-report.pdf

Dunsire, Gordon. Interoperability and semantics in RDF representations of FRBR, FRAD and FRSAD. // Concepts in context : proceedings of the Cologne Conference on Interoperability and Semantics in Knowledge Organization July 19th-20th, 2010 / edited by Felix Boteram, Winfried Gödert and Jessica Hubrich. Würzburg : ERGON, 2011. Pp. 133-147.

Dunsire, Gordon; Mirna Willer. Standard library metadata models and structures for the Semantic Web. // Library hi tech news 28, 3(2011), 1-12. Earlier version available at: http://www.ifla.org/files/hq/papers/ifla76/149-dunsire-en.pdf [cited: 2012-03-29].

Dunsire, Gordon; Mirna Willer. UNIMARC and Linked Data. // IFLA Journal 37, 4(December 2011), 314-326. Also available at: http://www.ifla.org/files/hq/publications/ifla-journal/ifla-journal-37-4_2011.pdf [cited: 2012-03-29].

Dunsire, Gordon. UNIMARC, RDA and the Semantic Web. // International cataloguing and bibliographic control (ICBC) 39, 2(April/June 2010), 37-40. Based on a paper presented to the World Library and Information Congress: 75th IFLA General Conference and Assembly, 23-27 August 2009, Milan, Italy. Available at: www.ifla.org/files/hq/papers/ifla75/135-dunsire-en.pdf [cited: 2012-03-29]

Functional requirements for authority data : a conceptual model / edited by Glenn E. Patton ; IFLA Working Group on Functional Requirements and Numbering of Authority Records (FRANAR). Final report, December 2008 / approved by the Standing Committees of the IFLA Cataloguing Section and IFLA Classification and Indexing Section, March 2009. München : K. G. Saur, 2009. Functional requirements for authority data (FRAD) : modifications and errata for the 2009 text, November 2011 at: http://www.ifla.org/files/cataloguing/frad/FRADerrata2011.pdf [cited: 2012-03-29].

Functional requirements for bibliographic records : final report / IFLA Study Group on the Functional Requirements for Bibliographic Records. München : K. G. Saur, 1998. Current text including amendments and corrections to date, available at: http://www.ifla.org/en/publications/functional-requirements-for-bibliographic-records [cited: 2012-03-29].

Functional requirements for subject authority data (FRSAD) : a conceptual model / IFLA Working Group on Functional Requirements for Subject Authority Records (FRSAR) ; editors Marcia Lei Zeng, Maja Žumer, Athena Salaba. Berlin ; München : De Gruyter Saur, 2011. Version, June 2010 available at: http://www.ifla.org/files/classification-and-indexing/functional-requirements-for-subject-authority-data/frsad-final-report.pdf [cited: 2012-03-29].

Guidelines for authority records and references / recommended by the Working Group on an International Authority System ; approved by the Standing Committee of the IFLA Section on Cataloguing and the IFLA Section on Information Technology. 2nd ed. München : K. G. Saur, 2011.

IFLA: International Federation of Library Associations and Institutions [cited: 2012-03-29]. Available at: http: //www.ifla.org

IFLA. Cataloguing Section. Strategic plan, 2011/2013 [cited: 2012-03-19]. Available at: http://www.ifla.org/en/node/1959

IFLA. Cataloguing Section. FRBR Review Group [cited: 2012-03-29]. Available at: http://www.ifla.org/en/frbr-rg

IFLA. Cataloguing Section. ISBD Review Group. ISBD/XML Study Group [cited: 2012-03-29]. Available at: http://www.ifla.org/en/node/1795

IFLA. Cataloguing Section. ISBD Review Group and ISBD/XML Study Group. ISBD namespaces published, 8 February 2012 [cited: 2012-03-29]. Available at: http://www.ifla.org/en/news/isbd-namespaces-published

International Conference on Cataloguing Principles, Paris, 9th-18th October, 1961: Report. London : International Federation of Library Associations, 1963. Reprinted in: International Conference on Cataloguing Principles, Paris, 9th-18th October, 1961: Report. London : Clive Bingley, 1969.

The Library of Congress Working Group on the Future of Bibliographic Control. On the record : report, January 9, 2008 [cited: 2012-03-06]. Available at: http://www.loc.gov/bibliographic-future/news/lcwg-ontherecord-jan08-final.pdf

Linked Data. Connect distributed data across the Web [cited: 2012-04-18]. Available at: http://linkeddata.org/

Mossman, Katherine. Serving the niche : viewing libraries through Chris Anderson's & Long Tail's lens. // Library journal 07/15/2006 [cited: 2012-03-06]. Available at: http://www.libraryjournal.com/article/CA6349032.html

Open Metadata Registry [cited: 2012-03-06]. Available at: http://metadataregistry.org/

Statement of Principles adopted at the International Conference on Cataloguing Principles Paris, October, 1961. Annotated ed. with commentary and examples by Eva Verona assisted by Franz Georg Kaltwasser, P. R. Lewis, Roger Pierrot. London : IFLA Committee on Cataloguing, 1971.

Storey, Tom. The Long Tail and libraries. // OCLC Newsletter April/May/June 2005, 6-11.
UNIMARC manual : authorities format / edited by Mirna Willer. 3rd edition. München : K. G. Saur, 2009.
VIAF: Virtual International Authority File [main information at:] http://www.oclc.org/research/activities/viaf/, [service available at:] http://viaf.org/. As of 4 April 2012, VIAF has transitioned from an OCLC Research prototype to an OCLC service; see: http://www.oclc.org/viaf/default.htm [cited: 2012-04-04].
Willer, Mirna. Conceptual model for authority data : FRAD, and its application to old books. // Summer School in the Study of Old Books : proceedings / edited by Mirna Willer and Marijana Tomić. Zadar : Sveučilište, 2010. Pp. 207-223.
Willer, Mirna. Name authority control paradigm shift in the network environment. // Frameworks for ICT policy : government, social and legal issues / edited by Esharenana E. Adomi. Hershey, PA : IGI Global, 2010. Pp. 182-205. DOI: 10.4018/978-1-61692-012-8.ch012
W3C. RDF: Resource Description Framework Primer, W3C Recommendation 10 February 2004 [cited: 2012-03-29]. Available at: http://www.w3.org/TR/rdf-primer/
W3C. SKOS Simple Knowledge Organization System [cited: 2012-03-19]. Available at: http://www.w3.org/2004/02/skos/
W3C Semantic Web Activity [cited: 2012-03-06]. Available at: http://www.w3.org/2001/sw/
W3C. Web naming and addressing : URIs, URLs, ... [cited: 2012-03-06]. Available at: http://www.w3.org/Addressing/#rfc3986

Biographical sketch

Dr. Mirna Willer is Professor at the Department of Information Sciences, University of Zadar, Croatia. Her teaching and research interests include the theory and practice of information organisation, metadata and identifiers, digital web archives, interoperability, IFLA standards and models in the semantic web. She worked as system librarian, standards officer and senior researcher at the National and University Library in Zagreb, Croatia from 1980 to 2007. Among a number of international body memberships, she was a standing member of the IFLA Permanent UNIMARC Committee from its establishment in 1991 until 2005 (chair of the Committee from 1997 to 2005), since then she has been its consultant and honorary member. She was also a member of the IFLA Working Group on FRANAR, the Working Group responsible for the development of the conceptual model FRAD, ISBD Review Group's ISBD Future Directions Working Group, chair of the ISBD/XML Study Group, and since 2011 chair of the ISBD Review Group. She wrote a book *UNIMARC in Theory and Practice*, a chapter on authority control, about 100 articles (professional and research papers, reviews, etc.), translated texts in the field of UBC such as *UNIMARC Manual: Bibliographic Format* and E. Svenonius's *The Intellectual Foundation of Information Organization*, and edited the 3rd edition of *UNIMARC Manual: Authorities Format*.

NADZOR NAD AUTORIZIRANIM PODACIMA IMENA OSOBA OD KONCEPTUALNOG MODELA DO SEMANTIČKOG WEBA I POVEZANIH PODATAKA

Sažetak

Rad se bavi područjem nadzora nad autoriziranim podacima imena osoba s ciljem opisa procesa predstavljanja konceptualnog modela FRAD (*Functional Requirements for Authority Data*) u RDF-u (*Resource Description Framework*), standardu W3C-a s ciljem da se istraže problemi funkcionalnosti modela u okruženju semantičkog weba i povezanih podataka. Na praktičnom primjeru prikazuje se način iskazivanja autoriziranih podataka u tripletima RDF-a, i upozorava na određene probleme koji su uočeni tijekom tog procesa.

Ključne riječi: normativni nadzor imena, FRAD: *Functional Requirements for Authority Data*, RDF: *Resource Description Framework*, semantički web, povezani podaci

MUSIC MANUSCRIPTS
DESCRIPTION AND ACCESS TO A FUNDAMENTAL MEDIUM FOR THE DISSEMINATION OF MUSIC

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Abstract

Manuscripts are very important sources for the dissemination of music and were widely used long after the invention of printing. Works by famous composers were printed long after their death. Music is in many cases not worth printing: handwriting is cheap, only what is necessary is produced and any adaptation to every single user's needs is easily feasible. Manuscripts have been almost exclusive to some genres and presentation formats.

Library catalogues of music manuscripts were published since the mid-19th century, the first international catalogues since 1900. Worldwide projects started after 1950 so that big catalogues of music manuscripts are now accessible online, with Italy having a prominent role.

International cataloguing rules for music manuscripts have been established since 1975 and are continuously developing, again with Italy as a protagonist. The inclusion of unpublished resources, part of which consist music manuscripts, is under consideration by the IFLA international bibliographic standard ISBD.

Describing music manuscripts is in some respects very simple, but there are many issues that must be faced in developing cataloguing rules concerning identification and access, like the uniform title that is peculiar to music and originally conceived for music manuscripts.

Keywords

music manuscripts, cataloguing, cataloguing rules, uniform title, bibliographic description

Music manuscripts

The paper tackles modern manuscripts of vocal and/or instrumental music and not liturgical books, which present a different complexity of codicological and descriptive issues. It will deal with a huge number of scores, parts, excerpts, arrangements produced mostly since the 14^{th}-15^{th} centuries: possibly more than one million of items that had a primary importance in the dissemination of music throughout Europe and the world and now represent a large part of the holdings of music libraries. The largest part is written in an easily readable way, in ordinary notation, or in special notations destined for particular instruments: keyboards, lute, guitar, etc.

The reason why printed music has not superseded the production of manuscripts is very simple: manuscripts are in many cases more practical and less expensive. Not unlike today, music has always been extremely sensitive to trends: in the past centuries new operas, new symphonies, new harmonies used to replace older ones with possibly the same speed that we see now on the top positions of the pop scene record chart.

The "life" of a baroque opera was often shorter than a few weeks, and within this time span composers used to make changes, deleting unsuccessful arias and adding new ones. Any further restaging in a different theatre implied even more transformations: singers claimed to adapt their favourite melodies to the text, cuts and insertions abounded. And everything was done in a hurry: no time to print whatsoever.

Furthermore, who could afford an orchestra to perform the opera – or the favourite airs – at home? No, the real substitute for the gramophone was the vocal score, voice and piano, but several operas were arranged in fancy ways, not only for piano or band, but also for one or two flutes, clarinets, violins, etc. And some of these formats were printed, especially in the 19^{th}-20^{th} centuries, expecting to meet a responsive market.

Printing music is in fact an expensive, long and complicated process: in dealing with issues like readability and duration of the matrix various techniques have been used through the times, from movable type to wood engraving, from metal plates to lithography. Already two centuries ago, another issue was the geographic size of the market: large, extremely large – practically the whole world – due to the fact that music notation, having no language barriers, may be easily read everywhere. But despite this extent, relatively few people know how to read music, therefore how can a publisher distribute his scores without losing money, if only a few hundred copies (sometimes just ten) will reasonably be sold in such a large market? And conversely, can you figure out the sense of frustrations of potential buyers that do not find the works they look for in the bookshops and have to wait days or weeks before they get them? Try it yourself – go to a music shop and search for something that is not the most renowned Mozart or Beethoven: even today the situation is just the same.

What is the ideal, popular solution? Until the invention of the photocopy, it was simply to ask a manuscript copy – copy on demand. The process is quick and cheap, you get what you want in a few days from anywhere on the earth, you may ask for any changes or arrangements you need, and only what is needed is produced: no waste materials. Copies were produced by amateurs, collectors and professional musicians themselves, or they were commissioned to professional copyists, but many music publishers were also copyists who used to sell and advertise the skills of their companies. Giovanni Ricordi, to mention just the famous one, was among them.

The role of music manuscripts

Economy was thus the main reason for the production of the majority of 16th to mid-20th century music manuscripts that nowadays fill many libraries throughout the world.

The production of the lesser known composers, but also some genres and forms of presentation that in most cases never saw publication, or were printed exceptionally were the most sensible to the change of trends as well as those destined to large ensembles: first of all, as already said, theatre music (particularly scores and parts of full operas or excerpts), but also sacred music (polyphonic or vocal/instrumental masses and liturgical works, in particular since the 17th century), as well as orchestral and band music; even a large part of chamber music were never ever printed. Many works by renowned composers, like Johann Sebastian Bach, Gioachino Rossini or Domenico Cimarosa, were printed only long after their death.

Concerning the sacred music, in the case of oratorios the situation was similar to that of the theatre music, but the liturgical production too was a sort of short-living niche: basically, every chapel master tended to perform his own music or that by a small circle of composers. Furthermore, works were never fixed forever: according to the solemnity of the occasion and the availability of money – and thus of performers – masses were adapted, sometimes starting with a simple Kyrie and Gloria, then enlarged with the addition of the other parts of the *ordinarium*, later on combined with the *proprium*, or mixed-up with other masses, re-managed in performance medium according to the availability of voices or instruments. The result was a mishmash of infinite possible combinations absolutely incompatible with any printing process, and the circulation of such works moved seldom beyond the church for which they were composed.

There are two strange concepts for music materials, that of published manuscripts and that of unpublished prints. Despite the quirks of markets, until the first half of the 19th century several copyists/publishers/booksellers used to prepare small sets of manuscript scores of the arias that gained the greatest success in major theatre performances: a few lovers were always expected. These copies were frequently embellished with printed title pages in form of decorated frames bearing the merchant's name and surrounding the handwritten title of the work. Sometimes colours were also added by hand. The price of the manuscripts for sale was always determined in terms of the number of sheets of paper needed for the item.

Conversely, in the late 19th century publishers started to rent performance materials, instead of selling them. Considering that in orchestras and choirs there are groups of performers that play the same music (e.g. all cellos or all sopranos), these parts deserved to be printed, but the same was not true for wind instruments or soloists, for which normally only one part was needed. These parts were thus simply handwritten, while the others often bore a stamp saying "printed in place of manuscript", so as to bypass the law on legal deposit.

Cataloguing music manuscripts

The mid-19th century saw the birth of musicological studies and the interest for the study of musical sources. The large collections of music in the main libraries started to be catalogued, and manuscripts were treated just like prints. The pioneer was the *Catalogue of the manuscript music in the British Museum* by Thomas Oliphant,[1] published as early as in 1842, followed by the end of the century by the first volume of the *Catalogue de la Bibliothèque du Conservatoire Royal de Musique de Bruxelles* by Alfred Wotquenne[2] in 1898, then in 1906 by Augustus

1 Catalogue of the manuscript music in the British Museum / [by T. Oliphant ; edited by Sir F. Madden]. London : printed by order of the Trustees, 1842.

2 Catalogue de la Bibliothèque du Conservatoire Royal de Musique de Bruxelles / dressé par ordre de matières, chronologique et critique par Alfred Wotquenne. Bruxelles : Coosemans, 1898-1912.

Hugues-Hugues's new *Catalogue of manuscript music in the British Museum,*[3] in 1908 by *Dramatic music: catalogue of full scores* at the Library of Congress compiled by Oscar Sonneck[4] and subsequently by a deluge of others: in Naples, Bologna and Rome Conservatories, Modena Estense, etc. And most of them mixed manuscript and printed music without problems.

A colossal lifelong work was produced by Robert Eitner (1832-1905) at the beginning of the 20th century: the *Biographisch-bibliographisches Quellen-Lexikon,*[5] an 11-volume bio-bibliography of composers of the past containing for each one a list of manuscript and printed sources. Eitner had visited almost all major libraries around the world and built a network of active collaborators to prepare this catalogue, which is still the essential source of information. Most of catalogues are now accessible online in digital form.

Around the middle of the past century a more modern form of collective cataloguing of musical sources took place. Claudio Sartori started to speculate on an Italian catalogue of printed and manuscript music already during the Second World War and in 1965 he established with a governmental act the Ufficio Ricerca Fondi Musicali Office for Research of Musical Collections, as the host of the national catalogues of printed and manuscript music up to 1900. It was the first retrospective catalogue including the immediate past century at that time, and when the catalogue of manuscripts was stopped in 1998, it counted some 162,000 title cards. It was digitised in 2003 and is freely available on the web.[6]

In 1952 IAML (International Association of Music Libraries, Archives and Music Documentation Centres) and IMS (International Musicological Society) gave life to the first joint project of an international repertoire: RISM (Répertoire International des Sources Musicales), with the aim to provide an international catalogue of the world music heritage and continue Eitner's work. The work on music manuscripts

3 Hughes-Hughes, Augustus. Catalogue of manuscript music in the British Museum. London : printed by order of the Trustees, 1906-1909.

4 Library of Congress : dramatic music, Class M 1500, 1510, 1520 : catalogue of full scores / compiled by Oscar G. Th. Sonneck. Washington : Government Printing Office, 1908.

5 Eitner, Robert. Biographisch-bibliographisches Quellen-Lexikon der Musiker und Musikgelehrten der christlichen Zeitrechnung bis zur Mitte des neunzehnten Jahrhundert. Leipzig : Breitkopf und Härtel, 1900-1904.

6 Ufficio Ricerca Fondi Musicali : Catalogo nazionale dei manoscritti musicali redatti fino al 1900 [cited: 2011-12-01]. Available at: http://www.urfm.braidense.it/cataloghi/catalogomss_en.php

from 1600 to1800 started in the early 1970s, and national working groups were established in many countries, producing paper title cards which were collected by the *Zentralredaktion* that was first established in Kassel and later moved to Frankfurt. Around 1985 a PC-based application, PiKaDo, was created, and most title cards were converted. Since 2007 it has become possible to input data online, with the MARC21 interface Kallisto. The catalogue has been growing constantly and now counts about 800,000 records from 32 countries.

After two editions on microfiche (1993-1994), the catalogue has been published approximately yearly on CD-ROM, and in 2007 a parallel online access appeared through different vendors. Since 2010, free online access is possible at the RISM website.[7]

In 1985, UNESCO developed CDS/ISIS, an information and retrieval system which gained good success, thanks to its flexibility, no need for a lot of resources and the fact that it was free of charge. Its version for music materials was widely used to catalogue music manuscripts in various countries, including Croatia, where a conversion tool to the PiKaDo application was also created. More than 9,000 records from Croatian libraries are now visible in the RISM online catalogue.

National catalogues of music manuscripts

Italy has an extraordinary historical music heritage; hence it is no surprise that a large and detailed specific cataloguing system has been developed in Italy. Its creation dates back to 1986 with a special project to convert into a central database the catalogue of printed music of the Ufficio Ricerca Fondi Musicali (160,000 records), the title cards of music manuscripts produced for RISM (80,000), and cataloguing sources in Southern Italy. Special descriptive and access fields were added to the standard UNIMARC format, and in 1989 the catalogue was already accessible online with a dedicated search form. Thanks to its compatibility with the catalogue of the National Library Service (SBN), since 2004 all Italian libraries can catalogue and manage all their music holdings with the highest degree of detail. The newly redesigned OPAC[8] includes more than 700,000 records of music resources, about 200,000 of which concern music manuscripts.

7 RISM : Répertoire International des Sources Musicales : Online catalogue of musical sources [cited: 2011-12-01]. Available at: www.rism.info

8 Opac SBN : catalogo del Servizio Bibliotecario nazionale [cited: 2011-12-01]. Available at: http://opac.sbn.it/opacsbn/opac/iccu/musica.jsp

Both United Kingdom and Switzerland have decided to set up national catalogues of music manuscripts, using the bibliographic records produced for RISM. Now they provide online access to about 55,000 and 34,000 music manuscripts respectively.[9] The Library of Congress has also catalogued music manuscripts: about 2,500 may be found in their OPAC.[10]

Cataloguing rules for music manuscripts

Such a sparkling activity has inevitably lead to the development of a cataloguing tradition and later on, to the adherence to specific cataloguing rules.

As part of the project of an international cataloguing code for music that started in 1957, the International Association of Music Libraries published in 1975 the 4th volume, *Rules for cataloging music manuscripts*, compiled by Marie Louise Göllner,[11] containing detailed instructions on description, headings and uniform titles. Approximately in the same period, RISM, starting the worldwide work on music manuscripts, distributed a series of typescript guidelines, including also details on how to report the music and text incipit, a very important element for the identification of works contained in manuscripts.

In Italy, the translation of the IAML code was published in 1979, as part of the *Manuale di catalogazione musicale,*[12] an appendix to the national general cataloguing rules, but in 1984 a new and more complete set of rules for music manuscripts was published in the *Guida alla catalogazione dei manoscritti musicali*,[13] edited by Massimo Gentili-Tedeschi. Focusing mostly on historical manuscripts, the guidelines give detailed instructions on how to compile the music and text incipit and uniform title.[14] The national guidelines on the description and census

9 RISM : Répertoire International des Sources Musicales : United Kingdom [cited: 2011-12-01]. Available at: http://www.rism.org.uk; RISM : Répertoire International des Sources Musicales : Schweiz - Suisse - Svizzera - Switzerland [cited : 2011-12-01]. Available at: http://www.rism-ch.org

10 Library of Congress online catalogue [cited: 2011-12-01]. Available at: http://catalog.loc.gov

11 Rules for cataloging music manuscripts / compiled by Marie Louise Göllner ; traduction de Yvette Fédoroff ; Übersetzung von Horst Leuchtmann. Frankfurt : C. F. Peters, 1975.

12 Manuale di catalogazione musicale. Roma : Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche, 1979.

13 Guida a una descrizione catalografica uniforme dei manoscritti musicali / a cura di Massimo Gentili-Tedeschi. Roma : Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche, 1984.

14 These guidelines are now available as a pdf file at http://www.iccu.sbn.it/opencms/export/sites/iccu/documenti/gdmm.pdf [cited: 2011-12-01].

of manuscripts were published in 1990 in the *Guida a una descrizione uniforme dei manoscritti e al loro censimento,* edited by Viviana Jemolo and Mirella Morelli, containing criteria for a broader and more detailed description, and including one appendix by Massimo Gentili-Tedeschi on music manuscripts,[15] one by Bonifacio Baroffio[16] on liturgical manuscripts, and one on illumination and decoration by Valentino Pace.[17]

Gentili-Tedeschi's appendix is basically a revision and adaptation of the 1984 guidelines, with some instructions for non-musical librarians on how to recognise a music manuscript, while Baroffio's work describes the Roman liturgy, the prayers and the songs, the distinction between and functions of different liturgical books and the role of music, the structure of the liturgical year and of the Roman and Ambrosian mass, specifying all the elements of the book that must be reported in its bried or detailed record. Both appendices have a bibliography of the most important reference works and repertoires.

The world is moving: remaining in Italy, the recent general cataloguing rules, *Regole italiane di catalogazione* or REICAT,[18] include a chapter on the description of unpublished resources: a sort of prelude for the preparation of a new manual on music manuscripts, that is in fact on its way and is expected in 2012.

The process of consolidation was just finished, but the ISBD[19] is going to change once more: after a long-lasting debate, the need for a broader descriptive standard for bibliographic resources has led the ISBD Review Group to extend the coverage of the ISBD to unpublished resources. The extension was decided at the meeting held on the occasion of the IFLA World Library and Information Congress in Puerto Rico in August 2011, approving the recommendations of the study group that had worked for one year experimenting and analysing the applicability of such an extension, on the basis of a draft conceived for an ISBD-like description of music manuscripts.

15 Gentili-Tedeschi, Massimo. I manoscritti musicali. // Guida a una descrizione uniforme dei manoscritti e al loro censimento / Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche ; a cura di Viviana Jemolo e Mirella Morelli. Roma : ICCU, 1990, pp. 103-142.

16 Baroffio, Bonifacio. I manoscritti liturgici. // Guida. Op. cit., pp. 143-192.

17 Pace, Valentino. Miniatura e decorazione dei manoscritti. // Guida. Op. cit., pp. 91-102.

18 Regole italiane di catalogazione : REICAT / a cura della Commissione permanente per la revisione delle regole italiane di catalogazione. Roma : ICCU, 2009.

19 ISBD : International standard bibliographic description / recommended by the ISBD Review Group ; approved by the Standing Committee of the IFLA Cataloguing Section. Consolidated ed. Berlin ; München : De Gruyter Saur, 2011.

The roadmap is now traced, although it has not been an easy decision: there are issues of possible conflicts with other standards, e.g. the archival description of ISAD(G),[20] The need to avoid excessive change and expansion of the ISBD rules was recognised, so that in many cases there will be only general indications of the specificities. However, the debate is still open as to "which" manuscripts will be described in the ISBD: it was made clear that archival papers and correspondence will be excluded: only music manuscripts were indisputable.

Concerning manuscripts, there are parts of the description that need only small adaptations: physical description may be even simpler, and multilevel description is at most limited to two levels. But undoubtedly, there are many issues to face, areas and subjects that will need careful analysis in order to avoid massive use of notes. Considering the newly published consolidated edition of the ISBD, these are the main questions and doubts:

- *sources of information*. While in published resources the main criteria for the selection of the sources of information are the position and the typography of the resource, in the case of manuscripts there is also the "authenticity", i.e. the source that is closer to the production of the manuscript itself;
- *transcription of titles and texts from the resource*. In the Consolidated edition of the ISBD the option "B" to maintain the original wording, formerly used in ISBD(A) and maintained in the preliminary phase of consolidation, has been removed. It is a pity, because it could have been very practical for manuscripts;
- *indication of the nature of the unpublished resource*. May it be placed in the Content form and media type Area 0?
- *edition area*. May it be used for manuscripts of the same content, presenting different drafting stages or declaring a drafting stage, as some other rules like RDA seem to suggest?
- *publication, production, distribution, etc., area*. It seems that it can include the statement of where, by whom and when a manuscript was produced, i.e. written, but may it also contain a generic statement of an autograph or a copy?

20 ISAD(G) : General International Standard Archival Description / adopted by the Committee on Descriptive Standards, Stockholm, Sweden, 19-22 September 1999. Ottawa : International Council on Archives, 2000.

- *series and multipart monographic resource area*. Its new definition is very useful for anthological manuscripts; may it also be used for composites?
- *resource identifier and terms of availability area*. May it be used for the indication of (music) incipit?

Uniform title and access points for music manuscripts

Making music accessible through a catalogue is not at all a simple task. Users have the most diverse needs and the common access points (author, title, subject and/or classification) are in most cases of little help.

Language barriers thus appear suddenly, while music is typically cross-border. And many titles are so generic that they are absolutely useless to select one single work: on one hand titles like *sonata*, *trio* or *concerto* do not mean anything if they are not associated with the name of a composer and accompanied by other elements, like a medium of performance, a key, an opus number; on the other hand, the same work may be indicated correctly in as many languages as possible: *symphony*, *sinfonia*, *symphonie*, *simfonie*, *simfonija,* etc. The medium of performance itself is very confusing again: *violin*, *violino*, *Geige*, *violon*, скрипка, 바이올린, *fiol* are exactly the same instrument.

Music manuscripts, as they are often destined for personal use or for copy-on-demand, are even more confusing: titles are often limited to a hint, author's name or generic phrase; words are sorted in the most fanciful way, filled with ceremonial formulas, etc., not to mention mistakes, abbreviations, inaccurate orthography and misleading indications.

No surprise, therefore, if the tradition of uniform titles was first introduced for music manuscripts.

The terms used to define uniform titles varied through time, according to their prevailing scope or the manner of compilation:

- *filing title*. One of the first terms used: the main aim is to sort title cards;
- *conventional title*. Old and outdated: the title is shaped using conventions in selecting and sorting the terms;
- *grouping title*. One single title is used in order to give access to different manifestations of the same work or expression;
- *uniform title*. The most common term, and the one I still normally use: the title is built in such a way that it always appears in the same way in different catalogues;

- *preferred title*. The most modern term, each cataloguing agency, or even each user may prefer one title or another, in his/her native language, there is no "good" term, but all are linked together.

Whichever term we use, the aims are manifold: normalise the titles disregarding the way they appear on the sources, file the title cards or sort the bibliographic records, group all the sources of the same work, and within the same group all the expressions (arrangements, translations, formats or performances), parts (excerpts), etc. of that work, identify and disambiguate works, give a predictable and standard access to bibliographic records.

But there are also facets of music that are outside the scope of the uniform title. It is not really fit to describe groups of works, even if it is not at all uncommon to find such collective titles looking just like uniform titles, and even titles of works by different authors. It may not be used to define musical genres, subjects, etc., either. Apparently it was not designed to identify derived works, like paraphrases, fantasies, variations, etc.: these are simply new works, often by different authors, and have their own uniform titles. All the details of uniform title in music cannot be discussed in this paper; I will thus give only a hint of how it is built up.

Manifestations are not the main source of information to create a complete uniform title. The preferred sources are thematic catalogues, because, besides the music incipits that may be compared with the resource in hand, they contain all information essential to identify the work in the catalogue, including a number that makes any uniform title unambiguous. If no thematic catalogue is available (which is, alas, the most common case), other catalogues of works, or lists of works in general music repertoires may be used. They often contain plenty of useful information, like dates of composition, key, original medium of performance, and reference to first editions or complete works, that may be useful to look at the full music content. Library catalogues, especially union catalogues or metaopacs may also give plenty of information, even if the uniform titles that one finds there may need to be adapted to the specific local cataloguing agency rules. The analysis of the item in hand is the last resort, but it is often the only one, and needs definitively good musical knowledge if one wants to produce a suitable uniform title.

"Uniform" titles, by the way, are uniform in a very peculiar way, much depending on the period when a work was composed (criteria varied quite a lot throughout the centuries), on each composer's production or preferences (often it seems better not to make an exception for a single work if most works of the same author are catalogued with the same "style"), but first of all language makes a big difference, each cataloguing agency having its preference(s) for its records, including authority records.

In order to be unambiguous, uniform titles look differently according to the circumstances. The first big difference occurs if the title of a work is considered significant or generic. Just to give an example, "La clemenza di Tito" or "Trio": the first title (combined with the name of Mozart, because several other composers have set Metastasio's text to music) is sufficient to unambiguously identify one work, the other is not. The first one will be maintained in the original language, the second will generally be translated in the preferred language(s) of the cataloguing agency and several more added elements are needed to make it unambiguous.

Broadly speaking, there are musical genres that present significant titles and genres where titles are generally not significant. Secular vocal and sacred non-liturgical music (i.e. operas, cantatas, songs, oratorios, just to mention some forms), including all secular vocal forms: pop-rock, jazz, etc., instrumental music, if it is not "descriptive" (I am thinking here of titles like "Also spracht Zarathustra" or "Les cloches de Genève"), very often have generic titles, indicating the musical form: "Sonata", "Notturno", "Trio". Sacred liturgical music should have significant titles, quite often identical to the text incipit ("Ave Maria", "Magnificat"), or to the form ("Mass"), but as the same texts have been set to music innumerable times, also by the same composers, the result is that these titles are not at all sufficient to identify a single work.

This is why the uniform title for music is composed of several elements, many of which are used as access points or to disambiguate. Cataloguing rules vary in terms of punctuation and details, but generally these elements are:

- a "filing" title: the title of the work, be it significant or not;
- the title of the part or excerpt, if needed;
- the medium of performance, in detailed or summarised form, generally needed when title is generic ("sonata for piano");
- a distinctive number, which may be a thematic catalogue number ("KV 331"), an opus number ("op. 32"), or a serial number ("n. 1");
- an indication of key ("C minor");
- a date of composition or first publication;

- an appellative or "nickname", often renowned, that has not been chosen as title ("Kreutzer", "Classica");
- sometimes an indication of form or any other term that may help to identify the work unambiguously.

Other elements may be added to identify expressions of the same work:

- a statement of arrangement;
- the new medium of performance of the arrangement.

All of these elements are among the main access points for music resources, but for musicians they are often not sufficient: there is often a need to look for a specific presentation format (e.g. the score, the parts), for a specific edition (it is very common for students to practice on a favourite revision indicated by their teacher). And users' needs never end: anniversaries make musicians look for music of composers born or dead in a certain year (be prepared for 2013, you will listen to plenty of Verdi and Wagner!), and, last but not least, there are quite often concerts of unpublished music, so we come back to the importance of cataloguing music manuscripts.

References

Baroffio, Bonifacio. I manoscritti liturgici. // Guida a una descrizione uniforme dei manoscritti e al loro censimento / Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche ; a cura di Viviana Jemolo e Mirella Morelli. Roma : ICCU, 1990. Pp. 143-192.

Catalogue de la Bibliothèque du Conservatoire Royal de Musique de Bruxelles / dressé par ordre de matières, chronologique et critique par Alfred Wotquenne. Bruxelles : Coosemans, 1898-1912.

Catalogue of the Manuscript Music in the British Museum / [by T. Oliphant ; edited by Sir F. Madden]. London : printed by order of the Trustees, 1842.

Eitner, Robert. Biographisch-bibliographisches Quellen-Lexikon der Musiker und Musikgelehrten der christlichen Zeitrechnung bis zur Mitte des neunzehnten Jahrhundert. Leipzig : Breitkopf und Härtel, 1900-1904.

Gentili-Tedeschi, Massimo. I manoscritti musicali. // Guida a una descrizione uniforme dei manoscritti e al loro censimento / Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche ; a cura di Viviana Jemolo e Mirella Morelli. Roma : ICCU, 1990. Pp. 103-142.

Guida a una descrizione catalografica uniforme dei manoscritti musicali / a cura di Massimo Gentili-Tedeschi. Roma : Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche, 1984. Also available at: http://www.iccu.sbn.it/opencms/export/sites/iccu/documenti/gdmm.pdf [cited: 2011-12-01].

Hughes-Hughes, Augustus. Catalogue of manuscript music in the British Museum. London : printed by order of the Trustees, 1906-1909.

ISAD(G) : General International Standard Archival Description / adopted by the Committee on Descriptive Standards, Stockholm, Sweden, 19-22 September 1999. Ottawa : International Council on Archives, 2000.

ISBD : International standard bibliographic description / recommended by the ISBD Review Group ; approved by the Standing Committee of the IFLA Cataloguing Section. Consolidated ed. Berlin ; München : De Gruyter Saur, 2011.

Library of Congress : dramatic music, Class M 1500, 1510, 1520 : catalogue of full scores / compiled by Oscar G. Th. Sonneck. Washington : Government Printing Office, 1908.

Library of Congress online catalogue [cited: 2011-12-01]. Available at: http://catalog.loc.gov.

Manuale di catalogazione musicale. Roma : Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche, 1979.

Opac SBN : catalogo del Servizio Bibliotecario nazionale [cited: 2011-12-01]. Available at: http://opac.sbn.it/opacsbn/opac/iccu/musica.jsp

Pace, Valentino. Miniatura e decorazione dei manoscritti. // Guida a una descrizione uniforme dei manoscritti e al loro censimento / Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche ; a cura di Viviana Jemolo e Mirella Morelli. Roma : ICCU, 1990. Pp. 91-102.

RISM : Répertoire International des Sources Musicales : Online catalogue of musical sources [cited: 2011-12-01]. Available at: http://www.rism.info

RISM : Répertoire International des Sources Musicales : United Kingdom [cited: 2011-12-01]. Available at: www.rism.org.uk

RISM : Répertoire International des Sources Musicales : Schweiz - Suisse - Svizzera - Switzerland [cited : 2011-12-01]. Available at: http://www.rism-ch.org

Rules for cataloging music manuscripts / compiled by Marie Louise Göllner ; traduction de Yvette Fédoroff ; Übersetzung von Horst Leuchtmann. Frankfurt : C. F. Peters, 1975.

Regole italiane di catalogazione : REICAT / a cura della Commissione permanente per la revisione delle regole italiane di catalogazione. Roma : ICCU, 2009.

Ufficio Ricerca Fondi Musicali : Catalogo nazionale dei manoscritti musicali redatti fino al 1900 [cited: 2011-12-01]. Available at: http://www.urfm.braidense.it/cataloghi/catalogomss_en.php

Bibliographical sketch

Massimo Gentili-Tedeschi graduated in architecture and flute, and is the head of the music department of the National “Braidense” Library of Milan and of the Office for Research of Musical Collections, that takes care of the national catalogue of printed and manuscript music. Expert in automation for music libraries, since 1986 he has collaborated with ICCU (the Central Institute for the National Catalogue) on the development and maintenance of the catalogue of the National Library Service for music resources; as a member of the ICCU Working group for music cataloguing, he participates in the establishment of the new national cataloguing rules for music, and also as a member of the Subcommission on UNIMARC of IAML (International Association of Music Libraries, Archives and Music Documentation Centres) he contributes constantly to drawing up proposals for the adaptation of the format. As the head of the IAML Subcommission for ISBD and music, he is the *liaison* to the IFLA ISBD Review Group and has been its standing member since 2011. In 2010-2011 he took part in its Study Group for the Inclusion of Unpublished Resources in the ISBD. After several roles of responsibility, from 2004 to 2007 he was president of IAML.

He edited the Italian cataloguing rules for music manuscripts, *Guida alla descrizione catalografica uniforme dei manoscritti musicali* (Rome: ICCU, 1984), and the part on music manuscripts of the *Guida a una descrizione uniforme dei manoscritti e al loro censimento* (Rome: ICCU, 1990). He publishes articles on music librarianship in specialised periodicals and regularly holds courses on music cataloguing in Italy and abroad.

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OPIS I PRISTUP TEMELJNOM MEDIJU ZA RASPAČAVANJE GLAZBE

Sažetak

Rukopisi su vrlo važni izvori za raspačavanje nota i njihova je upotreba bila raširena puno prije otkrića tiska. Djela slavnih kompozitora tiskana su dugo nakon njihove smrti. Note često ne treba tiskati, prijepis rukom je jeftin, proizvede se samo ono što je potrebno, a prilagodbe za pojedine korisnike je lako izvesti. Za neke žanrove i prezentacijske oblike koriste se gotovo isključivo rukopisi.

Knjižnični katalozi glazbenih nota objavljuju se od sredine 19. stoljeća, a međunarodni katalozi od 1900. Svjetski su projekti započeli nakon 1950., pa su danas veliki katalozi notnih rukopisa online dostupni, u čemu Italija ima vodeću ulogu.

Međunarodna kataložna pravila za notnu građu uspostavljena su 1975. godine i otada se stalno razvijaju, a Italija je protagonist. IFLA-ina međunarodna bibliografski standard ISBD razmatra uključivanje neobjavljene građe, u što spadaju i notni rukopisi.

Opis rukopisa je u nekim aspektima vrlo jednostavan, ali postoje i brojna pitanja s kojima se treba suočiti u razvijanju kataložnih pravila koja se odnose na identifikaciju i pristup. Jedinstveni stvarni naslov je svojstven notnoj građi i izvorno je zamišljen za notne rukopise.

Ključne riječi: notni rukopisi, katalogizacija, kataložna pravila, jedinstveni stvarni naslov, bibliografski opis

THE CONCEPTUALIZATION OF ARCHIVAL MATERIALS HELD IN MUSEUMS
A PILOT STUDY

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Abstract

Archival material held in museums is often described using museum practices. The main hypothesis of this paper is that the decision about how a certain material object should be described depends on the curator's understanding of what is archival and what is museum material. As result, non-uniform descriptive metadata is created, causing difficulties in accessibility, especially for end-user searching. This paper focuses on documentary material on paper as primary medium.

Keywords

archive, museum, descriptive standards, context, Postmodern approaches, curator

Introduction

In an archive, the finished or completed description of an archival object that is made available today to users for searching, regardless of its type and medium, will normally have been developed as a consequence of applying a certain descriptive standard. The description of archival material in museums is often according to whatever museum practices are being used by that repository to describe museum material. These practices may also be non-standard. Some curators also use archival description standards, but in those cases the selection of the description standard to be applied depends on the manner in which the curator sees the unit being described. The main hypothesis of this paper is that description of a particular material object depends on the curator's understanding of what is archival and what is museum material. As result,

1 Student's essay supervised by Professor Anne Gilliland.

non-uniform descriptive metadata is created, causing difficulties in accessibility, especially for end-user searching.

Theoretical framework

As E. Ketelaar asserts: "The record is full of meanings".[2] How it is understood is layered, and in addition to reading several different meanings of the content of the record we necessarily need to "read" several different meanings into its form, the impacts of the passage of time on the tangible appearance of the medium, and its history and life.

It could be very useful to understand what is considered archival material when it is held in a museum setting. Is there a difference between how the record is understood when it is kept in a paper medium between archival and museum settings? Will an archivist in an archive and a curator in a museum approach the record in a similar way? What elements will a certain descriptive approach include, and will some aspects of archival or museum contextualization provide more complex and abundant information on the record itself than others might? What form does museum contextualization of archival material really take? Since materials in museum collections are mainly described at the item level, does these privilege individual archival objects over aggregations of records in archival fonds? Furthermore, are their descriptions superior to those of series of records in archival fonds?

Postmodernist "multi"approaches also lead to different conceptualizations of context in archival and museum settings. Context observed from the archival perspective primarily considers the context of the record creation, original use and structure of the system in which the record originated. Museum context includes considering the record creation, all subsequent uses, and also its interpretation by curators. It thereby supports a truly postmodernist view of re-contextualization. Museum context is markedly artificial.[3] Furthermore museum context is curatorial in nature, and includes various interpretations and recontextualizations that occur when exhibitions are put together.[4] H. Taylor

2 Ketelaar, Eric. Cultivating archives : meanings and identities. // Archival science 2011, published online 22 June 2011 [cited: 2012-01-09]. Available at: http://www.springerlink.com/content/b268186748544728/fulltext.pdf

3 Maroević, Ivo. Uloga muzealnosti u zaštiti memorije. // Baštinom u svijet. Petrinja : Matica Hrvatska, 2004. p. 43.

4 Dietz, Steve; Howard Besser; Ann Borda; Kati Geber; Pierre Lévy. Virtual museum (of Canada) : the next generation [cited: 2012-03-06]. Available at: http://besser.tsoa.nyu.edu/howard/Papers/vm_tng.doc. P. 23.

considers an archival record to be an "instrument"for operations and compares it to the museum artefact. He writes that "Our documents have, in one way or another, made an impact on the lives of people to whom they were directed. They become powerful 'signs' in a semiotic sense, and they can move us if we can only enter in the context of their creation, which we endeavor to do as part of our profession".[5]

Maybe only the fact that the record originated then and there, and from a specific person or public body might be considered its original context. The reasons why and for which purpose the record was created need not be discussed in the description as the range of possible post-modernist answers are deafening because facts in the text are related to their past, present and future reinterpretations.[6] The postmodernist archival approach emphasizes that the meaning of a record is conditional, always plural and without final authority. Such an approach is very close to the museum understanding of the reality of a museum item: one item is related to a range of intertwined histories and persons in its pre-museum "life", and most often belongs to several different realities. Different messages are, therefore, sought in it by different interpreters. An archival record found in pluralized museum setting has been privileged in that it has been considered in detail from all stated position except for one: the functional context of its creation. When the record is considered and described at the item level, it becomes intellectually separated (unfortunately, often also physically) from its original system and, therefore, its original context is not read, but interpreted. If an archivist is to elucidate the intended role and function of the record,[7] then the archivist or curator must become a postmodernist decipherer of multiple meanings. This could be seen as a similarity between archival and museum approaches. However, archival contemplation would include and exploration of the original function context of record, whereas museal contemplation would include that and all other subsequent contextualization of the record.

The artefact itself or the context of the artefact as part of some museum and/or archival collection is introduced through a curatorial view of what this record is. Is there a difference in curatorial views

5 Taylor, Hugh. Herritage revisited : documents as artefacts in the context of museums and material culture. // Archivaria 40(1995), 10.

6 Cook, Terry. Archival science and Postmodernism : new formulations for old concepts. // Archival science 1(2001), 3-24.

7 Schwartz, Joan M. Negotiating the visual turn : new perspectives on images and archives. // The American archivist 67(2004), 110.

based on museum and archival value systems? In what manner will he/she describe this record-artefact – using archival or museum standards? This will probably depend on fact whether the curator reflects on the record-artefact as museum object or as archival document. This record will become a part of some knowledge organization system. Which one? Archival or museal? If the record or a document, map, manuscript, photograph, technical drawing or something else that could be both archival and museal material in which category will description of such items fall, and what will be the consequences of that categorization?

Objective

The objective of this pilot study was to obtain insight that might be used in more extensive research on the same topic with the population of curators within Croatian Museums. The starting point is to find out the ways in which museum curators think about archival and museum material and what types of material they identify as being archival as opposed to museum material.

Expectations

This pilot study sought to get insight into the opinions of curators about the existence of possible differences between archival and museum material in museums. It was anticipated that curators would express such differences based upon:

1. The curators' educational background
2. The type of museum in which they work

An additional expectation was that certain types of material, such as technical drawings or documents would be considered to be archival material, while the greatest difference in opinion will be evidenced over the nature of photographic and cartographic material.

Methodology

This pilot study employed a survey approach. The questionnaire used to survey curators consisted of 10 closed-ended and open-ended questions and was conducted by e-mail. It was written in both Slovenian and Croatian languages. The questionnaire was sent with a cover letter in which the purpose of the research and main assumptions of the research were explained.

Respondents

The study focused on museum staff – primarily curators. Respondents came from museum institutions of various types in the region: in Slovenia, Bosnia and Herzegovina and Serbia. All respondents are professionals with university degrees. In order to achieve a heterogeneous sample, when selecting an institution where a respondent is employed attention was paid to the range of types of museums, sizes of museum collections, and types of material that the museum collects. With a random sample of 10 museum institutions, and 10 respondents from each of the above mentioned countries, the aim was to cover all prominent categories of selection criteria. Data on the type of museum, types of collections and material were taken from official websites of individual institutions. A further sampling procedure involved the selection of the target person (curator). In the first selection round, respondents were selected according to the titles of their collection and the description of staff positions. This took into account curators who are in charge of a material collection in which paper is the main medium of the record. In addition to this approach a snowball technique was used, whereby the curators already identified were asked to forward the questionnaire to their colleagues who are in charge of similar collections in other museums. The sample size was small, but since this was a pilot study, it was considered that a certain degree of heterogeneity needed to be achieved as a precondition for obtaining data that would indicate whether this research direction is feasible.

Statistical description of response data

The question on types of material in the collection for which the curator is responsible was presented in open-ended form because the intention was for the material categories to emerge through respondents' answers. The respondents stated that the following types of material were present in their collections: photographs, posters, invitations, audio recordings, video recordings, newspaper articles, drawings, personal documentation and official documents. Since museum material is extremely heterogeneous, it would be very difficult through closed-ended questions to express all possible individual types of material that museum might hold. From all the responses, individual categories of material were generated that further served as the basis for analysis: photographic material (e.g. positives and negatives), personal documentation, official correspondence, screen and other form of prints (e.g. posters and invitation), blueprints and cartographic material, newspaper articles and audio and video recordings. Personal documentation and photographic material represented the largest percentage of the responses (52.9 %) (Table 1).

	Categories of material in collections	
	freq.	**%**
Photographic material	9	52,9%
Personal documentation	9	52,9%
Screen prints (invitations, posters)	8	47,1%
Official documentation	7	41,2%
Blueprints, cartographic material	5	29,4%
Newspaper articles	3	17,6%
Audio and video recordings	3	17,6%

Table 1.
Responses to the question on categories of possible archival material in museum collections

Of 17 respondents, 11 stated that no collections are registered as archival collections, and 4 respondents stated that their institutions have a collection registered as a collection of archival material in their museums (Table 2).

	freq.	**%**
Exists	4	26,7%
Does not exist	11	73,3%

Table 2.
Responses on the existence of a museum collection registered as an archival collection

Although in the majority of cases collections of archival material in museums are not officially registered as archival collections, the respondents were given the opinion to estimate themselves whether such collection might exist in their institutions, and if it exists, according to which descriptive practices it is described (see Table 3). 71.4% of the respondents stated that such collections are described according to museum standards, and 28.6 % that they are described according to archival standards.

	freq.	%
Museum standards	10	71,4%
Archival standards	4	28,6%

Table 3.
Responses to the question on the manner in which collections of archival material are described

Table 4 shows responses to the question "What material do you consider to be archival that exists in your museum? ". The largest percentage of respondents (47.1 on the frequency of 8 valid responses) stated that they consider archival material to be official correspondence (documentation), photographic material (29.4% on the frequency of 5 valid responses), screen and other prints (29.4 % on the frequency of 5 valid responses), and personal documentation (29.4% on the frequency of 5 valid responses).

	Seen as archival material	
	freq.	%
Official documentation	8	47,1%
Photographic material(positives, negatives)	5	29,4%
Screen print (invitations, posters)	5	29,4%
Personal documentation	5	29,4%
Blueprints, cartographic material	4	23,5%
Newspapers articles	2	11,8%
Audio and video recordings	2	11,8%

Table 4.
The potential archival value of types of material when processing materials

Respondents were asked about which aspects they considered to be most important when processing a collection under their care or supervision. In Table 5 data are grouped in the following categories: content, medium, age, origin and author, and context of origination. The respondents were asked to rank these categories on a scale from 1 to 5 where 1 was the least important and 5 of extreme importance.

	Range of importance				
	1	2	3	4	5
Content	27,3%	9,1%	9,1%	9,1%	45,5%
Medium	54,5%	18,2%	9,1%		18,2%
Age		18,2%	54,5%	27,3%	
Origin and author	9,1%	18,2%	18,2%	36,4%	18,2%
Context		25,0%	25,0%	33,3%	16,7%

Table 5.
The importance of different aspects of materials in processing collections

Categories of origin/authorship and context of origination in the museum system are related but separate categories. Depending on the view of the person examining and describing a museum object, one category will be of greater importance than the other. In the museum context the signature on an architectural blueprint of a famous architect will be more important when processing the blueprint than, for example, the registration and classification number printed on the back of the blueprint that would mark that the blueprint belonged to an individual folder in a certain registration scheme.

Respondents stated that the content of the material is the most important aspect they considered during processing (45.5% respondents marked it 5). Of moderate importance are the origin and author of the material (36.4% respondents marked it 4) and the context in which the material originated (33.3% respondents marked it 4). Intermediate importance was assigned to the age of the material (54.4% respondents marked it 3), and least importance to its medium (54.5% respondents marked it 1).

If we compare the responses of those who stated that archival material in their museums is described according to museum descriptive practices and the responses on the importance of individual aspects that are important in the description of the material (contents, medium, origin and author, age, context) we may conclude that most important are considered to be contents (average ranking 3.7), then age (average ranking 3.3), context (average ranking 3.3), origin and author (average ranking 2.9), and medium (average ranking 2.6).

The majority of respondents belong to the age groups from 51 to 60 years (41.2%) and 41 to 50 (35.3%), of which most have worked in museums for 21 or more years (41.2%), with 23.5% having worked 16 to 20 years in museums. In terms of their educational background, the majority of respondents graduated in history (29.4%) and art history (23.5%). Only one respondent has a university degree in museology, and one has a degree in archival studies.

Discussion

The finding that the museum curators who responded consider official correspondence (i.e. the category of official documentation) that is kept as part of some museum collections is in fact archival material in its character is in line with the initial assumptions of the pilot study. As this pilot study only surveyed a small number of respondents it would certainly be necessary to confirm these opinions using a more representative sample. The same would also have to be done to substantiate the opinion expressed by several respondents that photographic material is also in its character archival material, especially since the majority of respondents stated that it is described according to museum standards. Also in line with the study's initial assumptions is the fact that the content of material is the most important aspect considered when describing an item. However, we would need to consider whether in archival descriptive practice, the functional context would be the most important aspect to consider. In future research, this data category might be a place where it would be possible to discern differences between archival and museum directions.

This pilot study proved to be successful in some segments and in some other significant improvement is required. Open-ended questions proved successful in questions where respondents were asked to state what types of material they had in their collections and what type of material they considered to be archival material. With this approach, categories of material could be independently generated from obtained responses, without setting a frame in advance, where some responses might have not been identified.

The question asking respondents to rank by importance those categories they consider important when describing a unit of material was, however, insufficiently defined. As many as 7 respondents provided invalid or non-usable responses because they incorrectly interpreted the Likert scale from 1 to 5 or they skipped this question.

It must be stressed here that in museum practice, at least in the museums in the region to which the surveyed curators belong, there are different levels of museum material. There are original document (for example personal testimonial) and required photographs of the document (a photographs or nowadays digital photograph of a personal testimonial). This personal testimonial will enter a museum collection as a museum object and its photograph will be incorporated into the fonds containing the museum's supporting documentation. The difference between these two levels is not investigated in this survey, but it is an important topic to explore further. The same is also the case in terms of defining personal documentation.

Although an initial assumption was that respondents from older age groups and with more work experience would consider context to be more important than content, the pilot study was unable to verify this and could not establish a connection between the two questions, possibly because of the small sample size.

Where does the curator end and the researcher/visitor begin?

Museum context has a postmodern character by its very nature because it is highly artificial, includes various interpretations of museum artefacts, and often recontextualization materials in exhibits. Multiple meanings of an object are always given, because the artifact is observed across different time periods. Different periods and social frameworks generate new information about the object.[8]

Museum context is given and defined by each institution's curatorial framework and interpretation. We tend to agree with M. Ames when he asserts that academic categories (materialized in some institutional forms) are arbitrary divisions of a world more complexly interwoven.[9] Nevertheless such divisions exist not just in distinguishing different heritage institutions but also in distinguishing different institutional frameworks that influence the viewpoints of professionals working in them.

8 Maroević, I. Op. cit., p.25.
9 Ames, Michael M. Museology interrupted. // Museum international 57, 3(2005), 44.

If professionals want to preserve the identity of the document that is being described (document in term of M. Buckland[10]) then they must first identify significant properties of that document.[11] As G. Yeo stated "nothing is the same as something else".[12] What is significant to describe in a document is up to the curator to decide. There is a lot of power in description. Every description is in fact some sort of representation of what is document about. As Duff and Harris have asserted – there is no representation without interpretation.[13] Every new interpretation supplements existing information and creates new and exciting meanings attached to a given document. In this aspect, records in the museum context can be considered as privileged. The curator devotes his or her description to individual items. Groups of artefacts form a collection. The same case is with collection in an archive. Archival description can also be based at the item level, but there is a difference. Archival description emphasizes the functional context of the item being described providing a broader picture of the original creation of the described item. The descriptive emphasis that a curator will give in a museum context depends on his or her point of view.

Archival context and museal recontextualization

From a museal point of view there are multiple contexts that need to be described. There is the creator's context and the various contexts of different times, places and people that in some way came in contact with the museum document. The curator's description of a museum object therefore involves ongoing interpretation and recontextualization. However the archivist also does some interpretation, albeit less overt, while describing archival documents. Whether there really is a difference in these description processes needs to be further explored. Maybe the idea of a finished or completed description (as opposed to one that is constantly evolving) that can provide access to a given document is

10 Buckland, Michael K. Information as a thing. // Journal of the American Society for Information Science 42(1991), 351-360. Available at: http://people.ischool.berkeley.edu/~buckland/thing.html [cited: 2012-03-06].

11 Yeo, Geoffrey. Nothing is the same as something else : significant properties and notions of identity and originality. // Archval science 10(2010), 85-116.

12 Ibid., p. 85.

13 Duff Wendy; Harris Verne. Stories and names : archival description as narrating records and constructing meaning. // Archival science 2(2002), 275.

in practice illusory because as E. Ketelaar argues different meanings are assigned to the same resource by different people at different times.[14]

It was expected that curators responding to this survey would think of official documentation as archival material in character. It would be expected that the ground-plans and blueprints as well as cartographic material would be regarded as archival material. However, most of the curators surveyed didn't see them in the light of "official documentation".

Most of surveyed curators answered that content is the most important aspect in museal description. From an exhibition perspective this is understandable. Museum do not need (as archives do) to use their objects as proof of some legal activity. The content of museum artefacts/documents is an aspect that will be the most interesting to work with in the exhibition context. Of course, authenticity and reliability of the artifact are important, but they seem to be understood by the very fact that the object is in a museum. Museum's objects are "de-functionalized and de-contextualized, which means that, as from that time onwards, they are no longer useful for their original purpose but instead become a part of a symbolic order which grants them a new meaning and a new value. They thus turn into sacred evidences of culture."[15]

Conclusion

In the research that will follow this pilot study, more attention muse be given to exploring whether official documentation and photographic material are really archival material when held by a museum and seen through curators' eyes. This must be confirmed or negated by a bigger sample of curators. It is also important to make a distinction between original museum documents and the different kinds of documentation regarding them.

14 Ketelaar, E. Op. cit., p. 7.

15 ICOFOM. Museology : back to basics. Study Series 38, 2009 [cited: 2012-05-22]. Available at: http://network.icom.museum/fileadmin/user_upload/minisites/icofom/pdf/ISS%2038-2009.pdf. P.81.

References

Ames, Michael M. Museology interrupted. // Museum international 57, 3(2005), 44-51

Buckland, Michael K. Information as a thing. // Journal of the American Society for Information Science 42(1991), 351-360. Available at: http://people.ischool.berkeley.edu/~buckland/thing.html [cited: 2012-03-06].

Cook, Terry. Archival science and Postmodernism : new formulations for old concepts. // Archival science 1(2001), 3-24.

Dietz, Steve; Howard Besser; Ann Borda; Kati Geber; Pierre Lévy. Virtual museum (of Canada) : the next generation [cited: 2012-03-06]. Available at: http://besser.tsoa.nyu.edu/howard/Papers/vm_tng.doc

Duff Wendy; Harris Verne. Stories and names : archival description as narrating records and constructing meaning. // Archival science 2(2002), 263-285

ICOFOM. Museology : back to basics. Study Series 38, 2009 [cited: 2012-05-22]. Available at: http://network.icom.museum/fileadmin/user_upload/minisites/icofom/pdf/ISS%2038-2009.pdf

Ketelaar, Eric. Cultivating archives : meanings and identities. // Archival science 2011, published online 22 June 2011 [cited: 2012-01-09]. Available at: http://www.springerlink.com/content/b268186748544728/fulltext.pdf

Maroević, Ivo. Uloga muzealnosti u zaštiti memorije. // Baštinom u svijet. Petrinja : Matica Hrvatska, 2004.

Schwartz, Joan M. Negotiating the visual turn : new perspectives on images and archives. // The American archivist 67(2004), 107-122.

Taylor, Hugh. Herritage revisited : documents as artefacts in the context of museums and material culture. // Archivaria 40(1995), 8-20.

Yeo, Geoffrey. Nothing is the same as something else : significant properties and notions of identity and originality. // Archval science 10(2010), 85-116.

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Biographical sketch

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KONCEPTUALIZACIJA ARHIVSKOG GRADIVA KOJA SE ČUVA U MUZEJIMA PILOT ISTRAŽIVANJE

Sažetak

Arhivsko gradivo u muzejskim ustanovama nerijetko se opisuje pomoću muzejskih opisnih standarda. Osnovna pretpostavka ovoga rada jest to da kustosi donose odluku o uporabi opisnih kategorija ovisno o vlastitom razumijevanju toga što je unutar muzejskog fundusa muzejski predmet, a što arhivsko gradivo. Različito razumijevanje rezultira različitim kategorijama opisa što za posljedicu ima niz nestandardiziranih metapodataka koji krajnjem korisniku otežavaju pristup. Ovaj se rad bavi isključivo dokumentarnom građom na papiru kao osnovnom mediju.

Ključne riječi: arhiv, muzej, opisni standardi, kontekst, postmodernizam, kustos

III.

Conservation and Preservation of Cultural Heritage

BINDING STRUCTURE AS AN IMPORTANT ASPECT OF THE BOOK

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Abstract
Mediaeval manuscript codices are important historical documents. If not rebound in later centuries, they represent a very important source for the understanding the structures and the functioning of mediaeval as well as later books.
Knowledge on the book binding structure is one of the basic requests for successful description of the book as a cultural heritage object. Normal library or archival descriptions include data on the contents but rarely give information about materials, structural elements and the state of preservation of the book.
The paper presents the methodology of work used in the research of mediaeval stiff-board bindings on Slovenian mediaeval manuscripts. The paper closes with observations and conclusions drawn from the analysis of the Slovenian collection of codices with stiff-board bindings.

Keywords
Mediaeval manuscripts; bindings; stiff-board, structures; Slovenia

Introduction

The primary purpose of any library or archival description is to make library or archival material more accessible to users. Normal library or archival descriptions include data on the contents but almost never give any information about materials, structural elements and state of preservation. Conservators of the Archives of the Republic of Slovenia (ARS) have been making an effort for such information to be included in library and archival description as well, since such information is of crucial importance for preservation and usage of library and archival material.

The decision to research the development of binding structures of mediaeval manuscripts in Slovenian archives and libraries was reached primarily because the field was completely untouched in Slovenia and furthermoe, because the knowledge of the structure and historical development of structures and materials of early books is one of the basic conditions for understanding the functioning of the book as an object whether it is old or new, kept in archival or library collection.

Medieval book, if not rebound, represents a very important source for understanding of the functioning of mediaeval as well as later books. This was the reason to start examining mediaeval stiff-board binding structures and techniques in Slovenian mediaeval manuscript codices.

The basis of the present paper is a census of extant mediaeval bookbinding documents, which includes all obtainable data, sketches, pencil rubbings and photographs; in addition, this research includes a glossary of specific professional terms referring to bookbinding, which is a segment of the research on mediaeval stiff-board codices.[1] In continuation, a model of description of the book structure and a summary of the results obtained from the research are presented.

Experimental

The majority of Slovenian mediaeval manuscripts are codices belonging to Western European, that is, Latin culture, which either originated in Slovenian territory or were part of Slovenian mediaeval library and archive holdings. There are 361 codices registered, of which 179 are stiff-board bound, and 182 limp bound. In addition, our collection includes 5 Glagolithic and 8 Cyrillic codices which were transferred to Slovenia as a part of Kopitar's and Zois's legacy at the end of the 18th century. Most mediaeval codices in Slovenia are housed in the National and University Library in Ljubljana (NUK), the Maribor Diocesan Archive (SAM), the Koper Regional Archive - Piran Branch (PAK), and the Ljubljana Archdiocesan Archive (NSAL). In addition to these institutions, some codices are kept in the Ljubljana and Novo mesto Friars Minor Monastery, the Archive of the Republic of Slovenia (ARS), the Koper Cathedral Archive (SAK), the Ljubljana Seminary Library (SKL), the Maribor Regional Archive (PAM), and the Maribor Univer-

1 Vodopivec, Jedert. Vezave srednjeveveških rokopisov : strukturne prvine in njihov razvoj = Medieval Bindings in Slovenia : Biding Structures on Stiff-Board Bindings. Ljubljana : Arhiv Republike Slovenije, 2000. Also available at: http://www.arhiv.gov.si/si/delovna_podrocja/zalozba_arhiva_rs/publikacije_pdf/ [cited: 2011-11-21].

sity Library (UKM). The majority of stiff-board bound codices (159) are included in the Kos-Stele census.[2] This census does not include archival bound manuscripts (e.g. vicedom and notarial books, terriers and statutes) or library and archival holdings of the Slovenian Littoral, at that time (1931) under Italian occupation.

Registered mediaeval codices include 96 examples of preserved mediaeval bindings, which is slightly more than a half (53%) of all extant stiff-board bound codices in our public collections. After first examination it has been decided to limit the research to mediaeval volumes with extant stiff-board bindings. The Cyrillic and Glagolithic manuscripts were omitted because they are not part of the mediaeval holdings historically and culturally connected with Slovenian territory. All partial or complete re-bindings originating from the beginning of the 16th century onwards were also omitted.

Methodology

The research is based on the original material and described according to a uniform system comprising all basic and variant elements in the structure of stiff-board mediaeval bindings. The description scheme was prepared considering the available descriptions and censuses published by codicologists and conservators. The principles of description are similar, but each of the methods is specific and adjusted to particular research.

The authors who concentrated on mediaeval binding structures have influenced our choice of questions in the census. At the very beginning, we found the Italian mediaeval manuscript census by Federici and his collaborators a great help. Their scheme, however, is not suitable for the census of Slovenian codices, because it is too extensive and comprises numerous elements not found in our bindings. Moreover, the Italian research did not treat the bookbinding elements with regard to provenance and date. From this research we adopted primarily the basic principle of grouping structural elements, whereby we added descriptions of structural elements published by Vezin,[3] Clarkson,[4]

2 Kos, Milko; France Stele. Srednjeveški rokopisi v Sloveniji = Codices aetatis mediae manu scripti qui in Slovenia reperiuntur. V Ljubljani : Umetnostno-zgodovinsko društvo, 1931.

3 Vezin, Jean. A réalisation matérielle des manuscripts latins pendant le haut Moyen Âge. // Codicologica 2(1978), pp. 15-51.

4 Clarkson, Christopher. Further studies in Anglo-Saxon and Norman bookbinding. // Roger Powell : the complete binder / edited by J. L. Sharpe. Turnhout : Brepols, 1996. Pp. 154-214, and personal communication.

Houlis,[5] Federici/Pascalicchio,[6] Minicaci/Muzerelle,[7] Szirmai,[8] and Gnirrep/Gumbert/Szirmai.[9]

Even at first glance, the 96 codices proved to be a comparatively heterogeneous group, which probably accidentally avoided destruction or alienation. As a result, the arrangement into groups was rather difficult. First, the codices were arranged according to institutions in the order adopted by the Kos-Stele census. When the census was finished and the data completed, the codices were arranged according to the writing support, palaeographic or codicological date determination and similarity of particular structures in the groups presented in Table 1.

No.	New groups	No. of volumes
1	0 - manuscripts from Stična - Sitticum[10] monastery (late 12th century)	3
2	1 - other early Gothic codices	8
3	2 - parchment codices from the late 14th and early 15th centuries	15
4	3 - parchment codices from the second half of the 15th century	12
5	4 - large parchment volumes and those with leather or pasteboards	9
6	5 - paper codices from the late 14th and early 15th centuries	12
7	6 - paper codices until the mid-15th century	8
8	7 - the mid-15th century paper codices	7
9	8 - paper codices from the second half of the 15th century with sewing peculiarities	8
10	9 - remaining paper codices from the second half of the 15th century	9

Table 1.
Groups formed according to the writing support, palaeographic or codicological date determination and similarity of particular bookbinding structures

5 Houlis, Konstantin. A research on structural elements of Byzantine bookbindings. // Ancient and medieval book materials and techniques / edited by Marilena Maniaci and Paola F. Munafo. Cittá del Vaticano : Biblioteca apostolica Vaticana, 1993. Pp. 239-268.

6 Federici, Carlo; Francesca Pascalicchio. A census of medieval bookbindings : early examples. // Ancient and medieval book materials and techniques / edited by Marilena Maniaci and Paola F. Munafo. Citta del Vaticano : Biblioteca apostolica Vaticana, 1993. Pp. 201-237.

7 Maniaci, Mirella; Denis Muzerelle. Terminologia del libro manoscritto. Roma ; Milano : Istituto centrale per la patologia del libro, 1996.

8 Szirmai, János Alexander. The archaeology of medieval bookbinding, Aldershot, Hants. ; Brookfield, Vt. : Ashgate, 1999, and personal communication.

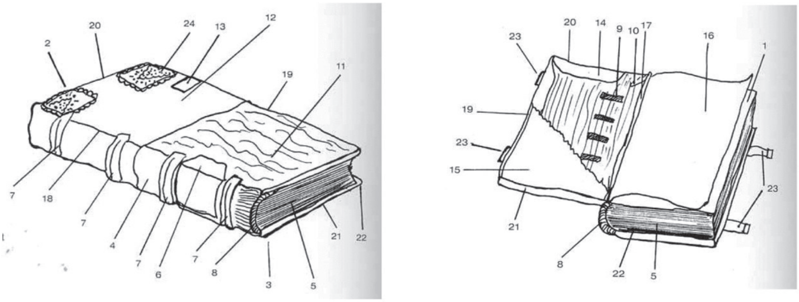
9 Gnirrep, W. K.; J. P. Gumbert; J. A. Szirmai. Kneep en binding. Den Haag : Koninklijke Bibliotheek, 1997.

Description form
On the basis of the documentation scheme which had been previously drawn up for the preparation of conservation documentation, and which is currently in use in the conservation workshop of the Archive of the Republic of Slovenia, a form suitable for beginning the census was prepared. After carrying out one third of the census, the final form was adopted with minor changes. The form is conceived as a tool for the description of mediaeval bindings and designed in such a way that with an analysis of structural elements it can also be used to improve conservation description. It is divided into two parts.

Basic description:
- number in the census
- institution number
- title
- number in the Kos-Stele census
- text-block dating & provenance
- binding dating
- schematic description of the binding structure
- peculiarities
- condition description: good,[11] moderate,[12] bad,[13] serious,[14] regarding the damage on the vital parts of the book, non aesthetic damage as stains or similar.

Detailed description:
- text-block
- endleaves
- bands
- sewing system
- endbands
- band lacing paths
- boards
- covering
- spine
- fastenings and
- bosses

10 Stična – Sitticum, Cistercian monastery in Slovenia
11 No damage on the vital parts of the book
12 Small damage on the vital parts of the book
13 Great damage on the vital parts of the book
14 Extended damage on the vital parts of the book



Figures 1a & 1b.
Basic structural elements of the late mediaeval stiff-board binding system[15]: 1. text-block, 2. head of the book, 3. tail of the book, 4. spine / back, 5. edge, 6. spine lining strip, 7. band, 8. headband, 9. band groove / channel, 10. head band groove / canal, 11. wooden board - front outer / exterior face, 12. cover, 13. fastening groove, 14. turn in, 15. board leaf / paste down endleaf, 16. free endleaf, 17. spine shoulder, 18. spine edge, 19. fore edge, 20. head edge, 21. tail edge, 22. square, 23. fastening, 24. corner metal fitting

The detailed descriptions of particular elements include measuring, sketches, pencil rubbings and photographs. The quoted measurements are more estimations than meticulous measurements, especially in the cases of the well-preserved volumes. The exact descriptions and measurements are, as a rule, feasible only during conservation treatment. Such measurements and descriptions are, for instance, the thickness of boards and thread, covering, spine lining, boards, the width and shape of back cornering and parchment stays, and the depth of sewing stations. The measurements of all such cases are therefore, though taken with a micrometer and square calliper, not exact enough, and should be regarded actually as approximations. The sketches were made freehand and serve as a supplement to the description or photograph. Whenever it was possible to provide an image (e.g. a pencil rubbing), such information was enclosed.

In the census, the codices are marked with a succession number of the census of bindings (e.g. 1/1), the acronym of the institution (e.g. NUK), the number of the codex as used in a particular institution (e.g. MS. 33), the succession number as used in the Kos-Stele census (e.g. 35), the title and palaeographic date. The date of the binding is stated

15 Vodopivec, J. Op. cit., p. 528.

only if it deviates from that established by palaeographers, or if it was possible to establish it (e.g. 1/1, NUK MS. 33, 35 Kos-Stele, Summa de Iure Canonico, 1300-1330, binding in the 15th century). For the sake of clarity the codices in the text are marked only with the acronym of the institution, manuscript number and succession number in the census of bindings (e.g. in the text NUK 33(1/1), in tables 1/1 NUK 33).

Example of description SUMMA DE IURE CANONICO 1/1 NUK

Basic data

- number in the census: 1/1 NUK
- institution number: MS 33
- title: SUMMA DE IURE CANONICO
- number in the Kos-Stele census: 35 KOS-STELE
- text-block dating & provenance: 1300-1330, Maastricht[16]
- binding dating: 15th century

Schematic description of the binding structure

- dimensions: 200 x 144 mm, parchment, 324 folios, 27 sexternions
- text-block material: parchment (sheepskin, thin, uniformly treated),
- relation boards to text-block: boards equal to the text-block
- type of endleaves: independent bifolia
- bands: 5 slit, alum-tawed
- sewing system: A1[17]
- headbands: alum-tawed, pack sewn, alum-tawed leather, white braided
- band lacing path pattern: G1[18], from corners - outer grooves - tunnels - inner grooves
- headband lacing path pattern: G1, from corners - outer grooves - tunnels - inner grooves
- boards: beech, cushioned
- covering: alum-tawed, probably sheepskin
- fastenings: 2, upper board fore-edge
- spine: slightly rounded
- opening: concave (arch in the spine)

16 Golob, Nataša. Manuscripta : medieval illumination in manuscripts from the National and University Library, Ljubljana : [catalogue] : National Gallery of Slovenia, 7 September - 7 November 2010. Ljubljana : National Gallery of Slovenia ; Faculty of Arts, 2010. P. 177.

17 Vodopivec, J. Op. cit., p. 32.

18 Ibid., p. 43.

Peculiarities
- excellent bookbinding work

Condition
- good, no damage on the vital parts of the book

Condition description
The codex is well-preserved and outstanding in terms of parchment quality, writing, and the binding technique. The trimmed parchment text-block consists of 27 sexternions sewn on 5 alum-tawed bands, carried into the board via outer channels and tunnels into inner channels. The main damage is that the upper joint has broken at bands 4 and 5, the headbands core and covering is cracked.

The compound endbands are braided with white alum-tawed leather. The endleaves are independent bifolia sewn onto the text-block before the first and behind the last quire respectively. The boards are sound, of beech wood, cushioned, and covered in alum-tawed leather, which is cracked at the front joint. The codex is clasped with two fastenings at the fore-edge upper board. The upper fastening strap is missing. The spine is slightly rounded; the bands are not blind tooled. It opens to the spine fold, the spine becomes concave, but slight force is required for flat opening.

The text-block is in excellent condition, and the binding could be a masterpiece if the choice of covering material were different. The quality of the covering alum towed skin is probably the main reason for the broken upper joint and the partly broken bands.

Detailed description
<u>Text-block</u> (Figure 1, no. 1)
The parchment text-block (200 x 144 mm) consists of 324 folios combined into 27 sexternions. The folios are of thin uniformly treated sheepskin parchment; the hair and flesh sides are almost equal. The sewing stations were made with an awl. Back cornering is 2 mm wide and hardly discernible (Figure 2).

Figure 2.
Parchment text-block and end leaves – detail

Endleaves (Figure 1, nos. 15 & 16)
The endleaves are not conjoint with the first and the last quire. They consist of a board-leaf and flyleaf, forming a bifolium, which is sewn before the first and behind the last quire respectively. The endleaves are made of thicker goatskin parchment. The flesh side adheres to the cover (Figure 2).

Sewing system
The text-block is sewn on 5 slit, alum-tawed bands, 9 mm wide x 2 mm thick with medium weight (0.9 mm) flax thread finished with a Z twist (Figure 3).

The thread is carried along the centrefold between the sewing stations at the following spacing:

0	13	25	60	97	132	167	185	200
H	c	1.B	2.B	3.B	4.B	5.B	c	T

................----------- --------- ---------- --------- ---------- --------- ....

H - head, C - change-over station, B - band, T - tail

Figure 3.
Text-block is sewn on 5 slit, alum-tawed bands

Headbands (Figure 1, no. 8)
The headbands are braided with white alum-tawed leather. (Figures 2 and 5)
The core is of alum-tawed leather of similar thickness to the bands; the first[19] sewing of headbands is worked, and sewn onto the text-block with equal weight to that of the primary sewing. The headband cores are broken at the front joint. The first sewing and braiding are undamaged.

Spine liners (Figure 1, no. 6)
The spine liners consist of parchment strips, the overlays of which were adhered to the inner face of the board. The strips are rather long (70-105 mm), reaching over half the width of the board and discernible in oblique lighting.

Board attachment (Figure 1, nos. 7, 8, 9 & 10)
The alum-tawed slit bands are carried in a channel cut in the exterior face of the board & spine-edge, through tunnels to the inner face and then in channels.

19 C. Clarkson when describing endbands is using the term "first" instead of the term "primary" for the first sewing of a compound endband.

The alum-tawed core of the headbands is carried from each spine corner at an angle in a similar way to the bands except in grooves, not channels.

Boards (Figure 1, no.11)
The sound beech boards are slightly larger than the text-block (210 x 144 x 6 mm). Their outer faces are cushioned, the outer spine edge is rounded and all inner edges are square.
Short (9 mm) outer spine channels for board lacing were chiselled out, at the end of which tunnels were cut through the board to the inner face. Quite long (8 x 40 mm) channels were then cut into the inner face. Outer grooves (11 mm) for the headband cores were cut from the corners, to tunnels drilled through to the inner face where further grooves (13-15 mm) were cut. Rectangular recesses (16 x 28 mm) were cut into the exterior of the upper board at the fore-edge for fixing the catch plates; square recesses (16 x 16 mm) were cut to accommodate the fastening straps at the lower board fore-edge.

Covering (Figure 1, no. 12)
The codex is completely covered in alum-tawed sheepskin, cracked on the front joint and rather worn above the bands (Figure 4).

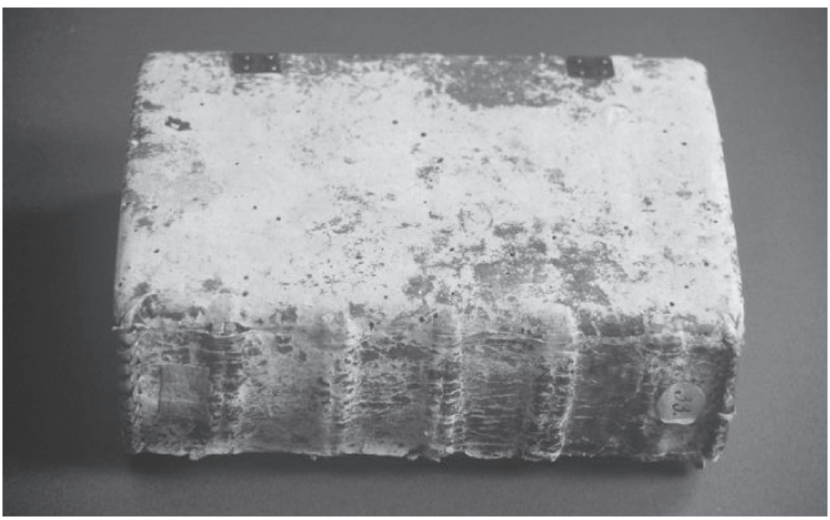


Figure 4.
The codex is completely covered in alum-tawed sheepskin

Turn-ins (Figure 1, no. 14)
The turn-ins are medium width (10-18 mm), evenly trimmed and mitered.

Book opening
The spine is slightly rounded (Figure 4), flexible and adequately concave on opening (Figure 5). The codex opens to the fold, though the opening is slightly restricted due to the thickness and the size of the folios. Slight force is required for flat opening.

Fastenings (Figure 1, nos.13 & 23)
The volume is clasped with two fastenings at the fore-edge of the upper board. The lower one is intact. The plain brass, rectangular (16 x 29 mm) catch plates are each fixed with three brass rivets. The alum-tawed fastening strap (39 mm long, 16 mm wide, 2 mm thick) has a plain rectangular brass clasp (16 x 18 mm) with a hook. The strap is anchored with a square, brass plate (16 x 16 mm), fixed with four brass rivets into the fore-edge of the lower board.

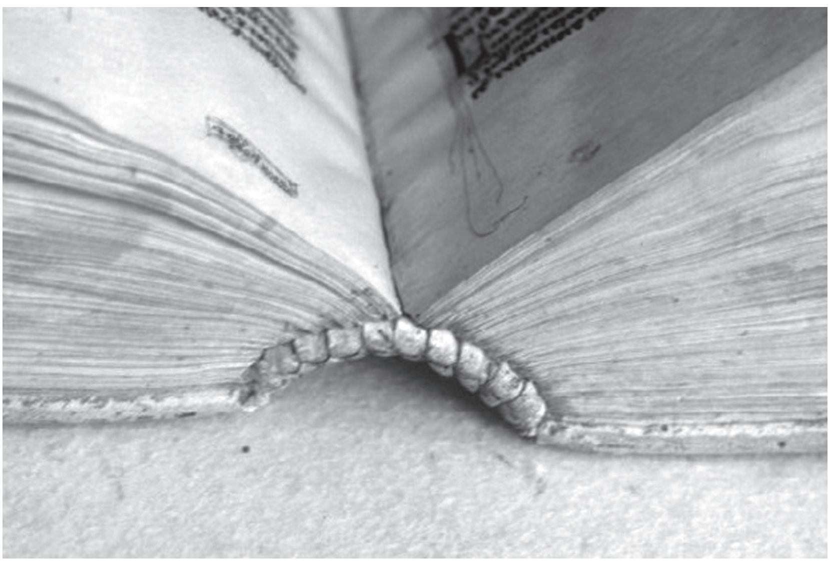


Figure 5.
The spine is flexible and adequately concave on opening

Results and Discussion

The richest collection of 49 codices with preserved mediaeval bindings is housed in the Maribor Archdiocesan Archive (SAM). Further, important holdings of 29 codices are preserved in the National and University Library (NUK) and 17 in the Archdiocesan Archive in Ljubljana (NSAL). Some codices with preserved mediaeval bindings are also kept in the Maribor University Library (UKM), the Seminary Library in Ljubljana (SKL) and the Koper Cathedral Archive (SAK), each preserving one volume.

Almost all the Slovenian codices are Gothic bindings from the 14th and 15th centuries.

The majority of volumes show structures and binding techniques characteristic of German bindings. Only 10 codices show Italian characteristics. The provenance of bindings cannot be established with certainty on the basis of structural elements alone; therefore additional research and comparisons will be necessary.

In our collections there are 44 codices with parchment text-blocks, 51 with paper text-blocks and one text-block consisting of a mixture of parchment and paper leaves. The paper codices originate from the late 14th and 15th century and are in a contemporary binding; none of them was rebound. Rebinding evidence is traceable solely in parchment codices, including almost all important illuminated manuscripts.

Observed codices have no extensive damage due to environmental conditions. Nevertheless, mechanical damage is visible on one third of the volumes, in most cases being extensive in the spine region, especially at the endbands and spine-folds. Damage to beech boards is comparatively frequent; the boards are in most cases at least slightly worm-eaten, 5 of them are also broken.

The great majority (80%) of boards are beech, 5 are oak, 2 maple, 2 spruce, 1 silver fir, 1 lime.[20] In some cases, due to the good condition of the cover and endleaves, identification was not possible.

All over-size volumes have extensive mechanical damage, with bands, lining and folds in especially bad condition.

The text-blocks of the majority of volumes are well preserved; the exceptions being just 3 codices, the text-blocks of which are extensively damaged due to humidity, leaves,[21] are decayed while 5 volumes are damaged due to overuse.

20 Vodopivec, J. Op. cit., pp. 75-78.
21 In this context folios is the same as leaves.

The study also includes rebound codices, though without their original bindings. All 14 volumes, rebound completely or partly before 1500, have parchment text-blocks and are of historical or artistic importance. Their structural elements suggest that all re-bindings were executed in the 15th century. We have not traced any rebinding among codices with paper text-blocks, because in the 15th century paper as a writing medium was used for less distinguished codices which were usually not rebound. It is evident from the mediaeval and modern history of the book that re-bindings were done mostly for aesthetic or re-fashioning reasons and not to replace damaged or worn bindings. Mostly outsize and heavy codices met this fate. This practice was customary in all libraries, and the Slovenian ones were no exception. Almost all important Slovenian codices were rebound, probably to modernise and unify the appearance of the library.

The majority of the listed bindings consist of parchment text-blocks. Among paper codices, numerous novelties, such as simplifications in the binding technique and the materials used, are noticeable.

The bindings differ very much, and judging by their structure, originate from different countries with long traditions and comparatively large production, or they were the work of itinerant bookbinders who had been trained in one of these centres.

Conclusion

Mediaeval manuscript codices are important historical documents, which are often also important art documents. If not rebound in later centuries, they represent a very important source for understanding the structures and the functioning of mediaeval as well as later books.

The results of the present research show that until the mid-15th century there were no noticeable differences in the binding structures of parchment and paper codices. Deviations from the mediaeval binding tradition are noted in the second half of the 15th century, more frequently in paper volumes. Parchment codices remain true to the mediaeval tradition towards the end of the Middle Ages. The observed codices have no extensive damage due to environmental conditions. The text-blocks of the majority of volumes are well-preserved. Mechanical damage was noticed on the spine, especially at the endbands and folds. Damage to the beech boards is comparatively frequent. All over-size volumes have more explicit mechanical damage. On the basis of the presented results, we can determine the structural elements, materials and consequently formulate a description form related to the book, and obtain correct information about the book condition.

The presented methodology and research of the binding structure intends to advance knowledge and understanding of the book as a material object among librarians and archivists, to improve co-operation among all partners in determining the conditions for storage and usage of the object in book form in the reading room or on an exhibition, and for planning the necessary conservation and restoration procedures on damaged books.

References

Clarkson, Christopher. Further studies in Anglo-Saxon and Norman bookbinding. // Roger Powell : the complete binder / edited by J. L. Sharpe. Turnhout : Brepols, 1996. Pp. 154-214.

Federici, Carlo; Francesca Pascalicchio. A census of medieval bookbindings : early examples. // Ancient and medieval book materials and techniques / edited by Marilena Maniaci and Paola F. Munafo. Citta del Vaticano : Biblioteca apostolica Vaticana, 1993. Pp. 201-237.

Golob, Nataša. Manuscripta : medieval illumination in manuscripts from the National and University Library, Ljubljana : [catalogue] : National Gallery of Slovenia, 7 September - 7 November 2010. Ljubljana : National Gallery of Slovenia ; Faculty of Arts, 2010.

Gnirrep, W. K.; J. P. Gumbert; J. A. Szirmai. Kneep en binding. Den Haag : Koninklijke Bibliotheek, 1997.

Houlis, Konstantin. A research on structural elements of Byzantine bookbindings. // Ancient and medieval book materials and techniques / edited by Marilena Maniaci and Paola F. Munafo. Cittá del Vaticano : Biblioteca apostolica Vaticana, 1993. Pp. 239-268.

Kos, Milko; France Stele. Srednjeveški rokopisi v Sloveniji = Codices aetatis mediae manu scripti qui in Slovenia reperiuntur. V Ljubljani : Umetnostno-zgodovinsko društvo, 1931.

Maniaci, Mirella; Denis Muzerelle. Terminologia del libro manoscritto. Roma ; Milano : Istituto centrale per la patologia del libro, 1996.

Szirmai, János Alexander. The archaeology of medieval bookbinding. Aldershot, Hants. ; Brookfield, Vt. : Ashgate, 1999.

Vezin, Jean. A réalisation matérielle des manuscripts latins pendant le haut Moyen Âge. // Codicologica 2, (1978), 15-51.

Vodopivec, Jedert. Vezave srednjeveveških rokopisov : strukturne prvine in njihov razvoj = Medieval bindings in Slovenia : biding structures on stiff-board bindings. Ljubljana : Arhiv Republike Slovenije, 2000. Also available at: http://www.arhiv.gov.si/si/delovna_podrocja/zalozba_arhiva_rs/publikacije_pdf/ [cited: 2011-11-21].

Further reading

Clarkson, Christopher. The conservation of early books in codex form : a personal approach. Part 1. // The paper conservator 3, (1978), 277-283.

Clarkson, Christopher. English monastic bookbinding in the twelfth century. // Ancient and medieval book materials and techniques / edited by Marilena Maniaci and Paola F. Munafo. Cittá del Vaticano : Biblioteca apostolica Vaticana, 1993. Pp. 181-200.

Clarkson, Christopher. Thoughts on sewing frame design for the book conservator. // The paper conservator 19, (1995), 41-54.

Clarkson, Christopher. The safe handling and display of medieval manuscripts and early printed books. // Konserviranje knjig in papirja : zbornik razprav = Book and paper conservation : proceedings / [urednici = edited by Jedert Vodopivec in Nataša Golob]. Ljubljana : Arhiv Republike Slovenije = Archives of the Republic of Slovenia, 1997. Pp. 141-188.

Federici, Carlo; Houlis Konstantin. Legature Bizantine Vaticane. Roma : Istituto centrale per la patologia del libro, 1988.

Federici, Carlo. La legatura medieval. Milano : Istituto centrale per la patologia del libro, ed. Bibliografica, 1993.

Fine and historic bookbindings from the Folger Shakespeare Library. Washington, D.C. : Folger Shakespeare Library, 1992.

Franck, Peter. A lost link in the technique of bookbinding and how we found it. Gaylordsville, Conn. : [Windham, Conn., Printed at Hawthorne house], 1941.

Golob, Nataša. Twelfth-century Cistercian manuscripts : the Sitticum collection. Ljubljana : Slovenska knjiga ; London : Harvey Miller Publishers, 1996.

Golob, Nataša. Srednjeveški rokopisi iz Žičke kartuzije : (1160-1560) : [16. november 2006-21. januar 2007, Narodna galerija]. Ljubljana : Narodna galerija, 2006.

Greenfield, Jane; Jene Hille. Headbands. New Castle : Oak Knoll Books, 1990.

Gspan, Alfons; Josip Badalić. Inkunabule v Sloveniji = Incunabula quae in Slovenia asservantur. Ljubljana : Slovenska akademija znanosti in umetnosti, 1957.

Houlis, Konstantin. Medieval bookbinding structures. // Konserviranje knjig in papirja : zbornik razprav = Book and paper conservation : proceedings / [urednici = edited by Jedert Vodopivec in Nataša Golob]. Ljubljana : Arhiv Republike Slovenije = Archives of the Republic of Slovenia, 1997. Pp. 129-140.

Kebabian, J. S. The binding of the Glazier manuscript of the Acts of the Apostles (IVth or IV/Vth century). // Homage to a bookman : essays on manuscripts, books and printing written for Hans P. Kraus on his 60th birthday Oct. 12, 1967. Berlin : Mann, 1967. Pp. 25-29.

Mazal, Otto. Europäische Einbandkunst aus Mittelalter und Neuzeit. Wien ; Graz : Akademishe Druck- u. Verlagsanstalt, 1990.

Needham, Paul. Twelve centuries of bookbindings. New York : The Pierpont Morgan Library, 1979.

Reed, R. Ancient skins parchments and leathers. London : Seminar Press, 1972.

van Regemorter, Bertha. Le codex relié a l'époque Néo-Hittite. // Scriptorium 12, (1958), 177-181.

van Regemorter, Bertha. Évolution de la technique de la reliure du VIII au XII sciécle. // Scriptorium 2 (1948), 275-285.

van Regemorter, Bertha. Povjest jugoslovenskih ćirilskih rukopisa. // Bibliotekar 1-2, (1953), 34-36.

Sheppard, J. M. Some Twelfth-century monastic bindings and the question of localization. // Making the medieval book : techniques of production / edited by Linda L. Brownringg. Los Altos Hills : Anderson-Lovelace : 1995. Pp.181-198.

Szirmai, J. A. Evolution of the structure of the medieval codex : consequences for conservation and restoration. // Papers of the Conference on Book and Paper Conservation / edited by B. Kastaly. Budapest : Technical Association of Paper and Printing Industry : National Széchényi Library, 1992. Pp.20-32.

Vodopivec, Jedert. Medieval bindings : stiff-board structures in Slovenian manuscript collections. // Libellarium (Online) 2, 1(2009), 1-27. Available at: http://ozk.unizd.hr/libellarium/index.php/libellarium/article/view/20/21 [cited: 2011-11-21].

Biographical sketch

Dr. Jedert Vodopivec obtained her BSc and MSc degrees in Chemistry and PhD in Conservation Science at the University of Ljubljana, Slovenia. Since 1983 she is collaborating with the Pulp and Paper Institute of Ljubljana, mainly on research projects on durability and permanence of paper and on the production and use of permanent paper in Slovenia. Since 1997, she has lectured at the University of Ljubljana on book and paper heritage. From 1996 to 2006 she was a full member of The Preservation Committee of the International Council on Archives (ICA/CPTE). From 2003 to 2006 she was coordinator for organic materials in the EU COST Action G8 - WG3 project "Degradation processes, corrosion and weathering" WG3 "Non-destructive Analysis and Testing of Museum Objects". She is author of national and international papers, organiser of conferences, seminars and workshops on conservation of cultural heritage on paper and parchment, and collaborates on research projects dealing with book and paper conservation.

STRUKTURA UVEZA – VAŽAN ASPEKT KNJIGE

Sažetak

Srednjevjekovni rukopisni kodeksi važni su povijesni dokumenti. Ako kasnije nisu bili ponovno uvezani, važan su izvor za razumijevanje struktura i funkcioniranja srednjevjekovnih i kasnijih knjiga.
Znanje o strukturi uveza knjige jedan je od osnovnih zahtjeva za uspješan opis knjige kao objekta kulturne baštine. Uobičajeni knjižnični ili arhivski opisi uključuju podatke o sadržaju, ali rijetko daju informacije o materijalima, strukturnim elementima i stanju očuvanosti knjige. Predstavljena je metodologija istraživanja srednjevjekovnog tvrdog uveza slovenskih srednjevjekovnih rukopisa. Rad završava razmatranjima i zaključcima koji se temelje na analizi slovenske zbirke kodeksa s tvrdim uvezima.

Ključne riječi: srednjevjekovni rukopisi; uvezi; tvrdi uvez, strukture; Slovenija

TREATMENT OF INK CORROSION IN A BOUND BOOK

ARMENIAN MANUSCRIPTS OF THE MATENADARAN COLLECTION IN YEREVAN

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Abstract

Although some methods for treating ink corrosion on single sheets of paper have been suggested, treatment of bound books is still an open question for conservators. This contribution documents the combined use of a specially designed book wedge, which goes deeply into a book's structure, and the aqueous phytate treatment. The precious Armenian manuscripts in Yerevan are taken as an example, as they suffer badly from ink corrosion and need to have some urgent measures taken to be rescued. The method allows for a treatment of manuscripts without opening and destroying their historical bindings, and thus seems to offer a real solution to the problem.

Keywords

Armenian manuscripts, Yerevan, ink corrosion, paper conservation-restoration

Introduction

The Armenian binding technique is quite unique.[1] It has hardly ever been described and has been applied only to Armenian manuscripts. These bindings occur quite rarely and, due to their difference from 'normal' Western bindings, were often replaced by the latter in the

1 Merian, Sylvie Louise Alice. The structure of Armenian bookbinding and its relation to Near Eastern bookmaking traditions. Ph.D. Disertation. University of Columbia, 1993.; Szirmai, Janos Alexander. The archaeology of medieval bookbinding. Aldershot, Hants. ; Brookfield, Vt. : Ashgate, 1999. Pp. 87-89.; Engel, Patricia; Wolfgang Schwahn. Das Arme-

course of conservation treatment undertaken in the past. This is not only especially true for the collections in the diaspora, where the Armenian books had been sort of exotic, but also for the collections in the Armenian motherland. The approach to restoration has been changing lately and, therefore, the request for preserving manuscripts suffering from ink corrosion included the request for finding a solution that would not require destroying the historical bindings.

Previous work

The first step was the survey of the material in Matenadaran, which was performed by an international project funded by the Getty Foundation in 2006.[2] In the course of the survey, both paper[3] and inks were understood and the dimension of the damage could be described more precisely than ever before.

Methods to stop the degradation of paper by iron gall inks have been discussed for a long time, and more intense research has led to the recommendation of phytates. The method of complexing metal ions was applied in paper conservation as early as the 1980s – for example, in the case of copper pigments on maps of the National Library in Vienna (by one of the authors). However, at that time the methods were relatively rough. Due to the cooperation of chemists and conservators, the calcium phytate-calcium carbonate method was developed[4], and has since been applied successfully by conservators to single sheets.

nische Buch : Prototyp‘ HANDES AMSORYA. // Zeitschrift für Armenische Philologie, Heft 1-12Jan/Dez (2005), 449-455.; Kouymjian Haig, Dickran; Isabel Berberian. From manuscript to printed book : Armenian bookbinding from the sixteenth to the nineteenth century : paper presented at the 2nd International Symposium Printing and Publishing in the Languages and Countries of the Middle East, Paris, France, November 2-4, 2005 [cited 2012-5-20]. Available at: http://armenianstudies.csufresno.edu/faculty/kouymjian/articles/2008%20DK%20BnF%20Sympsoium%20Nov%202005%20PDF.pdf

2 Engel, Patricia; Gayane Eliazyan. Ink manufacturing methods used in ancient Armenia : revisiting the problem of iron gall ink corrosion in the light of some new materials on the ink composition. // Bulletin (2006), 94-112.

3 It should be noted here that Armenians used paper as early as the seventh century and, therefore, the project focused on the treatment of paper. Parchment, which was used very little, in comparison to Europe, is not addressed by this project.

4 Neevel, Han. Phytate : a natural antioxidant blocking ink corrosion : paper presented at the ICOM Committee for Conservation, 11th Triennial Meeting, Paris, France / Edinburgh, England, September 1-6, 1996 (Unpublished lecture).; Pedersoli, José Luiz Jr.; Birgit Reißland. Risk assessment : a tool to compare alternative courses of action for the conservation of objects containing iron-gall ink. // Restaurator 24(2003), 205-226. An overview is also given in: The iron gall ink meeting : 4th & 5th September 2000, the University of Northumbria, Newcastle upon Tyne : postprints / edited by A. Jean E. Brown. Newcastle upon Tyne : Conservation of Fine Art, University of Northumbria, 2001, and the *Restaurator* of the years 2008 and 2009.

Calcium phytate is capable of chelating iron(III)ions. The thus formed complex is oxidized to a more stable iron(III)phytate complex and blocks the determinal effect of the iron(II)ions in the paper. The calcium carbonate helps the paper react to the newly formed carboxyl and carbonyl groups, which occur due to natural aging.

The efficiency of the method was proved by a combination of gel permeation chromatography and multiple detection and X-ray absorption spectroscopy.[5] The hitherto unresolved problem was the application of the method to a bound book. To achieve this, the conservators required non-aqueous complexing agents. Research is going on to develop them further.[6]

New ideas

Seeing such a pressing need, the conservator is challenged to develop fantasy. Fortunately he has not got solely the material at hand, but also a large variety of techniques to apply the latter. Together with his skills and knowledge in handling the very material of the individual book, a new combination was developed for the precious Armenian manuscripts.

Description of the problem

The task was to find a solution which would allow applying aqueous solutions to corroded areas on the book pages without the water being allowed to spread in the paper horizontally by capillary forces and thereby, reaching the binding structure or the peculiar Armenian water-soluble marginal paintings. Furthermore, water tide lines had to be prevented for obvious reasons, and the tension difference between de-

5 Henniges, Ute; Antje Potthast. Phytate treatment of metallo-gallate inks : investigation of its effectiveness on model and historic paper samples. // Restaurator 29(2008), 219-234.; Hahn, Oliver; Max Wilke; Timo Wolff. Influence of aqueous calcium phytate/calcium hydrogen carbonate treatment on the chemical composition of iron gall inks. // Restaurator 29(2008), 235-250.; Havlínová, Bohuslava; Jarmila Mináriková; Jozef Hanus; Viera Jančovičová; Zuzana Szabóová. The conservation of historical documents carrying iron gall ink by antioxidants. // Restaurator 28(2007), 112-128. The latter article also includes another antioxidant, BHT (2,6-ditercbutyl-4-methylphenol) in the series of tests, which was found to have minor disadvantages in comparison to the calcium phytate; double folds, brightness and deacidification effect were compared.

6 Kolar, Jana; Alenka Možir; Aneta Balažic; Matija Strilič; Gabriele Ceres; Valeria Conte; Valentina Mirruzzo; Ted Steemers; Gerrit de Bruin. New antioxidants for transition metal containing inks and pigments. // Restaurator 29(2008), 184-198. And although the method is not without water, and copper is not the main component of iron gall inks, never the less also the development of modified Proteins looks very promising; see Meyer, Fabienne; Anke Neumann. Recombinant Proteins : a new material for the chemical stabilization of copper pigment corrosion on paper. // Restaurator 30(2009), 96-130.

graded areas and intact paper had to be decreased as much as possible. Another matter of concern was the surface appearance of the treated and untreated areas after the procedure.

The manuscript wedge

Suction devices have been used in paper conservation since the early 1980s and have since been brought onto market in a large variety of forms. For book conservation book wedges are currently available. The authors, however, constructed a simpler wedge, which was especially appropriate for the task at hand.

The wedge consists of a substructure of Ceran and an upper part of, a molten granulate. The Porex is white, which allows good visible control of the conservator's work - even if it is covered by further material, it is better to have a light support - and is screwed to the substructure. This allows for cleaning the interior of the device, if needed. The possibility to benefit from suction also in remote areas, such as deep in the fault's area was one of the challenges, which was addressed by the new construction in a simple and most effective way. However, there was also the request that it should not cut, scratch or damage the paper in any way (Figure 1).

While in action the air flow goes vertically through the ink, the paper, the protective material still to be described and the wedge. Horizontal spreading of water or other water-based solutions, due to capillary forces in the paper is minimized to an acceptable extent (Figure 2).

The wedge can be connected to any commercially available vacuum cleaner. The air flow can be regulated in the usual way, by opening a window in the course of the tube between the wedge and the vacuum cleaner.

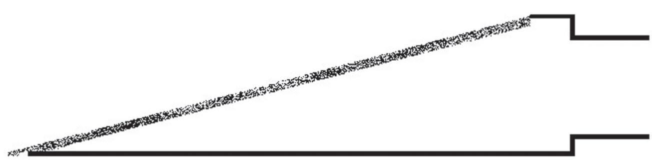

Figure 1.
Drawing of the manuscript suction wedge, schematic cross-section

Figure 2.
Point of the manuscript suction wedge

The wedge has quite a narrow angle, but even more important to fulfil the described aims is, that the Porex foremost edge is not supported by the ceran sub-construction. The narrow angle helps to slip the wedge quite deeply into the binding without stressing it. The tip being of pure Porex guarantees that suction is performed as close to the edge as possible.

The setup is such that the treated side of the book lays flat (Figure 3). The other side can be upright or at any angle from 90° to 180° depending on the book. The closer towards 90° the stronger any support construction must be made. Sandbags are of sufficient help. The height of the bookblock is compensated by small cardboard pieces inserted between the table and the wedges´ underside. Only one page is treated at the time.

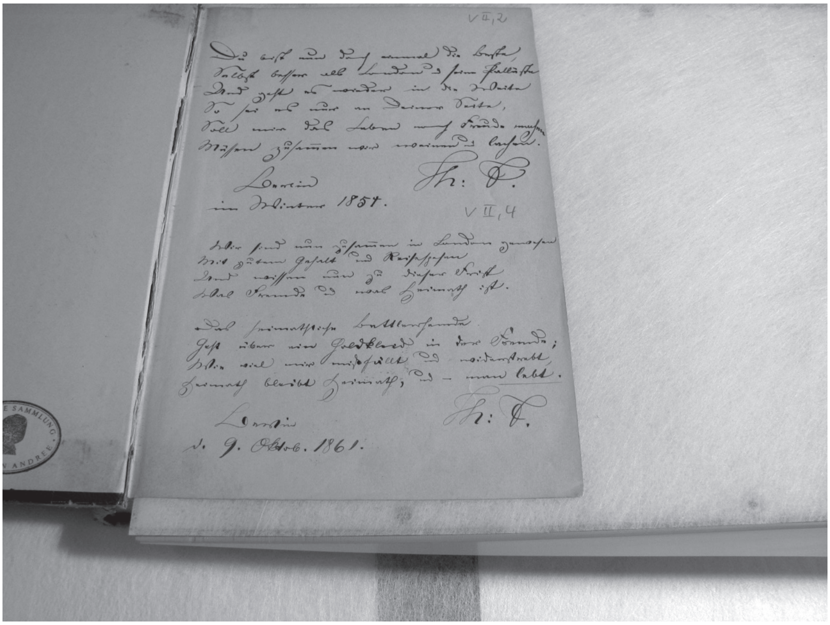

Figure 3.
Book on the wedge

First application of the wedge

During the conservation treatment of manuscripts by Theodor Fontane[7] in the Fontane Archives in Potsdam[8], Germany, the wedge was applied for the first time. While the working of the wedge was studied, the already well-known step by step procedure of the calcium phytate – calcium carbonate application[9] was performed.

The wedge was adjusted in the bookblock directly under the page to be treated. To secure the page on which the wedge rested, a PE felt was laid down onto the page and a cotton cloth came onto the PE felt i.e. the wedge actually rested on this cloth during treatment. As soon as the wedge was inserted, its upper surface, the Porex, was isolated with

7 Theodor Fontane (1819-1898), German poetic realist.

8 The authors would like to thank Dr. Hanna Delf von Wolzogen, head of the Fontane Archives, for her kind permission to publish the material about the conservation work performed in the collection as well as the pictures taken then.

9 Hofmann, Christa. Österreichisches Tintenfraß-Projekt (Teil 1). // PapierRestaurierung 5(2004), 29-39.

a layer of PE felt onto which a piece of finely woven cotton cloth came, which, from the author's experience, works better than blotting paper (apart from its cheap price and wide accessibility in any dimensions, it does not tear even in a wet condition and can be washed and reused easily). The PE felt should make the open Porex surface a bit more even and help avoid destructions of the paper while wet and under suction. The book page in question was accommodated on the cloth. The not to be treated second half of the book, was covered with another piece of PE felt and a piece of water-tight plastic.

Before all this the detection of iron (II) ions with Bathophenanthroline had been executed.[10] As the indicator showed free Iron ions present, the test for free copper ions [11]did not seem necessary any more for practical conservation and the calcium-phytate solution[12] was applied locally onto the ink with a soft brush and in a quite shallow angle, while the rest of the page was slightly moistened by spraying water. This was done to help even out the tension in the paper and avoid water tide lines. As the second half of the book was covered while spraying and the airflow was vertical, no water reached the binding area. After that, calcium carbonate was applied again with a brush and, finally, a gelatine[13] solution. During the procedure the treated areas became wetter than those that were only sprayed. This did not cause any problem of tension, as spraying could be varied according to the needs. The paper took water more readily where it was has been an observed fact for a long time and earlier was used to keep applied solutions to a restricted area when e.g. bleaching foxing was still en vogue. The typical nineteenth-century machine-made paper used by Fontane in the particular book is slightly glossy[14], thus also providing a chance to check the final surface appearance of the treated paper. The author was able to establish that the appearance of the paper surface before and after treatment

10 Preservation Equipment Ltd, info@preservationequipment.com. The procedure of testing is described for example in: Neevel, Johann G. Application issues if the bathophenantrhroline test for iron(II) Ions. // Restaurator 30(2009), 3-15.

11 This could have been done with a paper strip impregnated with 2-(5-nitro-2-pyridylazo)-1naphtol. See also: Hanus, Jozef; Alena Maková; Michal Čeppan; Jarmila Mináriková; Emília Hanusová; Bohuslava Havlínová. Survey of historical manuscripts written with iron gall inks in the Slovak Republic. // Restaurator 30(2009), 165-180.

12 1.44 g 40% Phytin acid, 0.22 g Calciumcarbonate-Pouder, 500 ml dest./dem.water, pH Value 5,0- 5,5.

13 Gelatine Typ B, Bloom 285, Viskosity 6,99.

14 Fontane used different kinds of paper for his work manuscripts and his letters. Both are in general machine-made paper without water marks, sometimes heavily filled with chalk and with smooth surface.

was the same. The examination was made in raking light with the eyes. Furthermore, after the application of the gelatine the water absorption ability of the paper was reduced again and was similar to that of the paper before treatment.[15] Finally the presence of iron (II) ions and iron (III) ions was tested by Bathophenanthrolin and ascorbic acid.[16] The result was deemed to be sufficient.

Overall, the conservation treatment of the Fontane manuscript gave satisfactory results.

We must note, however, that the ink corrosion of the Fontane manuscripts is, on the whole, relatively little compared to what can be witnessed in Armenian manuscripts. The inks are more uniform,[17] they were applied relatively recently[18] and, thus, their 'damaging history' is shorter. The paper – typical nineteenth-century paper – is more or less consistent throughout the piles. In Matenadaran, on the other hand, we face a large variety of inks, dyes, and what we would like to call 'Oriental' and 'Occidental' paper.[19] The history of the books is dramatic; all this together results in heavily damaged material. Therefore, identifying any further factors that would support the conservators' work of application of aqueous phytates and the wedge was very important.

Application in Armenia

In September 2009 another scientific cooperation between members of the 2006 team and the Matenadaran was agreed on. On the basis of the material collected then, several books were again surveyed; this time more closely, and one of them was selected for treatment.

15 The speed of water absorption could be witnessed while the final test for iron ions was executed. It was similar to the speed during initial testing.

16 Instead of ascorbic acid also sodium hydrosulphite can be used to reduce the iron ions.

17 Fontane was a trained pharmacist, so he might have actually known something about the ink composition and the problems it causes in terms of the future survival of the manuscripts.

18 The concrete page contains 2 inscriptions, both dated by Fontane. The dates are "Winter 1854" and "9 October 1861".

19 'The term "Oriental paper" stands for a thick type of paper which was usually produced on a grass mould, with pulp containing long fibres, inclusions of bark, starch and chalk fillers and the sheets carrying a reasonable amount of surface coating which was then polished. "European" paper is mainly homogeneous thin paper produced historically on a wire mould, without fillers and with animal glue surface sizing' according to Eliazyan, Gayane. Ink corrosion in Armenian manuscripts. // Research in book and paper conservation in Europe : a state of the art / edited by Patricia Engel. Horn; Vienna : Berger, 2009. Pp. 137-170, esp. p. 147, footnote 10.

The manuscript 10998

For treatment, the Manuscript Mat 10998 was chosen (Figure 4). It is a 'Textbook of knowledge', deriving from New Gulfa (Tshotsh). The client is an Azarian church clerk, as are the scribe and the illustrator. The catalogue in Matenadaran, from where all the data given here are taken, furthermore notes that the book was transferred to Darashamba church later, that the colophone has not yet been studied in detail and the date, which was 1691.

Figure 4.
Manuscript 10998 cover and one of the pages in 2006

In Figure 5,[20] a plotting of material and damage of the manuscript shows that

- paper and ink throughout this manuscript are uniform while
- the damage increases significantly in the centre of the book block, a phenomenon, which can be found quite often in Matenadaran manuscripts and which so far has not been explained. It might be due to the 'incapsulation' of acidic fumes in the block. This is the reason why air washing the entire library had been recommended as one of the results of the project in summer 2006.
- Furthermore, the book is made of so called "Oriental" paper, whose reaction to the new method was less known at the time.
- The inks were a mixed sort, typical for Armenian manuscripts, a mixture of soot and iron gall ink.
- There were all sorts of lines, rubrication and margin decoration.
- The binding was classified contemporary to the book block by Armenian conservators

The damage state 5[21] (y axis gives degree of damage), which was reached between pager 105 and 209 (x axis gives page numbers) is fatal, which means the pages break and large pieces are lost.

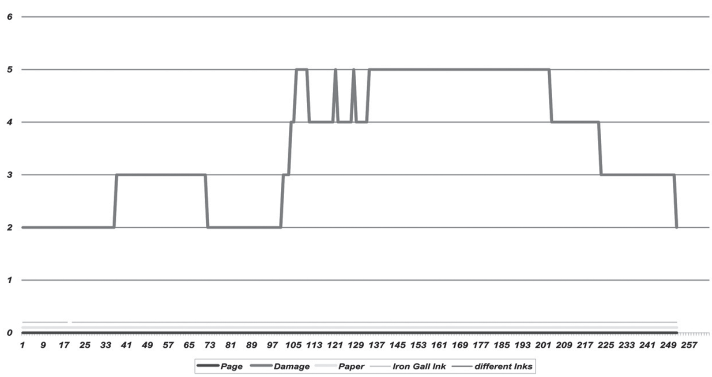

Figure 5.
Ms 10998 Matenadaran: Material and damage plotted on a chart. - X-Axis = pages from first to last, Y Axis degree of damage 2 = little, 5 = fatal

20 The charts of the surveyed books showing material and damage state of the single books were results of the Getty survey project. The charts were gained by transferring the handwritten data, collected from the manuscripts by hand into an excel file and then using the "chart-function" of this programme. Details of the procedure are described in Eliazyan, G. Op. cit., pp. 137-170.

21 Damage categories after Eliazyan; see Ibid.

The book was treated between 2006 and 2009. The restoration included reapplying all particles which in 2006 had been between the pages as single fragments back to their original place, fixed by the use of methylcellulose and Japanese tissue, establishing the pH value at 4 by the application of Bariumcarbonate and some fixing on the cover (Figure 6).

However the iron ion test executed then[22] was positive, both for iron II and III ions. The manuscript thus provided a worth trying example. Furthermore the other parameters were limited, as there was only one paper and one ink to be expected during treatment. That the ink represented the usual Armenian mixture contributed even more to the given aims.

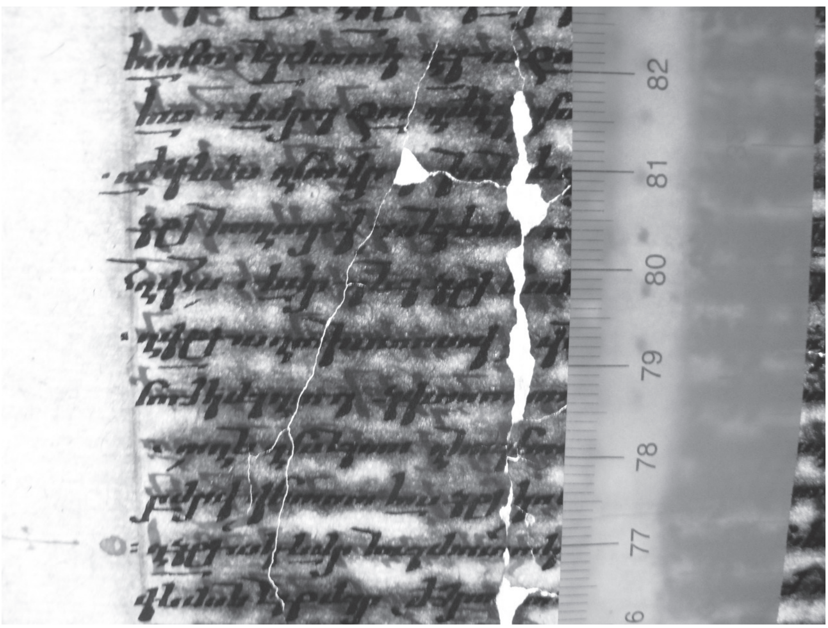

Figure 6.
Ms 10998 example of the state after the restoration, page 193 in transmitted light

22 Measured with indicator paper "Iron Gall Ink Test Paper" and ascorbic acid.

Observations while treatment

The ink, in contrast to expectations, was rather stable in water. This spot observation on one manuscript was confirmed to be a general behaviour of Armenian inks by the colleagues in Matenadaran and to a certain extent surprising. Earlier research had indicated that mixed inks contain soot and gums, which were estimated to dissolve and flow off when water would touch them. Smearing, which can be found in many Armenian manuscripts, was taken to be the result of touching with wet hands.

The amount of applied solution must be sufficient, which means the page becomes quite wet. It was tried to reduce the amount of solution throughout the treatments, however one sufficient treatment where ions are complexed in one single go seemed to be less stress for the paper than several less wet treatments. Furthermore sufficient amount of solution leads to a kind of washing through. The residues on the cloth contained detectable iron II and iron III ions, which had not been complexed by the Phytate solution.

The paper, which was, in the case of these manuscripts, very much decayed in the entire area of script and only intact on the margins around, absorbed the water readily. However, with the usual spraying as to prevent water margins, no water stains occurred. The use of a template has not yet been tried, but suggested.

The pages are utmost fragile and cannot be turned during treatment. If there is a need to apply Japanese tissue together with the complexing treatment, work should be started and complexing solution should be applied from the verso right from the beginning. If the procedure is made fast enough, water soluble ink compounds do not seem to have enough time to dissolve and no checking of the side, which lies on the sucking wedge, is needed. Drying should be allowed in the treating position, which is on the wedge. The suction can be turned off while drying, but the paper should not be moved until it is dry.

Verso of paragraphs written in red dyes or pigments[23] must be left untreated. However in these areas the ink can only damage the paper from one side and it can be expected therefore to be less damaging than in the other areas where both sides of the page are carrying iron gal ink writing.

23 According to observations under magnification both is possible.

The marginal paintings, characteristic for Armenian manuscripts, can be left untouched by the application of the wedge. This was proven by the treatment described here. At first a page only carrying ink-text, then one with margin painting was treated. The red lines on both sides of the text columns, also found in nearly every Armenian manuscript, seem to be water stable enough for the treatment too. No special care was taken to prevent them from becoming wet and they did not bleed (Figure 7). The pH value was 7 after the treatment.[24]

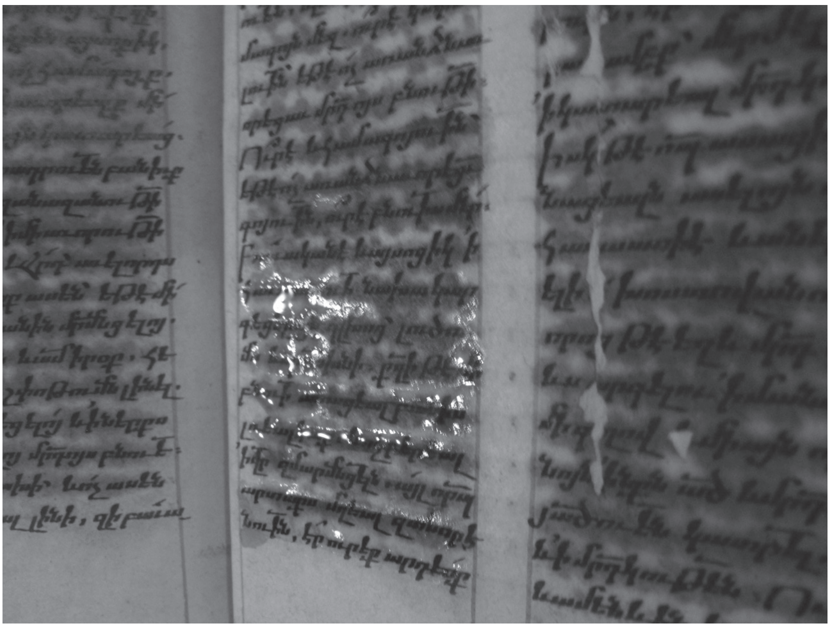

Figure 7.
Page 186 during treatment

Forecast

The shape of the wedge was good for the Fontane manuscript but should be modified for the Armenian bindings. Especially the part which goes into the fault should be a bit flexible. If there were a possibility to make the angle even less wide, it would also contribute to better work. A set-up to be able to control the side of the page lying to the wedge would be

24 pH Value was measured with a Merck indicator Nr. 1.09533.0001.

ideal. This could perhaps be performed by inserting a camera into the wedge possibly combined with a system of mirrors. The application of the solution as an aerosol was suggested and tested by the Armenians after the days of stay. It was reported to be impossible. The reasons are not yet clear.

Conclusion

Armenian manuscripts represent the earliest Christian manuscripts in the world and therefore are of unique and outstanding value. At the same time, their condition, due to the composition of material and their trying history is currently quite miserable. Before they were brought to modern storage areas of the major collections in Yerevan, Jerusalem, Vienna, Venice, Lwiv (only to name the largest), they often suffered from quite heavy environmental impact.

These books deserve to be treated in the best possible way. This was the reason why the team at the Matenadaran collection started a research project and asked for support from international colleagues.

The result of the cooperation was a suggestion of a simple, but effective treatment, including the employment of some of the latest findings in chemistry and new ideas from the conservation science. The application of the aqueous complexing agents in combination with a new wedge provides a possibility to stop ink corrosion on bound books not only of the Matenadaran collection. The book treated was chosen in such a way that the results can be seen as characteristic for many other Armenian manuscripts not only in the Armenian motherland, but also in Diaspora throughout Europe (Figure 8). This, however, does not mean that the attempts to find non-aqueous complexing agents, or ink corrosion treatments should be dropped. If found they might open wider and greater opportunities in dealing with the problem. The nano technologies promise completely new approaches.[25]

For the time being, however, the method described above might provide a kind of 'first aid' relief.

25 Stefanis, Emmanuel; Costas Panayiotou. Deacidification of documents containing iron gall ink with dispersiony of $Ca(OH)_2$ and $Mg(OH)_2$ nanoparticles. // Restaurator 31(2010), 19-40.

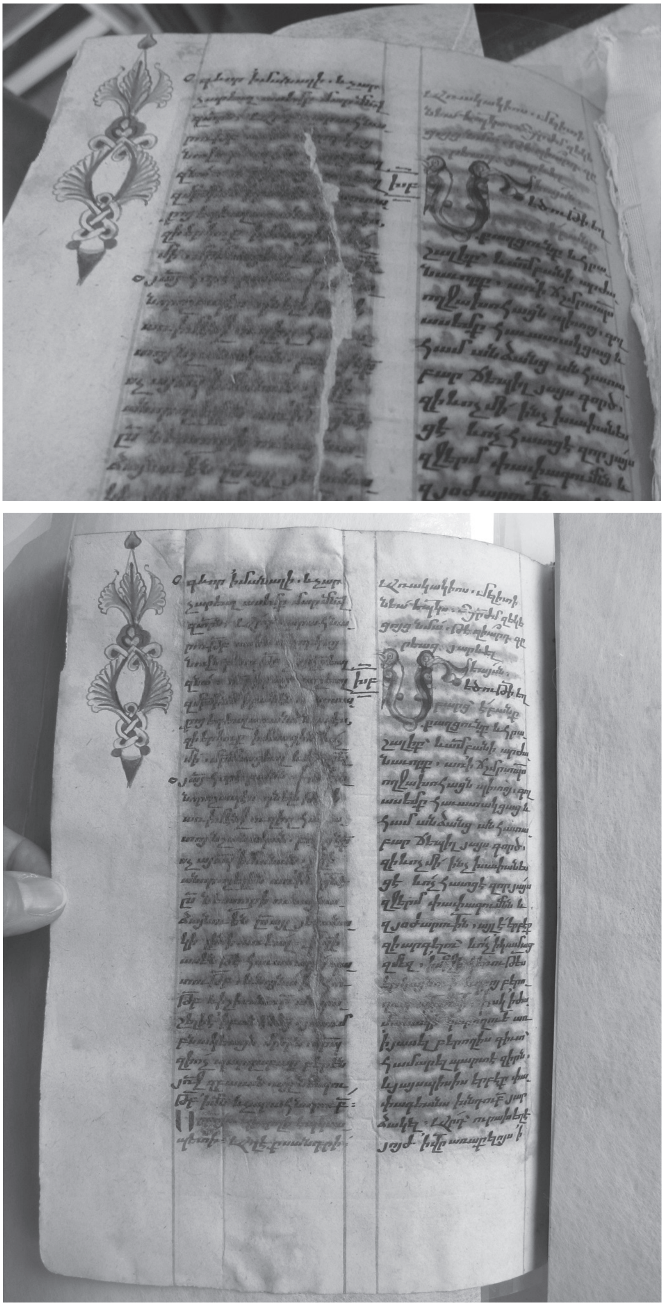

Figure 8.
Page 187 verso before and after treatment

Appendix

Materials used

Gelatine Typ B, Bloom 285, Viskosity 6,99:
Gelita Deutschland GmbH
Postfach 1253
69402 Eberbach
Germany

Gabi Kleindorfer
Aster Straße 9
84186 Vilsheim
Germany

Calciumcarbonat, Phytin acid, Ammonia, pH Indicator and ascorbin acid:
Th. Geyer Berlin GmbH
Dillenburger Str. 53
14199 Berlin

Indicator for Iron ions "Iron Gall Ink Test Paper":
Pel
Preservation Equipment Ltd.
Vincens Road
Diss Norfolk
England IP22 4HQ

Bottle:
Neunteufel
Untere Landstraße
3500 Krems
Austria

Recent suppliers for Suction devices:
Preservation Equipment Ltd, Vinces Road, Diss, Norfolk, IP22 4HQ, England Tel: +44 (0)1379 647400 Fax: +44 (0) 1379 650582, Email: info@preservationequipment.com or MUSEUM SERVICES CORPORATION, 385 Bridgepoint Drive, South Saint Paul, Minnesota 55075, USA, Phone: (651)450-8954, Fax: (651)554-9217, E-Mail: info@museumservicescorporation.com or in Germany BELO Restaurierungsgeräte GmbH, Wiesenstraße 14, 9585 Steinen, Germany, Geschäftsführer: Dipl.rest. Karl-Friedrich Bergmeier, Handelsregister: Amtsgericht Lörrach HRB 1963, E-Mail: belogmbh@aol.com, Telefon: (0049) (0)7627-1703, Telefax : (0049) (0)7627-972 08

The wedge used produced by

Thurm Labortechnik GmbH, Loebeckstr. 36, 10969 Berlin, Germany, Tel. +49 (0)30 616992 – 0 Fax: +49 (0)30 616992 – 40 E-Mail: info@thurm-labortechnik.de at the price of EURO 201.94.

Molten granulate material was “Porex”:

Porex Technologies GmbH, Strangenhaeuschen 30, 52070 Aachen, Germany, Tel. +49 (0)241 910525-0 Fax: +49 (0) 241 910525-16, www.porex.com (The material used was 6 mm thick and had an average width between the granulate pieces of 250 μm; the colour was white.)

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References

Eliazyan, Gayane. Ink corrosion in Armenian manuscripts. // Research in book and paper conservation in Europe : a state of the art / edited by Patricia Engel. Horn, Vienna : Berger, 2009. Pp. 137-170.

Engel, Patricia; Wolfgang Schwahn. Das Armenische Buch : Prototyp‘ HANDES AMSORYA. // Zeitschrift für Armenische Philologie, Heft 1-12Jan/Dez (2005), 449-455.

Engel, Patricia; Gayane Eliazyan. Ink manufacturing methods used in ancient Armenia : revisiting the problem of iron gall ink corrosion in the light of some new materials on the ink composition. // Bulletin (2006), 94-112

Hahn, Oliver; Max Wilke; Timo Wolff. Influence of aqueous calcium phytate/calcium hydrogen carbonate treatment on the chemical composition of iron gall inks. // Restaurator 29(2008), 235-250.

Hanus, Jozef; Alena Maková; Michal Čeppan; Jarmila Mináriková; Emília Hanusová; Bohuslava Havlínová. Survey of Historical Manuscripts Written with Iron Gall Inks in the Slovak Republic. // Restaurator 30(2009), 165-180.

Havlínová, Bohuslava; Jarmila Mináriková; Jozef Hanus; Viera Jančovičová; Zuzana Szabóová. The conservation of historical documents carrying iron gall ink by antioxidants. // Restaurator 28 (2007), 112-128.

Henniges, Ute; Antje Potthast. Phytate treatment of metallo-gallate inks : investigation of its effectiveness on model and historic paper samples. // Restaurator 29(2008), 219-234.

Hofmann, Christa. Österreichisches Tintenfraß-Projekt (Teil 1). // PapierRestaurierung 5(2004), 29-39.

The Iron Gall Ink Meeting : 4th & 5th September 2000, the University of Northumbria, Newcastle upon Tyne : postprints / edited by A. Jean E. Brown. Newcastle upon Tyne : Conservation of Fine Art, University of Northumbria, 2001.

Kolar, Jana; Alenka Možir; Aneta Balažic; Matija Strilič; Gabriele Ceres; Valeria Conte; Valentina Mirruzzo; Ted Steemers; Gerrit de Bruin. New antioxidants for transition metal containing inks and pigments. // Restaurator 29(2008), 184-198.

Kouymjian Haig, Dickran; Isabel Berberian. From manuscript to printed book : Armenian bookbinding from the sixteenth to the nineteenth century : paper presented at the 2nd International Symposium Printing and Publishing in the Languages and Countries of the Middle East, Paris, France, November 2-4, 2005 [cited 2012-5-20]. Available at: http://armenianstudies.csufresno.edu/faculty/kouymjian/articles/2008%20DK%20BnF%20Sympsoium%20Nov%202005%20PDF.pdf

Merian, Sylvie Louise Alice. The structure of Armenian bookbinding and its relation to Near Eastern bookmaking traditions. Ph.D. Dissertation. University of Columbia, 1993.

Meyer, Fabienne; Anke Neumann. Recombinant Proteins : a new material for the chemical stabilization of copper pigment corrosion on paper. // Restaurator 30(2009), 96-130.

Neevel, Han. Phytate : a natural antioxidant blocking ink corrosion : paper presented at the ICOM Committee for Conservation, 11th Triennial Meeting, Paris, France / Edinburgh, England, September 1-6, 1996 (Unpublished lecture).

Neevel, Johann G. Application issues if the bathophenantrhroline test for iron(II) ions. // Restaurator 30(2009), 3-15.

Pedersoli, José Luiz Jr.; Birgit Reißland. Risk assessment : a tool to compare alternative courses of action for the conservation of objects containing iron-gall ink. // Restaurator 24(2003), 205-226.

Stefanis, Emmanuel; Costas Panayiotou. Deacidification of documents containing iron gall ink with dispersiony of $Ca(OH)_2$ and $Mg(OH)_2$ nanoparticles. // Restaurator 31(2010), 19-40.

Szirmai, Janos Alexander. The archaeology of medieval bookbinding. Aldershot, Hants. ; Brookfield, Vt. : Ashgate, 1999.

Biographical sketch

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TRETIRANJE UVEZANE KNJIGE OŠTEĆENE KOROZIJOM TINTE
ARMENSKI RUKOPISI U ZBIRCI MATENADARAN U EREVANU

Sažetak

Iako postoje prijedlozi nekih tretmana oštećenja nastalih korozijom tinte na pojedinačnim listovima papira, tretiranje uvezanih knjiga ostaje otvoreno pitanje za konzervatore. Ovaj prilog prikazuje kombiniranu upotrebu posebno dizajniranog klina za knjigu koji ulazi duboko u strukturu knjige i tretmana pomoću vodene otopine fitata. Dragocjeni armenski rukopisi u Erevanu navode se kao primjer jer su znatno oštećeni uslijed korozije tinte i hitno treba poduzeti mjere za njihovo spašavanje. Metoda omogućava tretiranje rukopisa bez otvaranja i uništavanja starih uveza i tako nudi pravo rješenje problema.

Ključne riječi: armenski rukopisi, Erevan, korozija tinte, čuvanje i restauracija papira

ETHICS IN THE CONSERVATION OF MEDIEVAL CODICES

MINIMAL INTERVENTION IN ORDER TO PRESERVE CODICES' ORIGINAL STRUCTURE

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Abstract

The long work with medieval codices directs the conservator towards a more complex approach and understanding of the objects' unique entity as a whole, a synthesis of knowledge and art. The conservation ethics requires respect for the aesthetic and historic significance as well as for the physical integrity of the book.

The conservation treatment has to take into account the complex nature of the codex – information carrier, work of art, but also a utility object – and aim to preserve all these characteristics. The conservation ethics requires the use of reversible materials and techniques that will not damage the original substance, as well as thorough documentation of the undertaken treatments and employed materials to enable adequate future treatment, if such necessity arises. Another part of the conservator's responsibility is to look after the conditions under which the manuscripts are stored and used.

Our observations of several manuscripts' collections from the Balkans revealed the conservation approaches used in the past, and further convinced us of the importance of the minimal intervention in order to preserve the original structure of the medieval codex.

Keywords

medieval manuscripts, Byzantine manuscripts, book conservation, book restoration

The ethical attitude towards cultural heritage objects includes care to preserve them, store them properly and exhibit them in appropriate conditions. The work of the conservators is of high importance in the preservation of cultural heritage. They work directly with objects and have great responsibility for their fate. Our society frequently discusses the topic of conserving and restoring valuable architectural buildings, murals, easel paintings and other museum objects. In many countries around the world the associations of conservator-restorers have their own codes of ethics and professional guidelines for work, which concern mainly the respect for the aesthetic and historic significance of the object, its uniqueness and physical integrity. The duties of conservator include preparation of thorough documentation of the undertaken treatments and the applied materials. The conservation treatment should be reversible, enabling future interventions if necessary and, as far as the materials used are concerned, they should be harmless to the artefact and the human health as well as compatible with the cultural and historic characteristics of the object.

Unfortunately, these ethical standards are not always applied to the conservation of rare books and manuscripts. Codices tend to be removed from the cultural heritage context and considered only as information carriers that must be maintained in a condition suitable for use.

As a matter of fact, the creation of a medieval codex was a process, which we would today qualify as a supreme synthesis of arts. In the monastery scriptoria some monks used to prepare the book block – up to the 13th century they used chiefly parchment and later on paper as well – these monks also made up the gatherings, some used to copy the texts, some decorated them with illuminations, miniatures, initials and head pieces, some used to sew the manuscript, trim it and cover it with leather, which was additionally decorated by blind tooling, gold tooling or mounting of a metal furniture. That is why during conservation the old books should be approached as highly valuable works of complex nature, which incorporate in one entity different materials, techniques and functions.

Today, each element of the medieval codex is of interest. In the past, the attention was mainly focused on the content and decoration of the books. The miniatures were often cut out and exhibited under protective glass, sometimes even sold separately. Shabby covers were replaced by new ones and rebinding was the main method of preservation and conservation of old books. Many owners of valuable codices, including libraries, rebound them with the aim to preserve their physical integrity as well as for aesthetic reasons. For example, presently, in the collection of Greek manuscripts at the Vatican library, only 2% of the codices have their original bindings preserved.[1]

1 Canart, Paul. Le Legature Bizantine della Biblioteca Vaticana. // Federici, Carlo; Konstantinos Houlis. Legature Bizantine Vaticane. Roma : Fratelli Palombi Editori, 1988. P. 9.

Most of the preserved Byzantine manuscripts were also rebound later, in the post-Byzantine period. Amendments included securing the torn areas along the edges of the folia by gluing on pieces of paper (Figure 1), sewing the tears in the parchment with thread (Figure 2),

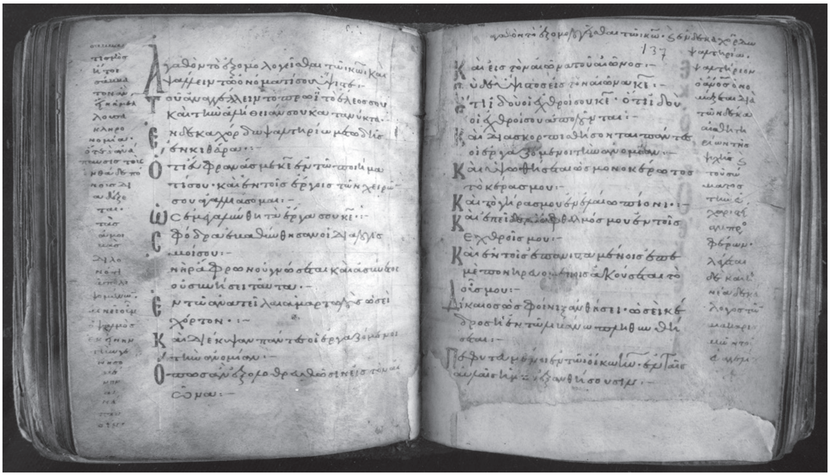

Figure 1.
Post-Byzantine binding and amendments

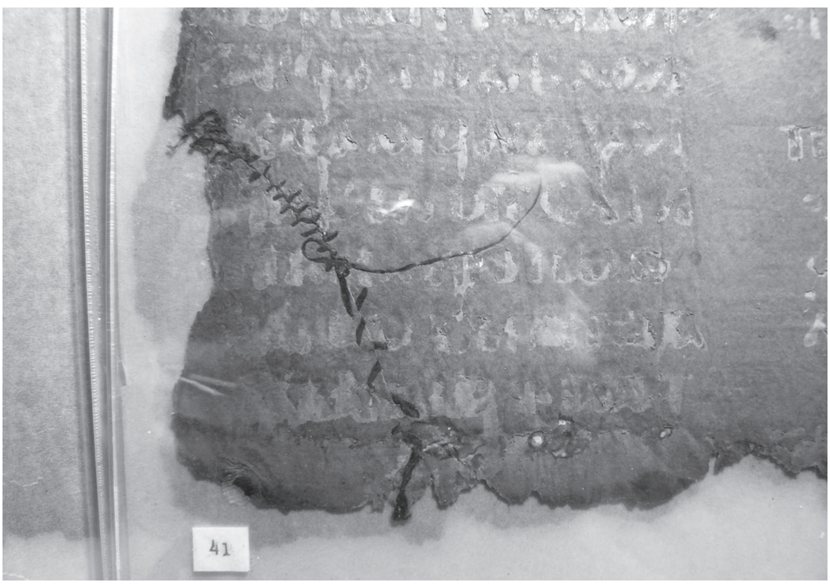

Figure 2.
Sewing the tears in the parchment

new trimming and rebinding. From a time distance this "restoration treatment" serves as a source of information and should be preserved during the next intervention. Even the wax drops on the pages provide information about the conditions under which the book was used. In D. Gr. 282[2] the wax drops are deliberately placed at the beginning of certain sections of the text and are outlined, so that they can be found more easily by a mere finger touch. This is a clear example of how the wax drops that could be defined as soiling matter, become page markers and should be preserved during the process of cleaning the manuscript (Figure 3). The nonconserved codices often contain dry leaves or beard hairs, which the monks used to use instead of bookmarks. Today they also provide interesting information about the centuries-old life of the codex. These remains should be preserved and stored in an envelope especially designated to the particular manuscript. Elements of clasps have been collected by the librarians throughout the years and

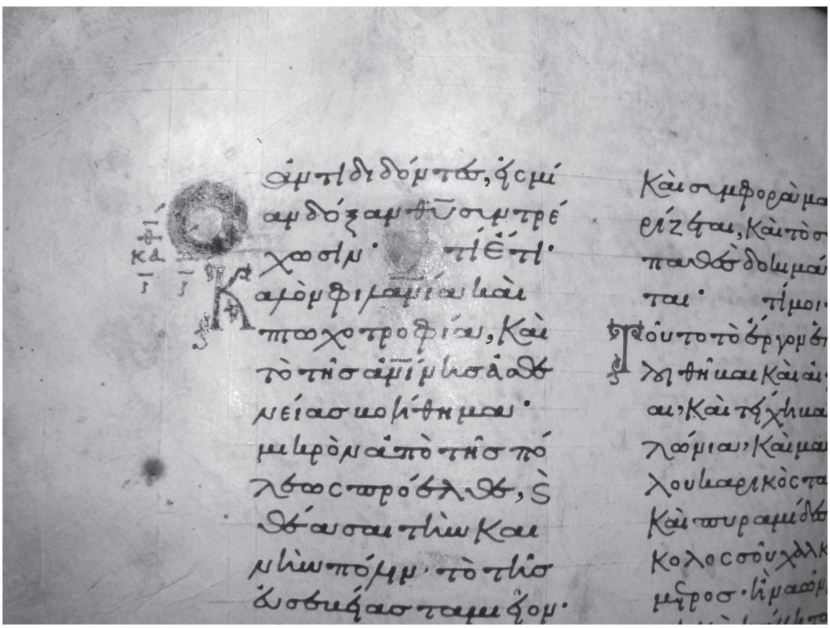

Figure 3.
Wax drops as page markers

2 "D. Gr." and "D. Sl." stands for the Greek and Slavic manuscripts from the collection of the Ivan Duichev Center for Slavic-Byzantine Studies.

in case there is data as to which manuscript they belong, the items can be used in future conservation treatment. And while somewhere the preservation of each element of a codex is considered highly important, there are other places where serious and often unjustifiable restoration interventions are carried out. Rebinding of the codices is still common today. The mass rebinding of books began when the leaf casting technique entered the restoration practice in the 70s of the 20th century. Due to its efficiency, this method was applied to the treatment of manuscripts as well. To avoid bleeding of the inks the folia were sized using low percentage solutions of various synthetic resins usually in organic solvents, which penetrated deeply into the structure of the paper. Due to the aging of the materials applied, today these consolidating agents have induced fragility of the paper. Synthetic resin (polyvinyl acetate) was often added to paper pulp in order to achieve greater strength, but nowadays this has led to the separation of the casted paper. When the folia were pressed afterwards, loss of the original relief of the handmade paper was observed. The codex was then sewed and the text-block was trimmed larger than its original format. In these cases, even if the old cover was preserved, it did not fit the manuscript and only some separate fragments could be glued on the new cover. That is how some specific elements and features of the original binding as turn-ins etc. are lost forever. During a binding executed three centuries ago the previous precious red textile cover, embroidered with metallic thread, was preserved by being glued to the inner side of the board (Figure 4). This was done with a full awareness of the value and sacredness of each element of the liturgical book. And only 40 years ago during the conservation of many manuscripts the preserved original leather was removed, cut in pieces and glued onto the new cover. Another case of inadequate ethical approach was the common practice in the past: to sew the text-block of Byzantine codices on support after the conservation, while according to the Byzantine tradition link-stitch sewing was used, the thread was accommodated in the V-shaped sewing holes and the spine was smooth. If the binding is missing, but the codex has a specially designed box, which appropriately closes and covers it, no rebinding should be performed. In the case of a partially lost wooden board we suggest to insert a removable negative form made of acid-free corrugated cardboard, whose task is to prevent the deformation of the parchment folia. A reconstruction of the board is also possible, especially if the leather cover is preserved. Depending on the size of

Figure 4.
Remains of the previous cover

the lost fragment we usually reconstruct the wood by creating an insert made of the extremely light Balsa wood or acid-free corrugated cardboard, covered with veneer. Thus we avoid the use of new wood, which is stronger than the original one and would create tension in the junction areas (Figure 5). If the original wood has been heavily destroyed by insects, we execute a preliminary consolidation by impregnating it with synthetic resins dissolved in organic solvent. This treatment ena-

Figure 5.
Balsa wood board insert

bles the preservation of the original binding and the original wooden board, which sometimes bears important texts and inscriptions. After the process of reconstructing the wood is finished with lying of filling putty and retouching the insert, a piece of new leather could be glued on it to complement the preserved original leather.

As a result of wetting, drying and ageing, the spine area of the manuscript often shrinks and sometimes the leather is torn. In the first case it is possible to perform soaking with polyethylene glycol and gradually stretch the spine back to its original width. Thus the text-block would finally fit again in the original binding (Figure 6). For the filling of the losses we usually use thinned leather or Japanese paper, which is then coloured. In the case of a severely torn spine, we practice lining with fine but strong synthetic tissue which is glued under the cover of the boards. If the boards are detached, it is not difficult to reattach them to the text-block without rebinding the codex. That is how we manage to preserve the original endband as well. If it is torn, we fix it to the text-block with a transparent polyamide thread. Often only an

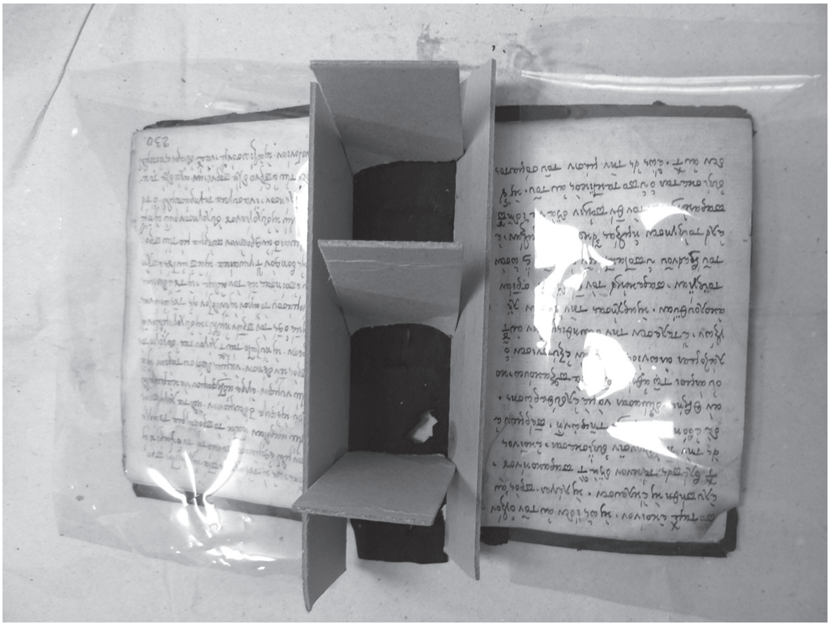

Figure 6.
Soaking and stretching of the spine

additional loop or a ring in the endband proves that the manuscript had a string marker, which was lost later. We avoid reconstruction of the fastenings, especially when none of them has been preserved. In the Byzantine tradition the boards of the manuscript are flush with the text-block, so the shrinkage in the spine area often induces bulging of the fore-edge. Thus even if the fastenings were present it would not be possible to close them. The preserved holes and remains of the straps present more authentic information rather than if reconstruction was performed. Boxes produced to match the size of the manuscripts or removable boards can replace the missing boards and fastenings and prevent the deformation of the text-block.

When treating the text-block, the conservator has to find the right approach which combines the application of modern methods and materials with the respect for the original. Sometimes the torn areas and the lost fragments of the paper, as well as the volume of the text-block, require the use of leaf casting machine, provided that the inks are stable enough. The wet treatment is followed by sizing, in which the glue used is similar to the original one; the folia are left to air-dry before being pressed – in order to avoid losing the original relief of the handmade paper. When making the gatherings, we try to preserve the original format of the bifolia by hand trimming them up to 1-2 mm above their original size. This makes possible the leaf casted manuscript to be mounted back in its original binding.

The binding of a manuscript from the 11th century was missing, but there were still some remains of the old sewing and endbands of the text-block present. This motivated us to restore the folia *in situ*, reconstructing only the format size of those folia, which were badly damaged by rodents and mold, and consolidating the areas where the corroded iron-gall inks have perforated the parchment. Part of the responsibility of the conservator is to convince the decision-makers in the institution owning the rare book that the approach chosen is the correct one. This, however, is not always that easy. For example, we were expected to unbind this particular manuscript, to humidify and press its bifolia and then rebind it. We decided that removing the deformation was extremely risky for parchment in such a condition, and besides that, the remains of the original sewing would be lost.

The torn sewing of D. Gr. 339 was restored by extending the original thread with a new one. Thread with a lighter colour was chosen to help identify the intervention. By sewing of the separated gatherings the manuscript regained its function to be opened and closed. There was no need to restore the missing spine of the leather cover that we had no information about.

From a modern point of view we would consider as unethical the conservation of two unique codices stored at Tirana, Albania. Beratinus I from the 6th and Beratinus II from the 9th century were restored in 1971 in China. The manuscripts were found in a very poor condition after being hidden for a long time in a damp environment. Due to the lack of conservation documentation today we cannot say what exactly has imposed the cutting of the bifolia. Each folio is fixed between two Plexiglass sheets with the aid of adhesive net. Concerning the manuscript from the 6th century, the lining of the parchment with a piece of paper which does not even cover the whole folio arouses serious bewilderment (Figure 7). Letters are painted on the lining paper and these resemble the original ones but make no sense. From the preserved original side of the folio the text is written with kalamos. Under high magnification some granular substance on the surface of the original letters is observed, which looks like the ink used to write the new text.

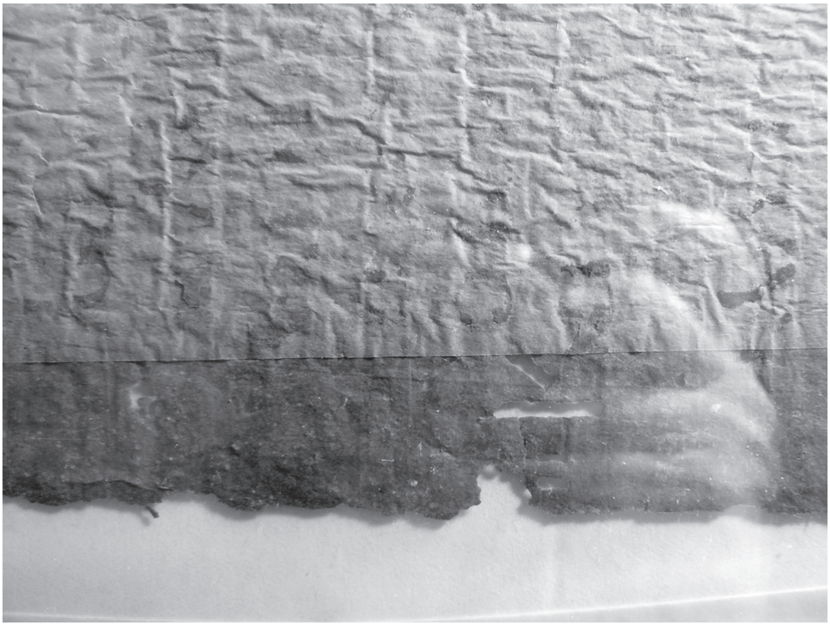

Figure 7.
New letters on the paper lined parchment

This could mean that the original text has been retouched – and this is altogether unacceptable in the present professional practice. This is still just an assumption, which could be verified only through laboratory analyses. The folia of the other manuscript, dating from the 9th century, are similarly mounted between Plexiglass sheets. The Plexiglass 'sandwiches' were inserted in Mylar envelopes, tied with a cord, thus several folders came out of each manuscript. The physical integrity and many of the codicological characteristics of these two manuscripts were destroyed beyond repair. Today they are part of the UNESCO cultural heritage and if any future conservation treatments are planned, these should be undertaken only after leading experts are consulted.

The conservation treatment of manuscripts in our laboratory in the 90s of the 20th century showed comparative increase of the professional ethics. In the case of D. Sl. 48 the manuscript has completely new boards and cover – an imitation of the old ones, only fragments of which were preserved. Other manuscripts (D. Gr. 282, D. Gr. 413, D. Gr. 304) were fully rebound during the conservation. Some elements of

Figure 8.
Imitation of the original endband

the new bindings do not match completely the original remains (Figure 8). Twenty years later even this intervention generates reflections about the ethics in preserving the original. But at least in this case all the elements, that are informative of the initial appearance of the codex, are separately preserved.

Conservators, librarians and all the specialists engaged in preservation and research of manuscripts and rare books should be trained from the very beginning in ethical attitude towards these objects. The conservation treatment should restore the physical features of the codex to be opened, leafed and closed, and to prevent any future damage without destroying its codicological characteristics and inflicting loss of information and original substance. Nowadays the codices with preserved structure and binding attract the attention of the scholars with the information they carry about the long tradition of creating manuscripts. We hope that this will help with the acceptance of the tendency to minimize intervention during conservation.

References and further readings

Canart, Paul. Le Legature Bizantine della Biblioteca Vaticana. // Federici, Carlo; Konstantinos Houlis. Legature Bizantine Vaticane. Roma : Fratelli Palombi Editori, 1988

Code of ethics of the Association of Conservator-restorers in Bulgaria [cited: 2011-10-31]. Available at: http://www.arbbg.org

Джурова, Аксиния. В света на ръкописите. София : Университетско издателство "Св. Климент Охридски", 2007.

Džurova, Axinia. Le Rayonnement de Byzance : les manuscrits grecs enluminés des Balkans (VIe-XVIIIe siècles) : catalogue d'exposition, Galerie National d'Art étranger. Sofia : Ars Millennium, 2011.

Federici, Carlo; Konstantinos Houlis. Legature Bizantine Vaticane. Roma : Fratelli Palombi Editori, 1988.
Szirmai, János Alexander. The archaeology of medieval bookbinding. Aldershot, Hants. ; Brookfield, Vt. : Ashgate, 1999.

Biographical sketch

Rumyana Decheva has been working at the Ivan Duichev Centre for Slavic-Byzantine Studies at the Sofia University since 2004. She worked as a conservator for the Ministry of Foreign Affairs, Diplomatic Archive. She holds an MA from the National Academy of Arts, Sofia, Conservation Department. She also attended the Institute of Library Science, Sofia. She gained experience in work in Germany and Austria. Decheva contributed to summer schools and conferences, and published on conservation of prints and drawings, parchment books and digitisation.

ETIKA U ZAŠTITI SREDNJEVJEKOVNIH KODEKSA MINIMALNI ZAHVATI RADI OČUVANJA IZVORNE STRUKTURE KODEKSA

Sažetak

Dugotrajno bavljenje srednjevjekovnim kodeksima usmjerava konzervatora prema složenijim pristupima i razumijevanju jedinstvene jedinice predmeta kao cjeline, sintezi znanja i umjetnosti. Konzervacijska etika traži poštivanje estetske i povijesne važnosti te fizičkog integriteta knjige.

Konzervatorski postupak mora uzeti u obzir složenu prirodu kodeksa – nositelj informacija, umjetničko djelo i uporabni predmet – i nastojati očuvati sve te značajke. Konzervacijska etika zahtijeva korištenje reverzibilnih materijala i tehnika koji neće oštetiti izvorni sadržaj, ali i detaljnu dokumentaciju o provedenim postupcima i korištenim materijalima što će omogućiti odgovarajuće buduće postupke, ako se za to pokaže potreba. Konzervator mora brinuti i o uvjetima u kojima se rukopisi čuvaju i koriste.

Pregled nekoliko zbirki rukopisa na Balkanu otkriva koji su se konzervatorski zahvati koristili u prošlosti i dodatno potvrđuje važnost minimalne intervencije radi očuvanja izvorne strukture srednjevjekovnih kodeksa.

Ključne riječi: srednjevjekovni rukopisi, bizantinski rukopisi, konzervacija knjiga, restauracija knjiga

IV.

Historical Manuscript Collection Management

STRATEGIC, METHODOLOGICAL AND TECHNICAL SOLUTIONS FOR THE CREATION OF SEAMLESS CONTENT OF THE DIGITAL CULTURAL HERITAGE
LITHUANIAN APPROACH

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Abstract

This paper elaborates on the issue of framing a conceptual approach for the creation of seamless content of the digital cultural heritage in Lithuania. The first part of the paper focuses on a new paradigm in the Lithuanian legislation on cultural heritage as well as on financing issues. The second part describes the lessons learnt from the initiatives by the Martynas Mažvydas National Library of Lithuania and nine other memory institutions related to the creation of seamless content of the cultural heritage. It further outlines the application of the formal reference ontology CIDOC CRM and its extension CRM_{dig} for different data formats, in particular, to support the implementation of automatic data transformation algorithms from local to national data structures (i.e. the Virtual Electronic Heritage System) without loss of meaning. It also discusses semantic querying of digital objects, their provenance and metadata by applying the Common Thesaurus of Personal Names, Geographical Names and Historical Chronology of Lithuania within the Virtual Electronic Heritage System.

Keywords

legislation on cultural heritage, CIDOC CRM, CRM_{dig}, RDF, metadata, digital objects, provenance modelling, BAVIC (Common Thesaurus of Personal Names, Geographical Names and Historical Chronology of Lithuania)

Introduction

The recent strategic document of the European Commission "Europe 2020: A European Strategy for Smart, Sustainable and Inclusive Growth"[1] gives clear evidence that successful development of the EU countries will not be determined by purely economic factors, efficient working abilities, enterprise or premium service quality. The vision of the successful EU is built on changes in culture, thinking and behaviour as well as society's values. One of the flagship initiatives of this strategic document, A Digital Agenda for Europe,[2] identifies seven priority action areas for building the information society and increasing social openness: development of a single digital market; enhanced interoperability; Internet trust and security; faster broadband; more sustainable investments in research and development; enhancing digital literacy, skills and inclusion; and increasing ICT benefits to society. It is obvious that the creation of digital content and access to it remain among the EU priorities in the development of the information society. The creation of digital content is a priority action area in Lithuania as well, which is reflected in the strategy for the future development of Lithuania and in programmes under preparation. The first part of the article describes the experience gained during the six years of successful effort in the above-mentioned areas.

To satisfy the user needs and those arising from the new paradigm in the Lithuanian cultural policy, namely, creation of digital content of the cultural heritage, the CIDOC CRM ontology has been applied for the first time in Lithuania. It allows linking metadata schemas used by diverse memory institutions, thus creating user-convenient virtual environment. As a formal reference ontology, CIDOC CRM particularly focuses on cultural heritage information and documentation.

The CIDOC CRM model and its extension CRM_{dig} within the Virtual Electronic Heritage System (VEPS, *Virtuali elektroninio paveldo sistema*) serves as a generic background ontology for application modelling and interoperability tool, also for implementation of automatic

1 European Commission. Communication from the Commission : Europe 2020 : a strategy for smart, sustainable and inclusive growth : COM(2010) 2020. Brussels, 3.3.2010 [cited: 2011-10-20]. Available at: http://europa.eu/press_room/pdf/complet_en_barroso___007_-_europe_2020_-_en_version.pdf

2 European Commission. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions : a digital agenda for Europe : COM(2010) 245 final/2. Brussels, 26.8.2010. Pp. 7-8 [cited: 2011-10-20]. Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:EN:PDF

data transformation algorithms from local to national data structures (i.e. VEPS) without loss of meaning and supporting semantic queries against integrated resources. Though the CIDOC CRM model has been designed for universal application, the specific feature of its use in Lithuania is the fact that, in addition to the software based on CIDOC CRM and its extension CRM_{dig}, the Common Thesaurus of Personal Names, Geographical Names and Historical Chronology of Lithuania (BAVIC, *Bendras Lietuvos asmenvardžių, vietovardžių ir istorinės chronologijos tezauras*) has been created for the use by all memory institutions for semantic search.

A new paradigm in the Lithuanian legislation on cultural heritage

The world being swept over by globalisation, issues related to the preservation of nationhood and national identity have become increasingly urgent. One of the major priorities of the EU cultural policy is fostering and promotion of the cultural heritage as a value system of the nation's living culture, which helps to maintain the national identity and provides possibilities for comprehensive expression of the national culture within the global community of cultures. This is confirmed by EU communications of the recent years and programmes encouraging digitisation of the cultural and scientific heritage and its integration into the European digital space. It is a new step towards consolidation of the assembly of European countries based on the existential right of every nation, which has the status of *lex naturale* and is realised through the nation's customs, traditions, arts and religion. It is by careful fostering and respecting of this right that harmonious coexistence of civilised nations is made possible. The new EU cultural policy, which acknowledges uniqueness, exceptional qualities and significance of every nation, is taking precisely this direction. The key EU documents on cultural policy also specify types of open access to the cultural heritage and knowledge without time and space limitations. They indicate that transferring cultural heritage into the digital form is an essential step providing for unrestricted access to and knowledge of the global variety of nations and cultures.

Archives, libraries and museums collect and preserve the precious national cultural heritage, which serves as the source for the nation's public spirit, self-awareness and self-esteem, and its educational, knowledge and leisure pursuits. Sectorial boundaries between these memory domains often become blurred when we take into consideration institutions which, due to historical circumstances, sheltered cultural heritage assets that differed from the type of objects usually preserved by them. Though the "object type" factor still remains important in framing organisational structures of the memory institutions, it could hardly be argued, however, that a work of art, authorial manuscript of this work or review of this same work – all of them share the same cultural and historical context and provide evidence of comparable cultural features. To diminish this factor and encourage creation of cultural heritage content and the information about it, the Martynas Mažvydas National Library of Lithuania launched an initiative for establishing a consolidation approach for memory institutions in 2004, which was favoured by the Ministry of Culture of Lithuania. The outcome of this effort was adoption of the following strategic documents: the Concept for Digitisation of Lithuanian Cultural Heritage,[3] the Strategy for Digitisation of Lithuanian Cultural Heritage, Digital Content Preservation and Access and the Implementation Framework for the Strategy for Digitisation of Lithuanian Cultural Heritage, Digital Content Preservation and Access 2009–2013.[4] These documents as well as the project launched by the National Library together with the partners, the Lithuanian Art Museum and the Office of the Chief Archivist of Lithuania (until 1st January 2011, the Lithuanian Archives Department), resulted in origination of a new paradigm in the Lithuanian cultural policy – interaction of memory institutions in creating seamless content of the cultural heritage.

The Concept for Digitisation of Lithuanian Cultural Heritage provides for consistent and purposeful activities by public authorities targeted at preserving the national cultural heritage, improving access to it and retaining its currency by the use of modern information technologies. The Concept defines the cultural heritage as spiritual and material property and an authentic testimony to the beginnings and evolution of history, traditional culture, arts, print and other cultural domains. It also defines the scope of cultural heritage objects: "...various material and non-material products of social and individual activity; archaeo-

3 Lietuvos kultūros paveldo skaitmeninimo koncepcija : patvirtinta Lietuvos Respublikos Vyriausybės 2005 m. rugpjūčio 25 d. nutarimu Nr. 933. // Valstybės žinios 30, 105(2005), 5-6. Available also at: http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=260975 [cited: 2011-10-20].

4 Lietuvos kultūros paveldo skaitmeninimo, skaitmeninio turinio saugojimo ir prieigos strategija : patvirtinta Lietuvos Respublikos Vyriausybės 2009 m. gegužės 20 d. nutarimu Nr. 493. // Valstybės žinios 4, 66(2009), 19-29. Available also at: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=389331 [cited: 2011-10-20].

logical findings; artworks; manuscripts; published documents; objects of numismatic, sfragistic, heraldic or philatelic value; documents registering cultural phenomena (written sources; photographic, video and audio materials; and objects belonging to the National Documentary Fund); traditions; customs; dialects; onomastics; folklore; and other objects which are significant from the point of view of the cultural heritage."[5] Natural heritage items of cultural and scientific significance are also considered as objects of the cultural heritage to be digitised. The Concept defines universal criteria for selecting cultural heritage objects for digitisation drawn up according to recommendations of the MINERVA programme. Age, uniqueness, content, scientific value and physical state of the cultural heritage object are considered the principal selection criteria. It also provides that coordination of cultural heritage digitisation is performed by the Ministry of Culture of the Republic of Lithuania together with the Ministry of Education and Science, the Information Society Development Committee under the Ministry of Transport and Communications, and the Office of the Chief Archivist of Lithuania. Initiation and coordination of digitisation programmes is the responsibility of the Council on Digitisation of the Lithuanian Cultural Heritage organised by the Minister of Culture. However, the Concept is not sufficient for the practical realisation of digitisation solutions. Therefore it was decided to prepare a strategy, special programmes and projects.

The principal purpose of the Strategy for Digitisation of Lithuanian Cultural Heritage, Digital Content Preservation and Access and its Implementation Framework 2009–2013 adopted by the Government of the Republic of Lithuania on 20th May 2009 is the coordination of digitisation activities through digitisation centres. Their role is to be taken by institutions having the most prolific experience in digitisation and providing access to the digitised materials – the Martynas Mažvydas National Library of Lithuania, the Lithuanian Art Museum and the Office of the Chief Archivist of Lithuania. The establishment of such competence centres within national memory institutions must facilitate selection of cultural objects to be digitised and compilation of lists of such objects, thus eliminating overlap of procedures, saving financial resources and ensuring consistency of the entire digitisation process. The centres' remit should include provision of manifold methodological assistance and training services for the professional commu-

5 Lietuvos kultūros paveldo skaitmeninimo koncepcija. Op. cit., p. 6.

nity, and concern about financial support. The vision of the Strategy is a single space of digital information about the Lithuanian cultural heritage extending the lifetime of cultural heritage objects; providing current, comprehensive and authoritative information about Lithuanian cultural heritage to the European and worldwide public; and ensuring permanent and reliable use of cultural heritage resources for research, educational and cultural purposes. The Strategy pursues the following goals and objectives:

- creation of digitisation infrastructure ensuring preservation and access of digitised cultural heritage objects and their integration into a single European digital space;
- creation and development of a seamless search, preservation and access system for the digital cultural heritage;
- encouraging qualifications development for digitisation professionals working at memory institutions;
- standardisation of digitisation processes, access and preservation of the cultural heritage;
- encouraging digitisation of Lithuanian cultural heritage and ensuring public access to digitised objects by supporting initiatives on the promotion of the cultural heritage.

It is important for institutions involved in digitisation of the cultural heritage to be aware of the perspective concerning their activities. The Programme for the Development of the Lithuanian Information Society in 2011–2019 sets as one of its objectives to ensure "...that the Lithuanian language survives in the global information society, in which the English language predominates. ICT could serve as a powerful means for disseminating information about the Lithuanian culture, thus contributing to preservation and support of the European cultural variety and promotion of the national self-expression. ICT provides memory institutions (libraries, archives, museums and other agencies preserving Lithuanian cultural heritage) with new possibilities for preservation, integration into the electronic space of the cultural heritage, and worldwide access of significant research, educational and art resources which are subject to deterioration with time",[6] thus confirming that creation of the digital content of the national cultural heritage

6 Lietuvos informacinės visuomenės plėtros 2011–2019 metų programa : patvirtinta Lietuvos Respublikos Vyriausybės 2011 m. kovo 16 d. nutarimu Nr. 301. // Valstybės žinios 19, 33(2011), 20. Available also at: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=394457&p_query=&p_tr2= [cited: 2011-10-20].

and providing access to it remains a priority for the national cultural policy. This strategic document could be considered as a follow-up of the investment area "Lithuanian language and culture" of the 3rd priority "Information society for all" of the Action Programme for Economic Growth in 2007–2013.[7]

These national documents provide strategic preconditions for creation of and access to the digital content and provide sustainable background for practical realisation of the Strategy for Digitisation. For example, in line with the Implementation Framework 2009–2013 of this Strategy, the following eight projects covering several cultural heritage domains (archives, museums and libraries) and multiple types of cultural heritage objects have been financed from the EU Structural Funds and the State budget:

- "Development of the Virtual Electronic Heritage System (VEPS)" (Martynas Mažvydas National Library of Lithuania): EUR 3 600 000;
- "Lithuanian Documentary Cinema Online ("e-kinas")" (Lithuanian State Archives): EUR 3 000 000;
- "Historical Heritage of the Lithuanian Statehood Online" (Office of the Seimas of the Republic of Lithuania): EUR 900 000;
- "Virtual Historical Lithuania: The Grand Duchy of Lithuania" (Vilnius University): EUR 1 880 000;
- "Virtual Library for the Blind" (Lithuanian Library for the Blind): EUR 1 000 000;
- "Creation of the Virtual Audio Library of the Lithuanian Radio" (Lithuanian National Radio and Television) EUR 1 800 000;
- "Implementation of the Integrated Museum Information System (LIMIS) in Lithuanian Museums" (Ministry of Culture of the Republic of Lithuania): EUR 2 415 000;
- "Presenting Works of Lithuanian Classical Literature Online ("e-klasika")" (Martynas Mažvydas National Library of Lithuania) EUR 580 000.

7 2007–2013 metų ekonomikos augimo veiksmų programa, Vilnius, 2007 m. liepos 5 d. P. 82 [cited: 2011-10-20]. Available at: http://www.esparama.lt/ES_Parama/strukturines_paramos_2007_1013m._medis/titulinis/files/2VP_EA_2007-07-05.pdf

The Virtual Electronic Heritage System as the basis for seamless digital content of the cultural heritage

In order to achieve interoperability between national memory institutions, a virtual system has been created within the project "Development of the Virtual Electronic Heritage System (VEPS)" launched on 3rd February 2010 by the National Library together with nine partners from all over Lithuania. This project, which is a follow-up of the project implemented in 2005–2008, has been financed from the EU Structural Funds and the State budget (EUR 3 600 000).

Standardisation of metadata of cultural heritage objects

The choice of different metadata schemas to be used within the framework of a digital library depends on the nature of data, treatment of objects in institutional collections and other factors.

Expansion of digitisation activities has stimulated the development of an integrated shared ontology for information about the collections held by memory institutions. It was only a short time ago that shared standards began to be applied for most of the digital repositories and access systems within memory institutions in Lithuania. Prior to that, the absence of concern for application of shared standards had prevented consistency in the access to the digital content and its retrieval. Therefore the above-mentioned strategic documents on cultural heritage digitisation give special prominence to the necessity for shared standards. The goal has been set to have shared digitisation standards adopted in order to enable coordination of projects and initiatives undertaken by memory institutions and ensure compatibility between cultural heritage repositories on the national level and their integration into the European digital space. Currently the National Library and its nine project partners from different memory domains are the only institutions adhering to shared metadata, digital object archiving, preservation and access standards within the integrated system. With the involvement of other memory institutions, the number of metadata formats increased as well – at present UNIMARC, MARC21, ESE, EAD, CDWA Lite and DC are applied. The innovation at this stage of the project consists in the fact that VEPS has been designed for preservation of descriptive metadata of digitised objects, and not of the original works. Within this project, special guidelines defining a strict set of elements have been developed for descriptive metadata of digital objects.

During the implementation of the Strategy for Digitisation, the Minister of Culture of the Republic of Lithuania issued the Order No.IV-6 (7th January 2010) "Concerning the adoption of the lists of standards and normative documents for creation, preservation and access of the digital content", which prescribes what standards must be applied for digitised objects and metadata: ISAD(G) for exhaustive descriptive metadata and ISAAR(CPF) for authority records (archives); ISBDs, UNIMARC and MARC21 for the description of digitised objects (libraries); and specifications for the use of CCO and CDWA Lite for descriptive metadata (museums).

Semantic model for digital content of the cultural heritage

Among the goals of the project "Development of the Virtual Electronic Heritage System (VEPS)" is creating an efficient ontology-based methodology for integrating the wealth of composite cultural heritage content and making it possible for users to retrieve the resources they need from different domains. For this purpose we apply CIDOC CRM, "... which is intended to facilitate the integration, mediation and interchange of heterogeneous cultural heritage information".[8] CIDOC CRM enhances accessibility to cultural heritage related information and knowledge, and provides an important information standard and reference model for Semantic Web initiatives. The specific aims of the application of CIDOC CRM and its extension CRM_{dig}[9] are:

- implementing automatic data transformation algorithms from local to national data structures (i.e. VEPS) without loss of meaning;
- applying a model for identifying provenance of digital objects, which in CRM_{dig} is defined as metadata that establish chain-of-custody information needed for users to take trust decisions about digital data within VEPS;
- semantic querying of digital objects using the knowledge base of BAVIC and Semantic Web technologies.

8 Definition of the CIDOC Conceptual Reference Model / produced by the ICOM/CIDOC Documentation Standards Group, continued by the CIDOC CRM Special Interest Group. Version 5.0.3, May 2011. P. i [cited: 2011-10-20]. Available at: http://www.cidoc-crm.org/docs/cidoc_crm_version_5.0.3.pdf

9 Doerr, Martin. CRM digital : a digital provenance ontology [cited: 2011-10-20]. Available at: http://www.tpdl2011.org/images/stories/tpdl/CRMDig_for_TPDL.pdf; http://www.ics.forth.gr/isl/rdfs/3D-COFORM_CRMdig_v2.5.rdfs

The architecture of VEPS relies on the approach that it is more feasible to have mappings from many metadata schemas to a single core ontology than to apply mappings between numerous schemas. Figure 1 illustrates the centralised architecture of VEPS, which includes the manager and providers of VEPS. The Martynas Mažvydas National Library of Lithuania, which holds the main repository of digital content and the digitised objects of the highest resolution, is the manager and one of the providers of VEPS. The rest of the providers are memory institutions that are the project partners contributing digitised objects and their descriptive metadata, and institutions providing historical geographical names, personal names and historical chronology data to VEPS in accordance with the procedure laid down by cooperation agreements with the manager of VEPS.

Regarding the modelling methodology, all schemas are integrated by the use of CIDOC CRM, which functions as a universal schema allowing aggregation of digital objects and information related to them. For realisation of these processes, a module for the conversion of VEPS files and their metadata formats has been introduced, which ensures semantic interoperability between metadata from different domains. The integration occurs not only at the object level, but also at the level of the object-related information. To reinforce the semantic interoperability provided by the CIDOC CRM model, a syntactic interoperability tool for linking controlled vocabularies has been implemented (Figure 1).

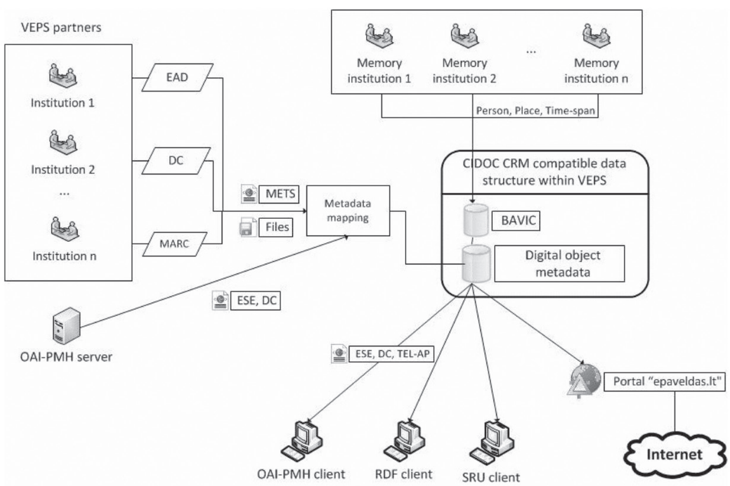

Figure 1.
Architecture of the Virtual Electronic Heritage System

The extension of the CIDOC CRM ontology called CRM_{dig} 2.5 is used for describing all stages of the production of digital cultural heritage objects, also capturing and modelling the query requirements regarding the provenance of digital objects. The following scheme presents an example of application of CIDOC CRM and CRM_{dig} within VEPS (Figure 2).

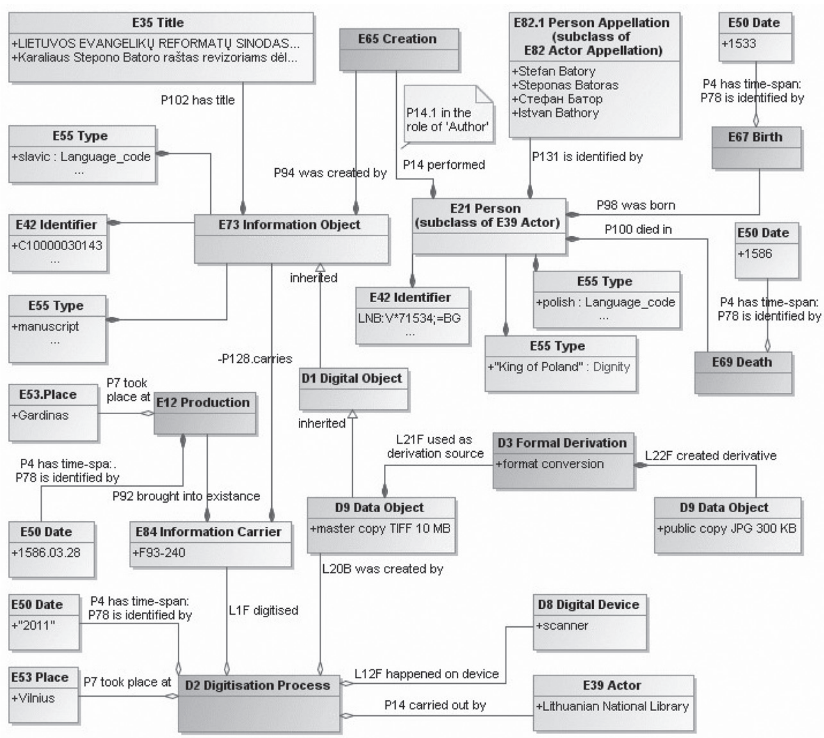

Figure 2.
An instance of implementation of the simplified CIDOC CRM / CRM_{dig} model within VEPS

E73 Information Object has the title (property **P102**) **E35 Title** *LIETUVOS EVANGELIKŲ REFORMATŲ SINODAS. Lietuvos ir Baltarusijos evangelikų reormatų vietovės. Dainiai. 240 : [Karaliaus Stepono Batoro raštas revizoriams dėl Dainių kaimo (Raseinių pav.) žemės apmatavimo ir perdavimo valdyti Daratai Šemetienei (Szemetowa) pagal* *pasikeitimo teisę]*[10] and is carried by (property **P128**) **E84 Information Carrier**, which was brought into existence (property **P92**) by the event **E12 Production,** which comprises activities that are designed to and succeed in creating the item, took place at (property **P7**) **E53 Place** *Gardinas* and has time-span **E50 Date** (property **P4**) *1586.* **E84 Information Carrier** has the preferred identifier (property **P48**) **E42 Identifier**, which comprises the call number *F93-240* of the Manuscript Collection assigned to this instance of **E84 Information Carrier** in order to uniquely and permanently identify it within the context of the National Library. **E73 Information Object** was created by the event (property **P94**) **E65 Creation** that resulted in the creation of an immaterial product, which was carried out (performed) by (property **P14**) **E21 Person** *Stefan Batory* in the role of *Author* (property **P14.1**). The property **P98 was born** links the **E67 Birth** event to **E21 Person**, which is identified by **E42 Identifier** *LNB:V*71534;=BG* and has the type (property **P2** *King of Poland and Grand Duke of Lithuania : Dignity*) **E55 Type.** The event **D2 Digitisation Process** comprises events that result in the creation of instances of **D9 Data Object** that represent appearance and/ or form of an instance of **E84 Information Carrier** (manuscript). The class **D9 Data Object** comprises instances of **D1 Digital Object** that are the direct result of a digital measurement, or a formal derivative of it, containing quantitative properties of some physical things (e.g. *Master copy*). In our example, the manuscript **E84 Information Carrier** is digitised by the event **D2 Digitisation Process**, which happens on a physical device (property **L12F**) **D8 Digital Device** *Digital camera Canon EOS-1 Ds Mark*, is carried out by (property **P14**) **E39 Actor** *Martynas Mažvydas National Library of Lithuania* and creates the file **D9 Digital Object** *Master copy 10 TIFF MB* stored within VEPS for long-term preservation. **D13 Digital Information Carrier** comprises all instances of **E84 Information Carrier** that are explicitly designed to be used as persistent digital physical carriers of instances of **D1 Digital Object**.

In addition to creating the instance of **D9 Digital Object** *Master copy*, the VEPS system automatically triggers resizing and format conversion event **D3 Formal Derivation** (subclass of **D7 Digital Machine Event**), which creates another **D9 Data Object** instance following a

10 THE SYNOD OF LITHUANIAN REFORMED EVANGELICALS. Locations of Lithuanian and Belorussian Reformed Evangelicals. Dainiai. 240 : [Steponas Batoras' written message to inspectors concerning the measurement of the land in the village of Dainiai (in the Raseiniai Powiat) and assignment of the right of its ownership to Darata Šemetienė (Szemetowa) under the exchange law].

deterministic algorithm, such that the resulting instance *Public copy 300KB JPEG* of the original digital object shares properties which represent the original object.

To reflect the semantics of entities in VEPS, some additional properties are used associated with an additional property to simulate specialisation of their parent property through the use of property subtypes declared as instances of **E55 Type**. According to the CRM documentation, they are designated with the extension "1", e.g. **P14 carried out by (performed)** by **E39 Actor (P14.1** in the role of **E55 Type**). In our example, **E7 Activity** carried out by (property **P14**) **E21 Person** *Stefan Batory* is described by **P14.1** in the role of **E55 Type** *Author*. Distinction is made between Person appellations and Group appellations because of their properties extending the CRM class **E82 Appellation** with subclasses **E82.1 Person Appellation** and **E82.1 Group Appellation**.

Archiving of metadata and digital objects

It is globally recognised that METS[11] is the most convenient XML schema for creating XML document instances, which express the structure of digital library objects, associated descriptive and administrative metadata, and the names and locations of the files that comprise the digital object. The metadata needed for successful management and use of digital objects is both more extensive than and different from the metadata used for managing collections of printed and artworks or archival documents. The project activities included creation of software for workflow management allowing to aggregate digital objects into integrated sets, where quality control, return for redigitisation of corrupt images and linking with the optically recognised full-text file and bibliographical object is performed. The export of objects with added descriptive metadata to the central database of VEPS is performed with the application of METS. The METS package used for data export includes extensive information related to the object and links to external objects (digital image or audio files). The description of the object in METS serves as a linking element between different parts of the document and its different versions. The following five sections of METS are used in the system: Document Header, Descriptive Metadata, Administrative Metadata, File Section and Structural Map (Figure 3).

11 Metadata Encoding and Transmission Standard (METS). Official Web site [cited: 2011-10-20]. Available at: http://www.loc.gov/standards/mets/

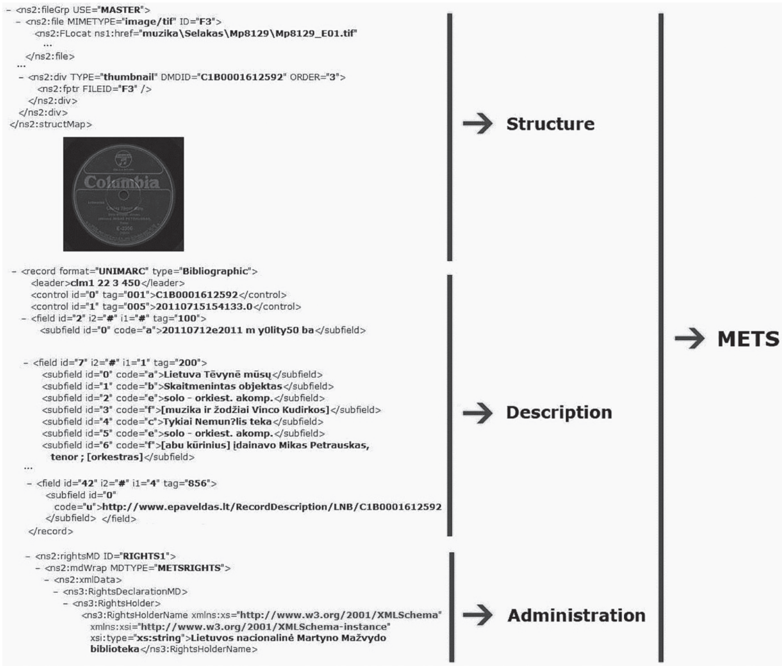

Figure 3.
An example of a digital object and its metadata in METS within VEPS

Descriptive metadata of digitised objects are created in accordance with the guidelines developed for libraries and archives. The guidelines for museums will be developed in the nearest future.

Preparation of separate records for digital objects enables obtaining more precise information about access to digitised objects, responsibility for their long-term preservation, storage location of the originals, etc. from management metadata.

Semantic querying of digital objects and metadata by using the BAVIC thesaurus

Considering that query formulation and its resolving largely depends on the use of compatible thesauri, among the objectives of the VEPS project was the establishment of a universal method and thesaurus for presentation of Lithuanian personal names, geographical names and historical chronology, which would serve for all memory institutions of Lithuania. For this purpose, BAVIC is applied within the CIDOC

CRM compatible VEPS data structure. The BAVIC thesaurus brings together authority records created for different authority files. It is more exhaustive in comparison with authority databases of individual memory institutions, as it integrates data about persons, corporate bodies, historical and contemporary geographical names, administrative divisions, subjects, and chronology from multiple institutions. The benefit of the BAVIC thesaurus and its database lies in the representation of all names forms, which thus become equally eligible as access points. This database will be freely accessible for all project partners and other memory and research institutions.

At the first stage of the VEPS project, the BAVIC thesaurus was conceived exclusively as a model for personal names, geographical names and historical chronology. Further effort was undertaken to merge the rich digital content into a seamless whole (e.g. link a geographical name with information objects or related artworks). A conclusion was made that a thesaurus model comprising only some of the CIDOC CRM classes and properties is not sufficient – its data do not enable complete implementation of the intrinsic logic (semantics) of CIDOC CRM. Implementation of all the main classes of VEPS in compliance with CIDOC CRM was considered as a possible solution to this problem. It was also approved by the international expert Professor Dr. Mirna Willer. Therefore the following approach has been adopted:

- applying the whole of the CIDOC CRM model for describing within the VEPS databank collections preserved at memory institutions and presenting them online by using the VEPS software;
- supplementing BAVIC with personal, corporate body and geographical names as well as chronology and subject headings from multiple memory and research institutions of Lithuania with various data, such as characteristics of a person (occupation), geographical type of location, hierarchical relation between locations, etc.

The BAVIC data are used to populate the following classes of the CIDOC CRM ontology: **Person** (**E21**), **Group** (**E74**), **Place** (**E53**), **Conceptual Object** (**E28**) and **Period** (**E4**). The metadata of digitised objects populates the class **Information Object** (**E73**) and its related classes, thus creating links between the information object and the above-mentioned BAVIC classes. Provenance data of the digital object are also incorporated into the CIDOC CRM compatible data structure of VEPS.

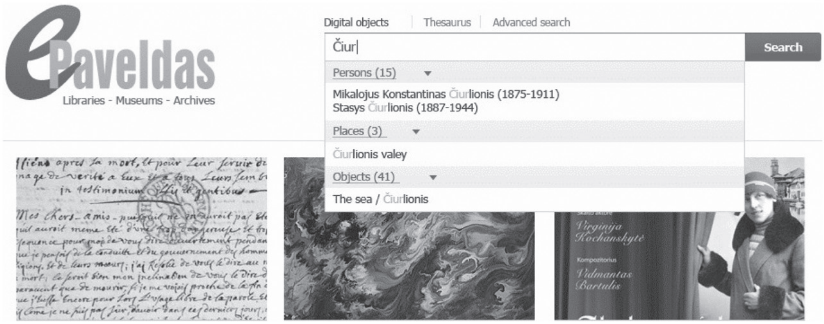

Figure 4.
An instance of search results within the portal "epaveldas.lt"

BAVIC has a pathfinder function and operates as a search aid within the portal "epaveldas.lt" (Figure 4). The search function includes pull-down menu options appearing instantly while the user types in the search box – persons, geographical names, groups and time periods. The resulting set is organised into subcategories of the selected category matching CIDOC CRM classes. For example, subcategories of the Place category are the following: administrative and geographical subdivisions, types of place (town, lake, etc.) and countries. Subcategories of the Person category include countries, a list of occupations from the controlled vocabulary, languages, dates of birth and death grouped by centuries, etc. The subcategories also match the CIDOC CRM classes intended to be used in searching, e.g. the occupation of the person (**E21 Person**) is the subclass **E74.1 Occupation** of the class **E74 Group**; the link between a person and occupation is defined in CIDOC CRM through the event **E85 Joining**: **E21 Person** is linked (property **P143 joined (joined by**)) by the event **E85 Joining**, which links a person with (property **P144 joined with (gained member by**)) the group **E74.1 Occupation**.

Another feature of the search within the portal is variant searching. Homonymous names of different entities worsen the results. To diminish these issues, two approaches have been developed. In the first place, selecting the category and its subcategory by the user minimises the occurrence of homonyms. Secondly, we use an internal relevance ranking mechanism based on the comprehensive structure of the extended CRM classes **E82.1 Person Appellation** and **E82.1 Group Appellation**, thus enabling the most relevant items to come first.

The developed model serves as a highway for the flow of digitised cultural assets and information about them from local to national systems and eventually to the global community.

Conclusions

The cooperative effort by Lithuanian memory institutions resulted in the adoption of the following strategic documents obliging archives, libraries and museums to ensure the integrity of cultural heritage and information about it by digitisation and provision of convenient access: the Concept, the Strategy and its Implementation Framework 2009–2013. These documents as well as the VEPS project launched by the National Library and partners resulted in a shared methodological approach to cultural heritage digitisation and access irrespective of the type, provenance, content or structure of the object.

The Virtual Electronic Heritage System (VEPS) is an extended digital library supporting traditional functions of long-term preservation of heritage objects and providing assistance in retrieval of these objects. It also is intended to promote a shared understanding of cultural heritage information by providing a common and extensible semantic instrument that any cultural information can be mapped to.

The CIDOC CRM model and its extension CRM_{dig}, as well as Semantic Web technologies and the BAVIC thesaurus, are applied for aggregating and online access of the diverse digital content within VEPS, implementing automatic data transformation algorithms from local to national data structures (i.e. the Virtual Electronic Heritage System) without loss of meaning, and semantic querying of digital objects, provenance and metadata as well as their long-term preservation.

References

2007–2013 metų ekonomikos augimo veiksmų programa, Vilnius, 2007 m. liepos 5 d. [cited: 2011-10-20]. Available at: http://www.esparama.lt/ES_Parama/strukturines_paramos_2007_1013m._medis/titulinis/files/2VP_EA_2007-07-05.pdf

Definition of the CIDOC Conceptual Reference Model / produced by the ICOM/CIDOC Documentation Standards Group, continued by the CIDOC CRM Special Interest Group. Version 5.0.3, May 2011 [cited: 2011-10-20]. Available at: http://www.cidoc-crm.org/docs/cidoc_crm_version_5.0.3.pdf

Doerr, Martin. CRM digital : a digital provenance ontology [cited: 2011-10-20]. Available at: http://www.tpdl2011.org/images/stories/tpdl/CRMDig_for_TPDL.pdf; http://www.ics.forth.gr/isl/rdfs/3D-COFORM_CRMdig_v2.5.rdfs

European Commission. Communication from the Commission : Europe 2020 : a strategy for smart, sustainable and inclusive growth : COM(2010) 2020. Brussels, 3.3.2010 [cited: 2011-10-20]. Available at: http://europa.eu/press_room/pdf/complet_en_barroso___007_-_europe_2020_-_en_version.pdf

European Commission. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions : a Digital Agenda for Europe : COM(2010) 245 final/2. Brussels, 26.8.2010 [cited: 2011-10-20]. Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:EN:PDF

Lietuvos informacinės visuomenės plėtros 2011–2019 metų programa : patvirtinta Lietuvos Respublikos Vyriausybės 2011 m. kovo 16 d. nutarimu Nr. 301. // Valstybės žinios 19, 33(2011), 19-25. Available also at: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=394457&p_query=&p_tr2= [cited: 2011-10-20].

Lietuvos kultūros paveldo skaitmeninimo koncepcija : patvirtinta Lietuvos Respublikos Vyriausybės 2005 m. rugpjūčio 25 d. nutarimu Nr. 933. // Valstybės žinios 30, 105(2005), 5-6. Available also at: http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=260975 [cited: 2011-10-20].

Lietuvos kultūros paveldo skaitmeninimo, skaitmeninio turinio saugojimo ir prieigos strategija : patvirtinta Lietuvos Respublikos Vyriausybės 2009 m. gegužės 20 d. nutarimu Nr. 493. // Valstybės žinios 4, 66(2009), 19-29. Available also at: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=389331 [cited: 2011-10-20].

Metadata Encoding and Transmission Standard (METS). Official Web site [cited: 2011-10-20]. Available at: http://www.loc.gov/standards/mets/

Further reading

Building a heterogeneous network of digital libraries on the Semantic Web / Sebastian Ryszard Kruk, Mariusz Cygan, Piotr Piotrowski, Krystian Samp, Adam Westerski, Stefan Decker [cited: 2011-10-20]. Available at: http://semdl.info/presentations/8

Doerr, Martin. The CIDOC conceptual reference module : an ontological approach to semantic interoperability of metadata. // AI magazine 24, 3(2003), 75-92 [cited: 2011-10-20]. Available at: https://www.aaai.org/ojs/index.php/aimagazine/article/view/1720/1618

Doerr, Martin. DELOS task 5.5 – ontology-driven interoperability [cited: 2011-10-20]. Available at: http://www.delos.info/files/pdf/events/paris06/T5.5_Ontology-Driven_Interop_Doerr.pdf

Doerr, Martin. Harmonized EDM-CRM-FRBRoo-CRMdig [cited: 2011-10-20]. Available at: http://www.tpdl2011.org/images/stories/tpdl/EDM-DC-ORE-CRM-FRBR-CRMdig_Integration.pdf

Doerr, Martin. Modelling intellectual processes : the object-orient[ed] FRBR model. Berlin, Germany, September 25, 2011 [cited: 2011-10-20. Available at: http://www.tpdl2011.org/images/stories/tpdl/EDM_for_TPDL.pdf

Doerr, Martin; Athina Kritsotaki. Documenting events in metadata : the 7th International Symposium on Virtual Reality, Archaeology and Cultural Heritage VAST (2006) [cited: 2011-10-20]. Available at: http://www.cidoc-crm.org/docs/fin-paper.pdf

Doerr, Martin; Athina Kritsotaki; Steven Stead. Sample of a period thesaurus [cited: 2011-10-20]. Available at: http://www.cidoc-crm.org/docs/period/period.html

Doerr, Martin; Athina Kritsotaki; Stephen Stead. Which period is it? : a methodology to create thesauri of historical periods [cited: 2011-10-20]. Available at: http://www.cidoc-crm.org/docs/ParousCAA_4.ppt

Doerr, Martin; Maria Theodoridou. CRMdig : a generic digital provenance model for scientific observation [cited: 2011-10-20]. Available at: http://www.usenix.org/event/tapp11/tech/final_files/Doerr.pdf

Doerr, Martin; Stephen Stead. Harmonized models for the digital world: CIDOC CRM, FRBROO, CRMDig, EDM. Berlin, Germany, September 25, 2011 [cited: 2011-10-20]. Available at: http://www.tpdl2011.org/images/stories/tpdl/crm_for_TPDL.pdf

Erlangen CRM / OWL 2011-04-04 based on CIDOC CRM 5.0.2 January 2010 [cited: 2011-10-20]. Available at: http://erlangen-crm.org/previous-versions

Joiner, Gregory; Douglas Reid. Implementing digital provenance on the World Wide Web using Semantic Web technology [cited: 2011-10-20]. Available at: http://semtech2011.semanticweb.com/uploads/handouts/THURS_1110_Joiner_3982.pdf

Le Bœuf, Patrick. Using an ontology-driven system to integrate museum information and library information : paper presented on the occasion of the Symposium on Digital Semantic Content Across Cultures, Paris, the Louvre, 4-5 May 2006 [cited: 2011-10-20]. Available at: http://www.seco.tkk.fi/events/2006/2006-05-04-websemantique/presentations/articles/LeBoeuf-DigSemAcrossCultures_200605_LeBoeuf.pdf; http://www.cidoc-crm.org/docs/DigSemAcrossCultures_200605_LeBoeuf.ppt

LIDO – Lightweight Information Describing Objects. Version 1.0, November 2010 / Erin Coburn, Richard Light, Gordon McKenna, Regine Stein, Axel Vitzthum [cited: 2011-10-20]. Available at: http://www.lido-schema.org/schema/v1.0/lido-v1.0-specification.pdf

Lourdi, Irene; Christos Papatheodorou; Martin Doerr. Semantic integration of collection description : combining CIDOC/CRM and Dublin Core Collections Application Profile. // D-Lib magazine 15, 7/8 (July/August 2009) [cited: 2011-10-20]. Available at: http://www.dlib.org/dlib/july09/papatheodorou/07papatheodorou.html

Modeling and querying provenance by extending CIDOC CRM / Maria Theodoridou, Yannis Tzitzikas, Martin Doerr, Yannis Marketakis, Valantis Melessanakis. // Distributed and parallel databases 27, 2 (2010), 169–210 [cited: 2011-10-20]. Available at: http://www.springerlink.com/content/53225114q136g68v/fulltext.pdf

The role of ontologies in semantic digital libraries / Sebastian Ryszard Kruk, Bernhard Haslhofer, Piotr Piotrowski, Adam Westerski, Tomasz Woroniecki [cited: 2011-10-20]. Available at: http://www.ukoln.ac.uk/nkos/nkos2006/papers/paper-013.pdf

Using an ontology for interoperability and browsing of museum, library and archive information / Patrick Le Bœuf, Patrick Sinclair, Kirk Martinez, Paul Lewis, Geneviève Aitken and Christian Lahanier [cited: 2011-10-20]. Available at: http://eprints.ecs.soton.ac.uk/14790/1/D4_Le_Boeuf.pdf

Biographical sketch

Dr. Regina Varnienė-Janssen has been Director of the National Centre for Digitisation and Virtual Electronic Heritage System at the Martynas Mažvydas National Library of Lithuania since January 2011. She is the author of over 80 scientific and methodological publications on bibliographic control, cataloguing, bibliographic and publishing standards, design of information systems, development of the Lithuanian Integrated Library Information System, Virtual Electronic Heritage System, in the Lithuanian and international professional journals.

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She is assistant professor at the Institute of Library and Information Sciences of Vilnius University's Faculty of Communication. She teaches courses on Information Processing and Retrieval, and Management of Cultural Heritage Projects.

Jonas Juškys is a project manager at ASSECO Ltd, Vilnius, Lithuania. He has been involved in the following key projects: "Creation of the Lithuanian Integrated Library Information System (LIBIS)", "Creation of the Information System of the National Library of Belarus", and "Development of the Virtual Electronic Heritage System (VEPS)".

STRATEŠKA, METODOLOŠKA I TEHNIČKA RJEŠENJA ZA STVARANJE POVEZANOG SADRŽAJA DITIGALNE KULTURNE BAŠTINE
LITVANSKI PRISTUP

Sažetak

Razmatra se oblikovanje konceptualnog pristupa za stvaranje povezanog sadržaja digitalne kulturne baštine u Litvi. Prvi se dio rada usredotočuje na novu paradigmu u litvanskom zakonodavstvu o kulturnoj baštini i na financijska pitanja. Drugi dio opisuje što je naučeno iz inicijative Nacionalne knjižnice Litve Martynas Mažvydas i još devet baštinskih ustanova vezanih za stvaranje povezanog sadržaja kulturne baštine. U glavnim crtama prikazuje se primjena formalne referentne ontologije CIDOC CRM i njezinog dodatka CRM_{dig} za različite formate podataka, a posebno za podršku implementacije algoritma za automatsku transformaciju podataka iz lokalnih u nacionalne podatkovne strukture (odnosno Virtualni elektronički baštinski sustav) bez gubljenja podataka. Raspravlja se i o semantičkom ispitivanju digitalnih objekata, njihovom podrijetlu i metapodacima primjenom BAVIC-a (Zajedničkog tezaurusa osobnih imena, geografskih naziva i povijesne kronologije Litve) unutar Virtualnog elektroničkog baštinskog sustava.

Ključne riječi: zakonodavstvo o kulturnoj baštini, CIDOC CRM, CRM_{dig}, RDF, metapodaci, digitalni objekti, modeliranje podrijetla, BAVIC (Zajednički tezaurus osobnih imena, geografskih naziva i povijesne kronologije Litve)

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 tvari. // Anatomija povijesnoga spomenika / Antoine-Chrysôstome 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 Tuđman. 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 zbirkama : 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/rslp/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.

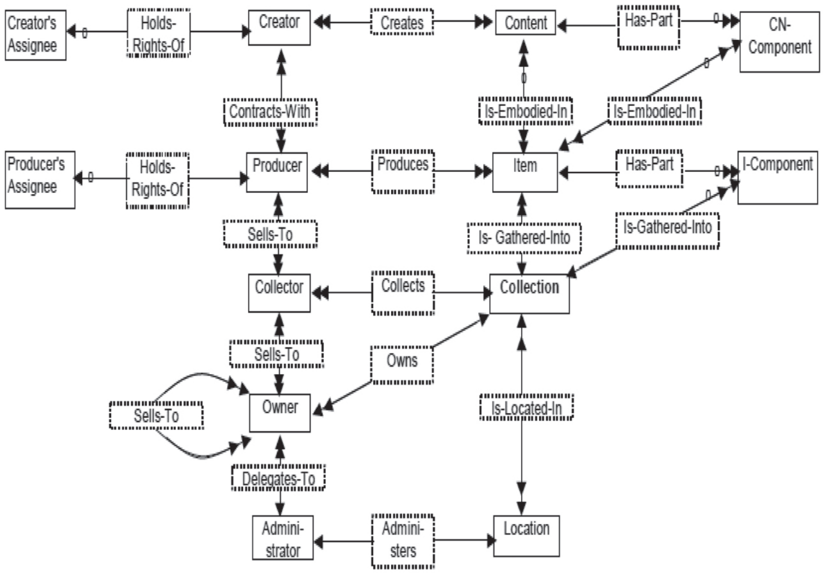

Diagram 1.
Collection level description
(From: Heaney, Michael. An Analytical Model of Collections and their Catalogues. Third issue, revised. Oxford, 14 January 2000)

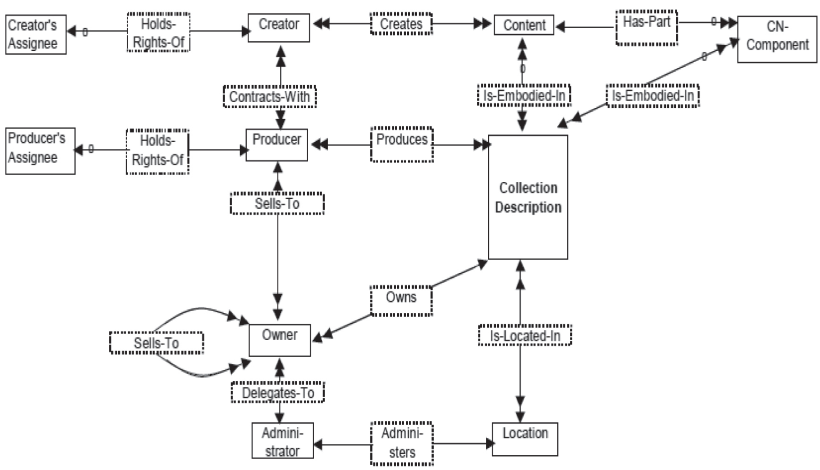

Diagram 2.
Collection description
(From: Heaney, Michael. An Analytical Model of Collections and their Catalogues. Third issue, revised. Oxford, 14 January 2000)

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*.

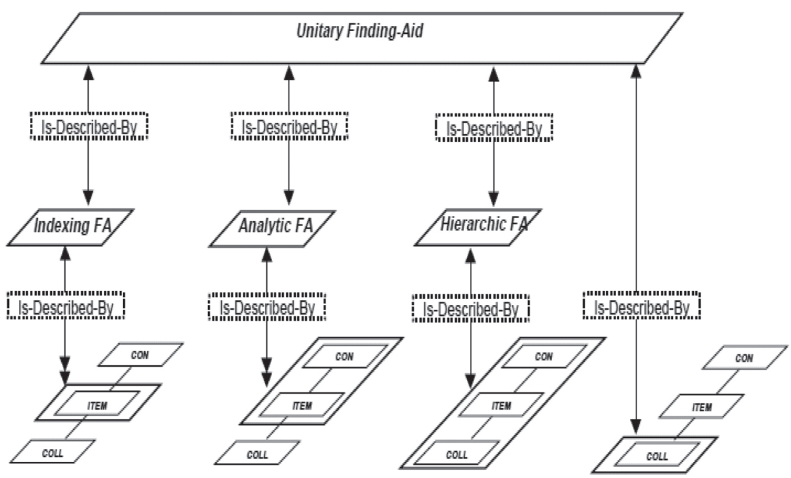

Diagram 3.
The relationship between collection level description and collection description (From: Heaney, Michael. An Analytical Model of Collections and their Catalogues. Third issue, revised. Oxford, 14 January 2000)

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 portal[15] 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. Annexe 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 entities, 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.

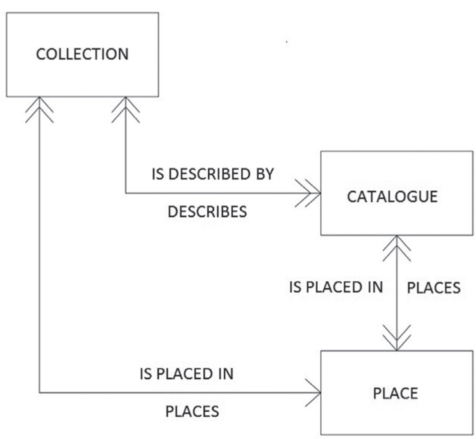

Diagram 4.
The basic model for description of written heritage collections

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*.

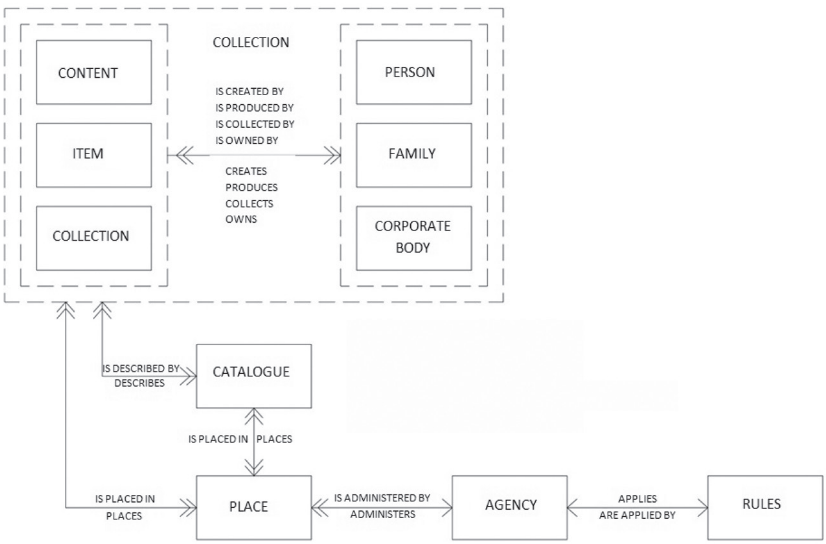

Diagram 5.
The full model for description of written heritage collections

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, extramarital 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 functionality 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 retaining author rights inheriting author rights inheriting ownership rights sale, gift power of attorney
family-family	
corporate body-corporate body	
person-family	
person-corporate body	
family-corporate body	

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 traditional 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.

References

Dublin Core Collection Application Profile [cited: 2011-10-30].
Available at: http://dublincore.org/groups/collections/collection-application-profile/

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

Dunsire, Gordon. Technical and functional description of the SCONE Demonstrator Service : final report of the RSLP SCONE Project. Annexe B.1. June 2002 [cited: 2011-10-30].
Available at: http://scone.strath.ac.uk/FinalReport/SCONEFPNXB1.pdf

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.

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. See also Croatian translation: Uvjeti za funkcionalnost autoriziranih podataka : konceptualni model / [s engleskog preveo Tomica Vrbanc]. Zagreb : Hrvatsko knjižničarsko društvo, 2010.

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]. See also Croatian translation: Uvjeti za funkcionalnost bibliografskih zapisa : završni izvještaj / [s engleskog prevela Tinka Katić]. Zagreb : Hrvatsko knjižničarsko društvo, 2004.

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/rslp/model/amcc-v31.pdf

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

Macgregor, George. Collection-level description : metadata of the future? // Library review 52, 6(2003), 247-250.

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

RSLP Collection Description : Collection Description Schema [cited: 2011-10-30]. Available at: http://www.ukoln.ac.uk/metadata/rslp/schema

SCONE. Welcome to Scottish Collection Network [cited: 2011-10-30]. Available at: http://www.scotlandsinformation.com/scone/

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.

Šola, Tomislav. Muzeološki prilog teorijskim osnovama informacijske znanosti. // Informacijske znanosti i znanje / uredili Slavko Tkalac, Miroslav Tuđman. Zagreb : Zavod za informacijske studije, 1990. Pp. 147-153.

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

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

Williams, Raymond. Kultura. // K. : časopis za književnost, književnu i kulturnu teoriju 1, 1(2003), 7-14.

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 zbirkama. 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 zbirkama, opis na razini zbirke, model entitet-odnos

Curating a Manuscripts Collection

An Overview of Tasks and Other Aspects Relating to Manuscripts in a Modern Library

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Abstract
The paper sets out with a description how the curating of manuscripts is integrated into a modern library and information network and enumerates the tasks implied by the curation of a manuscripts collection in a research library: collection awareness (types of materials); collection development (by which is meant the relationship to donors and vendors); different aspects of the description of manuscripts (texts, illustrations, the challenges of archival material); reference materials and the reference environment; research surveys and the implications of research on the description of manuscripts. It gives an overview of user services both in situ and remotely, and the administrative issues of digitization, exhibitions and co-operation. Conservation, preservation and restoration are touched upon but are not considered in detail.

Keywords
management issues for a manuscript department, curation for manuscripts in today's librarianship, manuscript exhibitions, digitization of manuscripts

Introduction

In reading this article, please note that it is not an academic paper. No attempt has been made to acknowledge relevant literature in the field. Instead, it is a very personal account based on my professional experience in the Bavarian State Library, where I have been responsible for the Department of Manuscripts and Rare and Early Printed Books since 2004, after a professional career which began with thirteen years' responsibility for (alphabetical) cataloguing followed by nearly five years as Head of User Services. The article is based on a presentation made to the Summer School audience in Zadar 2011. I hope that it may inspire some readers to some approaches or actions and make the range of options visible. I am very much aware that many issues could be added and should be discussed, and that consequently, as it stands, this is by no means a full account.[1]

Management issues

This overview is given from a management perspective as opposed to that based on research or cataloguing experience. It is strongly influenced by the context of the major library environment of a universal research library. The Bavarian State Library defined its mission in 2008 (its 450th anniversary year) in a "three-pillar profile" using an image of three columns (inspired by the columns on the Library's staircase): it is a "treasure trove of written cultural heritage, a multimedia information service provider for research and teaching, an innovation centre for digital information technology and services".[2] It is very difficult to define the mission of such a major library very precisely: it is an important sign of the overall appreciation of its cultural heritage collections that its function as a treasure house is the first to be listed. By comparison with the other two, it must also be considered as the most permanent in the Library's long history.

A managerial perspective suggests that it is mostly about the work of others, although the overall organization of the work is part of management. Management implies that behind all these detailed actions there is a plan, a strategy, an aim. To be successful, management must make the best of the available resources in people, finance and collections and try to influence these factors for the greater benefit of the organization. Management must try to reconcile different and diverging interests and find a means of combining different skills and options. Manuscripts are unique and individual items. The term covers a range of very dissimilar materials. People dealing with them tend to be rather like the items in their care. In order to shape what they do, it helps to understand their tasks, not necessarily as a specialist, but appreciating and evaluating their specialisms and knowledge.

Within a library context today a manuscripts collection is rarely a stand-alone organizational unit. It is usually integrated into larger con-

1 For more detailed reading, see Cullingford, Alison. The special collections handbook. London : Facet, 2011.

2 Bayerische Staatsbibliothek – Information for excellence, Munich November 2007.

texts, uniting all manuscripts (medieval and modern, archival papers, as is the case, for example, in Berlin State Library) and rare or early books. It is difficult to define where the early printed book ends: around 1830, the end of the hand press period, in the year 1900 or nowadays sometimes as late as 1950, after the Second World War. The term 'rare' also includes recently published modern bibliophile and artist books, as is the case in the Bavarian State Library, for example. Sometimes manuscripts are part of a department called Special Collections, as happens in many university libraries in Germany at present. Responsibility for particular types of manuscripts (music, maps, oriental, etc.) may lie with other separate units. Still the manuscripts curators must keep a watching eye over them. The physical care of manuscripts (restoration, conservation and preservation) is sometimes integrated into the same department and sometimes it is part of a separate unit. If the latter is the case, this unit will be a primary partner for close co-operation in the shared concern and ongoing care for these unique items. Whatever the exact scope of the organizational unit for manuscripts, it is always part of a larger institution – a library or an academy of science, a university, a museum or an archive. It is very rare for a manuscripts collection to stand completely on its own except perhaps within a monastery or in a private collection. And even in these cases it is important to find partners first within, then outside the organization, in similar institutional contexts.

Curation and advocacy

Management issues for a manuscripts collection are often described in terms of 'curation' and 'advocacy'. To my mind advocacy implies that individual strengths and tasks arising from manuscript curation are contributed to the general benefit of the institution and share in its overall identity and strategy. This seems self-evident since manuscripts are highly estimated today, not only because of their value but also because they are truly unique and distinctive items in a library's collection, which is otherwise becoming more and more homogenous. This integrated approach allows for true advocacy of the interests and concerns of the organisational unit for manuscripts and thus of the collection, in curating it and in making it flourish. An important aspect of the management of today's manuscript collections is an awareness that this activity does not stand alone: there are no islands, no ivory towers and no paradise gardens. Everyone shares and contributes to general policies, everything is networked. In the Bavarian State Library we are proud of successfully applying what is called a 'matrix structure': the Manuscript Department is involved in acquisitions, cataloguing, user services, digitization, public relations and so on (all self-standing units) in order to reflect its impact. It thus relies on specialized partners and exerts this function itself whenever it comes to concerns for heritage collections.

Institutional memory

A particular remit for a manuscripts collection within an organisation is keeping an eye on the history of the institution. This not only means keeping alive the memory of the past, to ensure the study of the library's history and the provenance of collections but also involves making sure that the ongoing activities of the institution are archived and well preserved in the institutional memory. Today's activities are the history of tomorrow. Especially at a time when the memory function is shifting from paper to born-digital material, particular attention must be given to this 'self-documentation'.

Asset and core: the collection

One distinctively characteristic aspect of the management of a manuscripts collection is the core value and the asset of the collection itself. It is therefore of primary importance to know, to describe, to present this collection, its contents and the state of conservation. The task is to reassemble information and assessments of the collection, to compare, to find out about its strengths and weaknesses and to identify development aspects. The collection is historical and at least parts of it have been in the library for centuries. On the basis of what we know about the collection and through ongoing activities, its needs can be identified and a wish list established, even although this may turn out to be longer than a professional lifetime. It is important to look carefully at every shortcoming with a view to improvement. And again even in the case of manuscripts we live in a time of networking: within the library, with external partners, especially in the research area and with other collections. We must evaluate the cultural impact of the collection. This implies co-operation with research in many areas, with cultural organisations and, for example, with tourism. As the collection is at the heart of everything, its maintenance must be one of the library's most important concerns. The collection must be protected and conserved: this ranges from shelving to boxes and comprises restoration and safety issues. Every need in this field must be identified and addressed, again on a long term scale. These issues are not dealt with once and for all – on the contrary, they need constant and regular monitoring and repeated addressing.

Library tasks

The manuscripts collection participates in all the classical tasks of the library, acquisition, cataloguing and user services. Exhibitions are a particular responsibility and digitization has become a new task and growing concern.

Acquisitions

Although it may sound unlikely nowadays, manuscripts should continue to be part of the regular acquisitions policy within a library. Manuscripts are still on the market, sold by auction houses, antiquarian booksellers, not only in shops, but increasingly on the internet in professional and more informal ways.[3] Acquisitions take place inside and outside the country. It is important to ensure a budget and to keep a presence in the market. The field of collection development must be defined to some extent. In this area of extremely expensive investment, it is helpful to participate in existing development plans at a local, regional or national and sometimes even at an international level. This helps to avoid uncontrolled duplication of effort in trying to find funding for a particular item and in the worst case bidding against another publicly-funded institution at auction and contributing to raising prices. For outstanding acquisitions, external funding is usually necessary, sometimes from several funding bodies at the same time.

Manuscripts are sometimes offered to libraries by private individuals, as a gift, a legacy or as a commercial offer. Besides, collections can be reallocated, for example, during restructuring within a university or as a consequence of the dissolution of libraries, as is the case with a number of religious orders.

It may be worthwhile to create a network around the collection in the hope of attracting donors. This requires distributing clear information about relevant material in your collection. If offers are invited, the decision and selection must nevertheless be retained by the institution so that it remains the master of the collection. It might be possible to allow for exchanges, for example, of duplicates received with private

3 E.g. Zentralverzeichnis antiquarischer Bücher: ZVAB [cited: 2012-05-10]. Available at: www.zvab.com

libraries. Gifts and donations are very welcome, but they are never without cost since they represent a long-term financial commitment for the library: at a minimum, they require cataloguing, preservation and conservation.

Whatever the investment in the collection, acquisitions help to show that the collections are living and vibrant. Acquisitions in this area have an impact on the standing of the library. They can be marketed, announced in the press and celebrated in a presentation or an exhibition. In this way, they are welcomed even by directors who might not be enthusiastic at first about spending money on heritage collections.

Cataloguing: description and presentation

The cataloguing of manuscripts is an outstanding academic and research activity, which demands significant and, depending on the items, varying expertise. It takes usually a long time. This form of cataloguing is an investment for decades, if not for centuries. It is sometimes carried out outside the library, in a specialized research institute of a university or an academy of sciences. Beyond and before undertaking this academic cataloguing, a general description of the collection is necessary. This is a valuable service in itself to potential users. In describing the collection the need for further, more detailed analysis can be identified and worthwhile parts or approaches defined. The cataloguing of manuscripts can be undertaken as a puzzle or mosaic. Pieces of information which are available and valuable can be put together. Basic and detailed available descriptions can be put on the internet. Existing catalogues should be converted into machine-readable form in order to provide up-to-date access. The analysis can proceed by provenance, list marks of ownership, bindings, illuminations, types of texts. In thus evaluating the collection, it is useful to identify interesting items to attract specialist interest and research and to plan for digitization or the production of facsimiles. If items are identified for digitization, their basic cataloguing metadata must be retained or established. A survey of this kind also allows identification of conservation and preservation needs, whether it is shelving or the use of boxes for protection. Existing or forthcoming restoration protocols should be collected since they are also an interesting part of the collection description.

A reference environment should be created to surround and explain the collection. Books and articles published about the manuscripts should be collected and particular attention should be given to unpublished material gathered in close association with readers. Reference material should also include information on comparable manuscripts. The cataloguing of this reference material should be related to the individual items in the collection.

User services

Service is the core activity of the modern research library. For manuscripts a balance has to be found between the duty to preserve these centuries-old valuable documents for succeeding centuries, thus ensuring their preservation and protecting them against deterioration through use, and the duty to allow access to them, making them useful for today's research, knowledge and culture.
The first issue for in-house user services is therefore to provide safe access to individual manuscripts and, if possible, where required and necessary to the collection as a whole (which may even imply access to the stacks). In the reading room temperature, light and the handling of items must be monitored to defined standards, such as wearing gloves, washing hands, use of pencils, etc. Users can be admitted carefully according to established rules. There is a particular demand for presentations for visitors, seminars, schools. The staff in the manuscripts department should understand research interests. They may thus be seen as research partners, being able to collect, retain and seek research information from visiting scholars and students and enter into discussion with their users.

Internal use is usually only one and often the smaller part of the use of a manuscripts collection. Remote usage and correspondence are typical. Correspondence should be retained and archived in order to make best use of the information resulting from these consultations and in order to be able to share the most useful knowledge with users everywhere. Manuscripts departments receive heavy demand for reproductions: photographs, (digital) copies and publication of images. A policy and fee structure must be set for these services, and regulations on copyright or licensing issues must be defined bearing in mind demands for open access and free downloading of images. Contracts may be necessary for commercial use or particular publications, e.g. facsimiles, calendars, postcards, granting particular rights which must always be limited in time. Even although this area may create some income, the overall scope for revenue should not be overestimated but balanced against staff costs and the library's own interests. A facsimile edition, for example, allows control of access to the original, permits a core element of the collection to be exhibited without harming the original, enables a valuable resource to be studied in detail, and provides a number of (digital) images, and this should not be prevented by a deterring cost for the publisher.

Exhibitions loans

Exhibition loans are a particular issue for manuscripts. In this context a lot of legal issues need to be addressed. Before lending a manuscript to an exhibition, particularly one abroad, the overall situation should be carefully considered: some issues are questions of unclear ownership, war, risks of transport, the impact of the exhibition and loans from other institutions. There must be a formal contract and questions of customs and export licences may arise. If a manuscript leaves the collection, the question of insurance has to be addressed and the actual market value has to be assessed. The transport of the item needs particular care and often the manuscript must travel not only in a special art transport but also in the company of a curator who will help to install it safely in the exhibition. Before allowing a loan to be made, the situation in the receiving exhibition should be clear, and facility reports should be obtained in order to judge all the major issues relating to presentation and security. The handling and display of the manuscript can be prescribed by the lender: the form of presentation, the page to be opened, the angle of opening, the turning of pages and so on. The duration of an exhibition must be set in line with the condition of the item – usually a period of three months is acceptable. Special prerequisites may be given concerning the description of the manuscript in the exhibition catalogue. And, in addition, rules for photographs, television, flyers, press, posters and so on must be indicated by the lender.

A request for a loan is not merely a risk or danger for a manuscript. It can also show its value and impact and give an opportunity for collection care with external funds. The manuscript needs a box to protect it during transport and this will later protect it in the stacks. A digital copy should be made for safety reasons and this can then be put on the internet. Any restoration needed should be undertaken before allowing the manuscript to go on loan.

Manuscripts only usually travel for exhibitions. Other exceptional cases must always be ruled by particular agreements respecting the uniqueness and irreplaceability of the item. Exceptions may be made for central cataloguing projects, restoration or digitization activities outside the collection and long-term loans (deposits) to other collections. Before permitting such exceptions, the benefits to the item and its impact must always be carefully assessed.

Curating exhibitions

The remit of a manuscripts department often implies curation for exhibitions, at least those in which manuscripts are displayed. The library's own exhibitions need to be defined and initiated, curated and promoted. Again, knowledge of the collection is essential for defining topics for exhibitions. It is equally important to know and assess the location and space for the exhibition, the furniture (exhibition cases) and the environmental and light conditions which are necessary for conservation of the items. In deciding on an exhibition, there must be a clear understanding of its impact, the number of visitors expected and its duration. It is useful to find different partners: in the cultural life of the city, in the university or other research environment, and to be aware of other exhibitions locally or regionally which the library's exhibition might complement or show a completely different side.

Before curating an exhibition, the financial options and the scope of involvement should be quite clear. Should the exhibition have a poster, flyers, an exhibition catalogue, a press campaign, a 'virtual' exhibition and loans from other institutions? All these factors determine the budget just as much as the time frame for the planning phase.

First of all, curation implies the selection of items and their meaningful and attractive presentation. This includes their preparation, choosing the pages to be opened (eventually deciding on the turning of pages during the period of the exhibition) and the form of display in the exhibition case, usually in close co-operation with a skilled member of preservation staff. Light plays a fundamental role here: a balance has to be found between not putting too much light on the valuable items while at the same time illuminating them to show the full scope of their beauty, and making the descriptions in the exhibition cases and the room legible. The captions must not be too short or too long and questions of multi-linguality and the size of the characters must be settled. The exhibition must be guided by a framework in which the individual items play a role which needs to be explained. The content for the flyer, the catalogue and the press release should be decided upon. An exhibition catalogue is usually a team effort, involving the best specialists on the various exhibits as the catalogue has a long-term impact well beyond the exhibition. Photographs that are required must be obtained a long time in advance.

The curator should also be involved in questions of security and exhibition opening hours, especially at times outside normal working hours. The preparation of an exhibition is time-consuming and display itself puts particular stress on the exhibits. Still, it is the best means of making known the contents and impact of the collection. An exhibition which passes unnoticed is a waste of effort.[4] Curation involves responsibility for promotion, starting with a poster and flyers, ensuring their widest distribution, making sure there is an announcement on the website and trying to involve the press and other media. An opening ceremony gives emphasis to the event. During the period of the exhibition a range of accompanying events may help to attract visitors: for example, seminars, music performances and films. If a large public response is expected, an audio guide frees staff from taking too many tours. Nevertheless, guided tours by the curator and other knowledgeable people are very much welcomed by the public and attract visitors. They enable the sharing of information beyond the exhibition and thus help curators to know and understand the interests of the public better.

Although nowadays a lot of manuscripts are available online – and an exhibition is always the best opportunity to make a full digital copy of particularly valuable and sometimes fragile item – still the fascination for the aura of the original and the testimony of the past continues to grow. In order to maintain or to increase the impact of a manuscripts collection, everything should be done to avoid hiding or closing away ‘for ever’ items of this kind. Their display in an exhibition can be celebrated as something special and rare. All our curatorial efforts and conservation knowledge should be invested to ensure this kind of face-to-face encounter with cultural heritage.

Digitization

The reproduction of manuscripts has been on the agenda as long as photographic methods have existed. Most manuscript collections have photographic and microfilm archives. With the rise of digitization the reproduction of manuscripts has gained a new previously unknown

4 Nevertheless it might be a particularly asset for the library to ensure exhibitions which are of interest only to a small research community. The effort and the cost for this kind of important exhibitions must be carefully balanced.

quality and impetus. While the role of a digital copy as a reliable means of preservation able to replace microfilm is still disputed, digitization has given a new life and value to manuscripts collections. Digital copies of a manuscript in colour available on the screen, wherever and whenever, not only permits one to admire the beautiful images but also gives unlimited access to studying the manuscript in all its aspects, regardless of any preservation concerns for the original once the digitization procedure (which must be handled in a careful, item-specific, optimal way) has been completed. Digitization raises a lot of administrative, technical and strategic issues. The curation of a manuscripts collection involves defining a wish list with a long-term vision: the ultimate goal is to have all copyright-free manuscripts online and to take a step by step approach to reach this goal. A decision needs to be taken on internal or external service options and a cost framework must be devised and established. If originals are subjected to digitization, the long-term archiving and survival of the digital copies must be considered by the curator. As the process is stressful for the original, it is important to ensure that it does not have to be repeated in the foreseeable future except should more advanced methods giving even higher quality images be developed. The best available method must be applied to these documents with a long-term perspective (i.e. for some decades) since we have realised from our earlier decisions on microfilms and facsimiles that the time span of a secondary format is not very long. It is also in the interests of the manuscripts curator to ensure the best possible presentation and access to the digital copy both in the context of various presentations in digital collections or libraries and via catalogues. Ongoing care must be dedicated to these procedures and the various options for display. Much help is being received from the technical side since engineers love to see the most modern technology applied to historical testaments of culture.

Within the manuscripts collection there are several reasons for digitizing, and every effort should be made to have a single administration of metadata, long-term archiving and presentation of digital copies arising from different approaches. We can distinguish user-created digitization in the context of demand for copies or loans from digitization in the context of different projects, digitization of single or several items and digitization for preservation. A particular issue is the reuse of secondary formats, particularly digitization from microfilm. When digitization was begun in the Manuscripts Department of the Bavarian

State Library, we applied a strict policy of using all existing microfilms. But we have learnt since then that this is rarely the last word, and we are very willing to go back to the original for high-quality colour digitisation if the manuscript allows it from a preservation perspective and if the costs are covered. Nevertheless, digitising from microfilm remains a valuable interim solution, cheaper for the paying user, non-invasive for the original and helpful as long as the microfilm is of good quality (not too much used), complete (and with images in the right order) and from a text manuscript.

Another typical issue is single images – especially in user-driven digitization. People usually want individual pages, individual images and not the whole manuscript. For the manuscript one-off complete digitization is better in some cases, while in others it is well known that only some pages of the manuscript are of interest. The best solution would be to allow for a single image presentation as well as for the presentation of the whole manuscript. Nevertheless, in my own library this often articulated wish has not been fulfilled even after seven years of intense digitization. Single images of manuscripts are digitized and long-term archived in the same way as full documents, but they are not displayed in the digital library and are thus not available to the user and are only accessible through internal administration tools. Digital copies of manuscripts are there to be shared, and a number of portals take great interest in these documents. It is up to the manuscripts curator to identify the best options for sharing the collection, for example, the CERL portal, Manuscriptorium, Europeana, World Digital Library, and there are many more.

Digital copies also allow the addition of features which contribute to making the collection or the manuscript known and interesting. Sometimes they may seem more of a game or a means of advocacy and propedeutics: from bookmarks, to calendars, postcards, books and school material to turning the pages applications, apps, virtual exhibitions and exhibition display, digital copies serve multiple purposes without having to touch the original. They therefore need care and require more and more description: from table of contents information page by page to full text transcription, translation, preservation reports, comparisons with other manuscripts, other editions and much more. Web 2.0 features may allow for users' input and discussion of research topics; in effect, the digital copy lives its own life but it is up to the curators to make this life useful to the original manuscript.

Networking

In order to be useful a manuscripts collection must be firmly embedded in a network. This can be research-directed towards a university or academy but can also be more generally culture-oriented, at a local level in the city to programmes for tourism, senior citizens, schools, churches and the memory institutions of museums and archives. For the manuscripts curator there are also lots of professional links, working groups, interest groups and ways of sharing. At a European level, the Consortium of European Research Libraries brings together research libraries interested in cultural heritage and smaller libraries can join this group through cluster membership. The CERL portal is open to all manuscripts collections accessible via OAI. LIBER has a Steering Committee for Heritage Collections and Preservation since its most recent restructuring in 2009 with a very active Manuscripts Group. IFLA has a section of Rare Books and Manuscripts. There are also many interesting projects at a European level, for example, Europeana Regia, which is digitizing more than 870 manuscripts, and many conferences. Internationally, the World Digital Library focuses on the most important cultural objects worldwide, the UNESCO Memory of the World lists on submission and acceptance national treasures. In the world of manuscripts we have a long-standing tradition of sharing and making our collections known. We live in excellent times for continuing this tradition at a high technical standard and for making sure that our centuries-old manuscripts maintain their impact on our own day.

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References

Bayerische Staatsbibliothek – Information for excellence, Munich November 2007.
Cullingford, Alison. The special collections handbook. London : Facet, 2011.
Zentralverzeichnis antiquarischer Bücher: ZVAB [cited: 2012-05-10].
Available at: www.zvab.com

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SKRB ZA ZBIRKE RUKOPISA
PREGLED ZADATAKA I DRUGIH ZNAČAJKI VEZANIH UZ RUKOPISE U MODERNOJ KNJIŽNICI

Sažetak

Članak započinje opisom integracije skrbi za zbirke rukopisa u modernoj knjižničnoj i informacijskoj mreži te nabraja zadatke koje skrb za zbirke rukopisa u znanstvenoj knjižnici podrazumijeva: poznavanje zbirke (vrste građe); razvoj i stvaranje zbirke (gdje se podrazumijeva odnos s darivateljima i prodavačima); različiti aspekti opisa rukopisa (tekstovi, ilustracije, problemi s arhivskom građom); referentna građa i referentno okruženje; pregledi istraživanja i utjecaj istraživanja na opis rukopisa. Daje se pregled korisničkih usluga in situ i na daljinu, te administrativnih pitanja digitalizacije, izložbi i suradnje. Zaštita, čuvanje i restauracija se spominju samo usputno, ali se ne razmatraju detaljno.

Ključne riječi: upravljačka pitanja odjela za rukopise, skrb o rukopisima u današnjem knjižničarstvu, izložbe rukopisa, digitalizacija rukopisa

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ABREVIATIONS

AERI The annual Archival Education and Research Institutes, USA
ARS – the Archive of Republic of Slovenia
BAVIC - Common Thesaurus of Personal Names, Geographical Names and Historical Chronology of Lithuania
CRT - Critical Race Theory
DC CAP – Dublin Core Collection Application Profile
EPPT - Edition Production and Presentation Technology
FRAD - Functional Requriements for Authority Data
FRBR – Functional Requriements for Bibliographic Records
IAML – International Association of Music Libraries, Archives and Music Documentation Centres
IMS – International Musicological Society
InterPARES projects - International research on Permanent Authentic Records in Electronic Systems
KOS - Knowledge organization system
LCSH – Library of Congress Subject Headings
MACS - Multilinual Access to Subjects
MADRAS – Metadata Registry and Analysis System
METS – Metadata Encoding and Transmission Standard
NINES – Nineteenth century Scholarship Online
NSAL - Ljubljana Archdiocesan Archive
NUK - National and University Library in Ljubljana
OCR – Optical Character Recognition
OMR – Open Metadata Registry
PAK – the Koper Regional Archive – Piran Branch
PAM – the Maribor Regional Archive
RDA – Resource Description and Access
RDF – Resource Description Framework
REICAT – *Regole italiane di catalogazione*
RISM – Répertoire International des Sources Musicales
SAK – Koper Cathedral Archive
SAM - Maribor Dicesan Archive
SKL – the Ljubljana Seminar Library
SWD - German subject headings in Schlagwortnormdatei
TEI – Text Encoding Initiative
TILE – Text-Image Markup Tool Project
UBC – Universal Bibliographic Control
UKM – Maribor University Library
URI – Uniform Resource Identifier
VEPS - Virtual Electronic Heritage System (*Virtuali elektroninio paveldo sistema*)
VIAF- Virtual Authority File
W3C – World Wide Web Consortium
XML – eXtensible Markup Language

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