

## Issues in Electronic Publishing on the Medieval Slavic and Byzantine World

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### Abstract

This paper presents the experience gained in work on two current Bulgarian projects aiming at the development of electronic resources for South-East European Studies, Slavic studies, Old Church Slavic, and to some extent, Byzantine studies.

The first project was launched within the framework of the Research Support Scheme of Open Society Institute/Higher Education Support Programme (HESP) of the Open Society Institute and started in July 1997. Its aim is to provide a multimedia CD-ROM entitled 'Cyril and Methodius and the Early Medieval Slavic World: Byzantium and the Slavs in the 9<sup>th</sup> century AD'.

The second project aims at construction and maintenance of a specialised website "SCRIBE – Digitising Medieval Slavic Manuscripts in Bulgaria". The Institute of Mathematics and Informatics and Open Society Fund in Sofia supported this endeavour in its initial steps in November 1997.

During our real-life experience in the development of the projects our team encountered a large number of problems which could be of interest for our colleagues both in the field of Electronic Publishing and the above-mentioned historical and linguistic fields:

- *Subject area difficulties* – these relate to the following issues: standardisation in the field of computer representation of non-Latin alphabets; lack of formal models of knowledge in the humanities; substantial variety in the scientific views of scholars on their object of study.
- *Organisational difficulties* – these relate to lack of experience in organising projects in electronic publishing for the humanities in Bulgaria; legislative problems; economic problems in finding appropriate funding.

Presentation of these difficulties and possible solutions will help colleagues, especially in the countries where electronic publishing is making its first steps

in an economic situation similar to the Bulgarian one, to plan their work better and to make their movement to the information-rich society more efficient.

## **Background**

### ***Importance of Electronic Publishing in the Humanities***

Recently interest in applications of electronic publishing in the humanities has grown rapidly. Specialists in the Humanities work with impressive amount of various materials, including primary sources (such as manuscripts, old printed books, archival items, paintings, frescos, etc.). In addition to this, they have to consult secondary sources – virtually all publications in the field.

Trainers who create teaching materials have to select amongst a plethora of appropriate sources, both primary and secondary. If they use applications of information technology for preparing their materials they have to solve the problem with data input, storage, processing and output.

In such a situation, electronic publishing looks very attractive because it could solve the most typical problems in the field:

- *Volume of information:*  
there are *vast collections* of resources, which are of interest for researchers, trainers, students, etc.
- *Physical access to the information:*  
these collections are *spread in numerous countries* which makes access to them difficult;
- *Specific access regime:*  
manuscripts, incunabula, archival items, etc. need special care and usually are *not accessible for the general public*;
- *Special benefits compared to traditional methods of dissemination:*  
the traditional publications in the field and microfilms, microfiches and facsimiles *do not cover all such materials* and, in addition to this, are rather expensive and deteriorate faster compared to electronic media.

### ***Two Interpretations of Electronic Publishing***

In the field of electronic publishing, countries in transition meet specific difficulties, which need special attention when projects in the field are being launched.

First of all, in our region electronic publishing is still considered to relate basically to the field of *preparing documents for traditional publication on paper with the aid of computer technologies*. Even if we discuss the current state in this narrow understanding of electronic publishing, our countries have to overcome problems caused by the lack of skilled specialists in the field and appropriate training programmes [Dobрева 94]. We witness the phenomenon that people working in the field of desktop publishing usually have a good computer background, but do not have a basic typographical one. This influences the quality of their products negatively.

We would like to mention two real cases from our own practice.

1. A general practice in the local publishing houses is to ask for submission of hard copies of the originals instead of electronic versions of the publications. After that the hard copy is being retyped on a typewriter (this is usually done in order to meet the state standards for publishing), and re-entered into electronic form. In addition to being expensive and time-consuming, this process of several retypes often results in errors, especially in texts using specialised terminology. In one of his 1997 publications, for example, Dr. Ivanov (one of the co-authors of this paper) found that *Rosh-Hashshana* became *Rosh-Hashanz*.

2. In a second case, we followed the process of preparing for publication of texts in rare languages. The general practice of the publishing houses in this respect leads to very bad results – usually the people who enter texts are not specialists in the respective languages. In one concrete case, every page of a text in Old Bulgarian was accompanied after revision by the author by four pages of corrections.

The situation is even worse when we mean electronic publishing *as preparing materials with electronic tools for electronic distribution*. The preparation of materials for electronic dissemination meets all the difficulties of traditional publishing, together with one more: the process of design for electronic media is still a new field without rigid standards and well-known solutions compared to traditional printed media. Although it can provide an opportunity for personal creativity, electronic publishing can lead to awful results considering the ease of human perception and the quality of the presented materials. In addition to this, there are specific difficulties with building a good interface in a hypertext environment. A thorough presentation of the design issues for hypertext systems can be found in [McKnight *et al.* 91].

### **Information Rich Society - What Does it Mean in Countries Which are not Rich and Where Information is not Valued?**

The process of building an information-rich society is rather specific in countries in transition. Amongst the important characteristics of such countries we would like to pay attention to the following ones:

- *Rich resources*

The countries in transition are rich in information not only of local, but also of European and World value. In our case, discussing electronic publishing in the humanities issues, we would like to stress that cultural heritage in the Southeast European region is an inevitable part of the European cultural heritage. As a concrete example we would like to mention the religious and medieval manuscript heritage, which are our team's main concern.

- *Endangered resources:*

The cultural heritage in the region is endangered mostly due to the lack of financial resources for appropriate care. In a period of economic crisis, cultural heritage programmes have less priority than population survival programmes. In such periods launching expensive programmes for cultural heritage does not seem realistic. At the same time, programmes for digitisation of the cultural heritage could significantly contribute to the protection of the heritage, together to making it widely popular. For example, in the 1990s about 0.3-0.4% of the Bulgarian gross national product was spent for culture. Compared to the funding for culture in the 1980s this makes about 4-5 times less.

- *Specific state of information technology:*

The state of information technologies in the countries in transition should be taken into

account when discussing electronic publishing issues. Because of the economic difficulties in the countries of the region, the average level of hardware is behind the current modern tendencies, which influences the application of obsolete software products. This is especially important in a period in which the ANSI standard is being replaced by the UNICODE standard. The inadequacy of hardware platforms will cause several years of difficult transition to the new state of information technologies. We already encountered these difficulties in the projects that are presented further in the paper.

- *Illegal copying problems:*

One of the major problems from the first steps of information technologies in our countries is the fair use and copyright of software. Despite the tendency to use illegal software, we can expect that all newly developed resources will be endangered by illegal distribution, especially in such time- and effort-consuming fields like electronic publishing in the humanities.

- *Relics of the past - terminological battles:*

One of the serious obstacles to the creation of our own electronic resources are the unsolved subject area problems. Extensive scientific discussions on terminological issues involving a wide range of linguistical, ethnic, historical and complex issues makes the process of presentation of everything related to the humanities in Southeast European region a never ending dispute. Terms like 'Macedonia', 'Old Church Slavic' and its recensions/redactions always are a subject of special attention. The background of these cultural difficulties is in the regional specificity of the *ethnic identity issues*.

## **General Characteristics of the Bulgarian Situation**

We would like to present the basic characteristics of the Bulgarian situation, which influence directly or indirectly the field of electronic publishing.

- *Economic difficulties in the period of transition:*

They have a direct influence on all endeavours in the field of electronic publishing because of the lack of funding.

- *Insufficient practical experience:*

Even in the cases when a project in the field of electronic publishing in the humanities is being initiated, we still do not have teams which have extensive experience in planning and performing the work properly.

- *Legislative problems:*

The local copyright laws are not treating electronic resources in a manner that is free of doubt. Specialists who have worked in the field for decades will not agree to share their materials without clear protection of the product of their own work. Libraries, museums, archives and other organisations that hold the copyrights on their collections are very careful about presenting them in electronic form because of the danger of losses of incomes from copyrights.

- *Bad examples:*

A good stimulus for the process of developing new resources is to see good examples. Unfortunately, a plethora of currently created websites and other electronic resources are not meeting the criteria for quality, e.g. in the field of human perception. In addition to this, we observe a number of websites with business, tourist and other commercial contents. However, we cannot say the same about sites with scientific contents. In this environment, projects

oriented towards presentation of serious topics with appropriate quality are not understood and assessed adequately. Moreover, the necessity of presenting humanities issues on the Internet is sometimes viewed as a weird idea of armchair linguists (like our team, maybe?).

### **Previous Experience in the Field of Electronic Publishing for the Humanities**

The previous experience in the field of electronic publishing in Bulgaria can be classified into two major trends.

#### ***1. Electronic scholarly resources, but not publications***

The first one consists of projects whose basic aim *is collecting electronic resources without their being really electronically published*. We can mention two typical examples of research projects:

- “Computer Repertorium of Medieval Bulgarian Literature”, which has been developed since 1994 in the Institute of Literature of the Bulgarian Academy of Sciences;
- “Electronic Corpus of Epigraphic Inscriptions in Bulgaria from the Period of Late Antiquity”, which has been developed since 1996 in the Institute of Mathematics of the Bulgarian Academy of Sciences.

Many Bulgarian researchers and trainers use computer tools to digitise their own texts, observations, card-files, etc. Such electronic compendia can be considered as resources of interest for their colleagues. The basic feature of such collections is that they serve relatively narrow group of specialists, and only when all of them use compatible hardware and software platforms.

Issues of copyright are not a subject of interest for this group of “producers” of electronic resources because the distribution of such collections is based on the principles of scientific ethics.

It is also important to stress that in the countries of the so-called Slavic orthodox cultural pattern we still can not mention a valuable multimedia CD-ROM of wide scholarly use in the field of Medieval Slavic studies. At the first major conference in the field “Computer Processing of Medieval Slavic Manuscripts” held in July 1995, the most important issues of standardisation, text analysis tools, available programs were still hidden at the next stage – serious electronic publishing projects [Birnbbaum *et al.* 95]. At a next forum in the field – the workshop “Text Variety in the Witnesses of Medieval Texts” held in Sofia in September 1997 [Dobрева 98] – the need of electronic resources was defined more clearly, but yet the standardisation problems were a subject of discussion and serious obstacle for wide-range projects.

#### ***2. Electronic publications, but not scholarly resources***

All up-to-date commercially oriented undertakings in the field of electronic publishing for the humanities in Bulgaria have the same distinctive characteristic: the major impact on the product was from computer developers, not the experts in the field.

The first attempts in this field were two CD-ROMs (“Early Balkan Manuscripts” and “Quran”) presenting corresponding items from the repository of the Bulgarian National Library ‘SS Cyril and Methodius’. Besides the good idea, these CD-ROMs did not use the whole range of hypertext and multimedia technology. Consisting basically of high-quality images of manuscript folios, they did not contain the respective texts. Because of this, they have a very limited use, which would not satisfy the scholar who would like to perform a complex study on the materials presented.

Another example is the commercial CD-ROM “Masterpieces of Bulgarian Iconography” (produced by the MULTIMEDIA company) which is a typical example of sophisticated interface development without deep content. This CD-ROM presents about 200 images of Bulgarian icons and churches; it includes also rich audio and video illustrative material, but it can be targeted neither to the serious scholar nor to the general public. For example, the welcome screen presents an idea of mixing up Christian artistic heritage (icons, buildings, and symbols) with a hi-tech interstellar spaceship as in ‘Star Wars’ or ‘Alien’. Somewhere in between the categories of the scientific and general public presentation, the CD-ROM presents the issues of Bulgarian iconography neither in depth, nor as basic concepts. Thus, all the impressive work of the team of the developers cannot be evaluated properly because of the poor content presentation. As a paradox, we could mention that this CD-ROM does not embody even a word about the typical Bulgarian saints and their iconography!

### **Case Study: Presentation of two Current Bulgarian Projects**

#### ***1. The CD-ROM ‘Cyril and Methodius and the Early Medieval Slavic World: Byzantium and the Slavs in the 9<sup>th</sup> century AD’***

The work on this CD-ROM was included as a part of the group research project ‘Cyril and Methodius and the Early Medieval Slavic World: Byzantium and the Slavs in the 9<sup>th</sup> century AD’. This project received a grant from the Research Support Scheme of the International Higher Education Support Programme of the Open Society Institute – Budapest.

The study of Slavic culture, expressed through art, language and history in the wider European context is crucial for the understanding of cross-cultural similarities and differences in Europe. The Old Church Slavic literary language, the concept of “Orthodoxy”, Slavic Christian art have been at the core of numerous serious debates and influential misunderstandings, as well as fundamental ecumenical issues. All this has been based on different interpretations of monuments, manuscripts and historical events.

The project purpose is to gather, structure and arrange study/research materials for students and scholars, who want both deeper and wider appreciation of similarities and differences in cultural patterns that appeared up to the end of the 9<sup>th</sup> century AD.

The source materials will be presented through the course of lives and work of SS Cyril and Methodius (*ca* AD 845-900) and the events in the formative period of the Slavic literary culture. The endorsement and support of the teaching of SS Cyril and Methodius in mid-9<sup>th</sup> century AD Moravia was both a turning period in history and a starting point for the beginning of the entry of the Slavs into Christian Europe.

The core of the CD-ROM is formed by the lives of SS Cyril and Methodius as scholastic information, and as means of access to relevant texts and images (maps, charts icons, etc.).

The largest collection of texts presents the modern Synodal versions of The Holy Bible, in Bulgarian, Russian and Serbian. These versions can be studied simultaneously or separately.

During the work on the project, we encountered problems related to:

- the technical difficulties in digitising text material in different languages which presupposes use of different code tables (Slavic versions of the Bible, Vitae of SS Cyril and Methodius, etc.). Exactly here we encountered the above-mentioned ANSI/UNICODE problem.
- building up a logical multimedia program which will present in text, sound and image the second half of the 9<sup>th</sup> century on the Central and Eastern Europe
- Organisational issues in governing a team of scientific consultants, software developers, artists and technical staff.

Up to now, the development of CD-ROMs in the field of the humanities was based mainly on extensive involvement of computer experts and engineers. This, however, has led to prevalence of computer effects, which are attractive, but the content remained under-represented.

Our goal is different: we aim at providing a more ‘philological’ content which will be richer and will really help students to enhance their historical and linguistical expertise in the epoch of evangelisation of south-eastern Europe and formation of the mature Byzantine Commonwealth. This means that the development of such a large volume of material is exhaustively user-oriented and aims at real utilisation of the end product in education, presenting the subject field on different levels of competence.

## ***2. Medieval Slavic Manuscripts and Electronic Publishing: Experience of the first Specialised Website in Bulgaria***

The development of the website “SCRIBE – Digitising Medieval Slavic Manuscripts in Bulgaria” started in October 1997 with the support of the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences, which decided to provide space on its own server, with a financial contribution from the Open Society Foundation in Sofia. The planned initial opening of the website was in December 1997. The desired content of the website was achieved in early March 1998.

The basic aim of this website was to present the work in the field of computer representation and analysis of Medieval Slavic Manuscripts in Bulgaria. The website maintains information about organisations and specialists in the field; on-going projects, bibliography, and scientific fora. A second aim is to serve as a place for publication of related materials, which will be of two basic types:

- Research work in the field (there is a significant need to have such a forum because of the unavailability of specialised editions in this field),
- Electronic versions of medieval Slavic texts; images of manuscripts; researchers’ files with primary research data, etc.

Our experience shows several major difficulties in organising and maintaining specialised website of such scale:

- *Design difficulties* – the design of a website which can be observed in a variety of platforms, is a rather complex endeavour. Additional problems, like in the previously presented project, cause the necessity to use Old Cyrillic and Glagolitic alphabets. We would like to stress that while the field of WWW design is one of growing importance, we do not have specialists in design for such media. This phenomenon resembles the introduction of

desktop publishing systems whose first users were computer specialists without special training in typography. We would like to stress the importance of at least the following two elements in the design process despite the quality of the website content.

- First, the layout of the WebPages which should be well-displayed in different browsers and on different computer platforms. For example, the multimedia English Grammar “Calls” supplied on two CDs can be viewed only in Internet Explorer 3.0 and 4.0, but has a problem in presenting exercises and some grammar tables in Netscape Communicator 3.0. When producing documents using the Cyrillic alphabet, this problem becomes even worse because of the different encoding standards.
- Second, the optimisation of the sizes of the source files (this is especially important for countries from Eastern Europe with slow network connections).
- *Legislative difficulties* – Internet applications are still not very popular and specialists from the field of humanities and social sciences sometimes are not willing to share their own materials, especially in the case when such materials are results of a long-year work. Clarification of the copyright issues will contribute to the faster development of electronic publishing in such fields.

The several months of delay in the initial development of the website were caused by lack of supporting specialists. Since all work on encoding was done by two persons, the website administrator and the website curator, we were not able to finish the work in time. The initial plan was based on the involvement of one linguist and one professional art designer in the team, but because of lack of funding for such specialists, we had to do all the work ourselves.

## Discussion

The difficulties that the two projects presented above had to overcome, can be grouped as follows:

- *Subject area difficulties.*

These relate to such issues as:

- Standardisation for computer representation of non-Latin alphabets. This is unsolved for the moment. Together with many local standards the International Standardisation Organisation is working on standards for Glagolitic and Old Cyrillic within ISO/IEC JTC1/SC22/WG20.
- Lack of formal models of the knowledge in the humanities. This is a field where development is directly influenced by development of applications of information technologies.
- Differences in the scientific views of scholars on their object of study. These should be foreseen in the process of development of formal models, because this is a very core feature of the humanitarian knowledge.

Such difficulties are typical not only for our region and need special attention from the general scholarly community to be solved.

- *Organisational difficulties:*

These relate to:

- Lack of experience in organising projects in electronic publishing for the humanities. This could be significantly improved by organising training programmes during the years of initial work in the field of electronic publishing.
- Legislative problems, including copyright and illegal use treatment, but also issues which proper treatment will facilitate funding of electronic publishing projects, such as tax reduction for company donors.
- Economic problems. These basically relate to funding, coming from the state, private sources and foundations.

These difficulties could be overcome with the efforts of the specialists in the country themselves. Appropriate training with the aid of more experienced specialists from other countries; changes in legislative systems which are currently being made and general economic improvement will contribute to solve the current problems. Yet we have to be honest and to mention that these problems exist; otherwise we will not move forward finding a constructive solution.

## **Conclusion**

Work on electronic publishing projects in countries in transition is a serious challenge. We are still participating in the process of birth of a new field. One can observe in such a situation many different aspects: together with all the difficulties of the beginning, there is also the joy of creating something entirely new with presentation capacity and power. But if we want to distinguish the most important long-term impact of introducing electronic publishing to our countries, this *is a new chance to enrich the global information society by valuable local resources, and also to improve the understanding of the global information society in our region.* This chance coincides with the process of transition, which on the one hand means *difficulty*, but on the other hand means *reality*.

We are sure that the results in the future will be worth seeing. The natural expectations are for more projects in the forthcoming years. More teams will try and show what they can do. This will lead to a shift in the favourite position of many specialists in our countries, which is not to create/produce, but to offer criticism for the sake of criticism itself. This will also lead to the necessity to change partially the legislative system, because nobody wants to see the results of a time consuming and high-level work lost in nowhere.

These shifts will contribute to the movement of our society towards the information rich society, as a part of the global information society.

## **Acknowledgement**

The authors of the paper would like to acknowledge the financial support of the Research Support Scheme of the Open Society Institute/International Higher Education Support Programme which granted their project RSS No.: 1743/481/1997 entitled 'Cyril and Methodius and the Early Medieval Slavic World: Byzantium and the Slavs in the 9<sup>th</sup> century AD'.

Milena Dobreva would also like to acknowledge the support of the Institute of Mathematics and Informatics for hosting the website "SCRIBE - Digitising Medieval Slavic Manuscripts in Bulgaria", and the Internet programme of the Open Society Fund in Sofia, Bulgaria, which supported technically the development of the website.

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