Bulgaria

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Prayer book, 19c, original, manuscript, Armenian

Link visited last time 25.02.2005

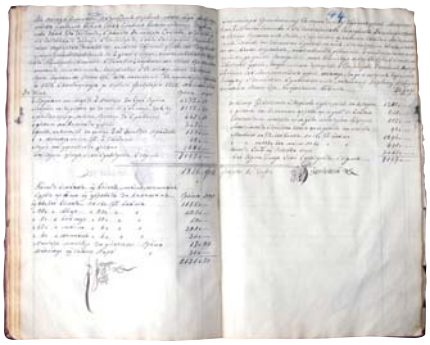
Introduction

Until 1990, Bulgaria was the Eastern-European country with highest expertise in computer technologies within the frameworks of the Council for Mutual Economic Assistance (CMEA). During that period digitisation was not yet a separate area of work and this leading position in high technologies did not have any special impact on digitisation area.
In the subsequent decades the country has been undergoing a period of economic transition and structural changes. The acquired technological excellence had been transferred from huge institutions to small and medium-sized enterprises functioning in a highly competitive environment. Digitisation activities, which require large investments and are not bringing quick profit, are not attractive for the companies from the computer branch. In addition, culture, education and science sectors have been suffering from inadequate funding during the transition period (the share of gross national product spent for science for example in the last years is about 0,29% which is 10 times less than in the EC). This general setting was not ifavourable for the establishing of national and institutional digitisation programmes.
At the same time, Bulgarian collections house over 12,500 manuscripts of Slavonic, Greek, Latin, Ottoman Turkish and other origin. Another key example is the epigraphic inscriptions from the Antiquity period which form the third largest collection in the world following Italy and Greece. Precious monuments of immovable heritage, nine objects in the UNESCO World Heritage List, numerous archæological findings, Old Bulgarian runic inscriptions—all these materials are of interest not only for the local community, but also for the wider European community of which Bulgaria is a (cultural) part and indeed for all of mankind globally by virtue of the shared meaning of the culture of the Other. Yet, electronic information on these resources is still hardly accessible in its fullness not only to foreign experts, but also to regional and local specialists.

Policy scenario

1. General description of the political support for digitisation and national ownership

The main cultural and scientific heritage collections in Bulgaria belong to the State and their maintenance is totally dependent on the State budget. One would expect that the development of a national policy for digitisation would be an easy task when most collections of the cultural heritage are State-owned. Unfortunately, most of the legislation in the cultural sphere does not cover any digitisation aspects.
A brief presentation of key legal acts covering issues which could be approached also in digitisation programmes follow.
The Law for Protection and Development of the Culture (in force since 1st January 2001) defines the basic principles and functions of the national cultural policy and the cultural institutions. However, digitisation is not mentioned amongst the issues which are covered in it (www.culture.government.bg/docdetail.html?id=16, in Bulgarian).
The Deposit Law (last version in force as of 1st January 2001) addresses works on digital media (electronic documents). According to it, works published on digital media should be presented in three copies to the National Library within two weeks after the publication. The National Library stores these materials as physical copies, and is not seen as a body which would include



Ledger of the St Nedelya Cathedral, 1826-1852, original, manuscript

the electronic publications into a digital library (www.culture.government.bg/docdetail.html?id=49, in Bulgarian).
The Regulation for Rendering and Saving Movable Cultural Monuments (www.culture.government.bg/docdetail.html?id=49, in Bulgarian) addresses the matters of finding, collecting, and preserving of movable cultural heritage monuments and making scientific descriptions related to them. Its application is mandatory for all museums, art galleries, museum collections as well as individuals. According to Article 62, the basic form of record and scientific description is the inventory book. The detail and accuracy of records is the responsibility of the directors of the collections. The scientific descriptions of immovable objects are presented as "Scientific passports" of the objects (Article 79). This regulation is in force since 1st January 1974. Understandably, electronic records and links between documentation of various collections were not planned in that time, but changes, which would take into account the current state of technology, have not been made.
The Regulation N 26 of 10.04.1996 of the Development, Use and Management of an Automated Information System "An Archæological map of Bulgaria" (www.culture.government.bg/docdetail.html?id=48, in Bulgarian) seems to be the only legislative act in Bulgaria which treats a matter of digital presentation and storage of data related to the cultural heritage. It addresses the development of a specialized information system. The feeding of the database is the responsibility of the Institute of Archæology of the Bulgarian Academy of Sciences and the National Institute for Cultural Monuments based on primary data supplied from specialists who worked in situ. Information can be obtained from this automated system only on the basis of a written request for a service fee. The collection of data and their use were adequate for the state of the technologies in 1996; now this is outdated but changes to adapt the collected data and to provide access via the Internet have not been done.
The Tariff of rates collected by State Cultural Institutions for Services and Provision of Documents and Copies (www.culture.government.bg/docdetail.html?id=38, in Bulgarian), date of last update 5 January 2001, does not include any fees related to digital images despite the recency of the update.

2. Range of policy (geographical, institutional and ideological)

Under the described lack of national policy, the various institutions in the cultural and scientific heritage sector have the freedom to design their own policies combined with lack of methodological, financial, technological and human resources support.
As one example of an attempt to offer a strategic view we could mention the National Program for the Preservation of Library Collections which was prepared by ULISO (see more in the Participating Organisations below) and published in Sofia in 1997. It exists but is not implemented.

3. Participating organisations

Seven types of organisations are potentially interested in digitisation of cultural heritage: government bodies, repositories, research and/or educational institutions, companies, foundations and "the people" who are the users/consumers of all that is to be digitised. We speak of the people as organisation when indeed the term embraces many such. We mention here those who share

the culture but are "in exile" for one reason or another. The internet brings them back to their "digitised home." These organisations with diverse profiles have significantly different approaches and interests in the field of digitisation of cultural heritage due to the distinctions in their aims and needs. Government bodies are entrusted with the supervision of such activities.
Here we should mention two institutions which should play the key role for establishing digitisation policy in Bulgaria but neither one is currently working in this direction:

- The Ministry of Culture and Tourism. The last structural change was done very recently, in the end of January 2005 when Tourism was added to the activities of the ministry in recognition of the fact that cultural tourism will be one of the basic specialisation sectors for the Bulgarian economy in the next years.
  www.culture.government.bg/
- ICT Development Agency at the Ministry of Transport and Communications, Republic of Bulgaria. The agency was created in 1995 and currently is the body responsible for the development of the information and communication technologies in Bulgaria. In the last few years it provided funding for projects aimed at presentation of cultural heritage in electronic form. One example is the first XML repository of catalogue descriptions of Old Bulgarian manuscripts preserved in Bulgaria – a project carried out by the Institute of Mathematics and Informatics and funded by the Agency in 2004. However, a coherent strategy has not been created and respectively followed.
  www.ict.bg/

Repositories (libraries, archives and museums), which seem the most natural initiators of digitisation projects because of the close relationship between digitisation and preservation, are currently in the position of observers due to lack of funding on the one hand, and copyright issues for digital collections, on the other hand. There are about 7000 public, university, scientific, specialised libraries and information centres in the country. As most important institutions in this group we should mention:

- General Department of Archives at the Council of Ministers of Republic of Bulgaria (www.archives.government.bg/index_en.html). The General Department of Archives initiated pilot work in digitisation of archival documents with the publication of the documentary CD compendium "The Independence of Bulgaria and the Bulgarian Army" containing materials from the Central Military Archive in Veliko Turnovo in 2003. The vision on digitisation activities of the State Archives was presented recently (N. Markov, *National Archives*, in: "International Journal Information Theories and Applications" (special issue: Proceedings of the International Seminar "Digitisation of Cultural and Scientific Heritage", Bansko, 27 August-3 September 2004, 11 (2004), n. 3, p. 282-283).
- The National Library "Saint Cyril and Saint Methodius" plays a leading role in the process of expert decision-making related to measures of digital cataloguing and publishing of mediæval manuscript heritage and early printed books (www.nationallibrary.bg/). Its prescriptions in these fields are adopted in other libraries in the country, which have such collections. The National Library is also the basic driving force for digital cataloguing of modern books. Although the library

experts have quite extensive experience in following the current practices, real digitisation work has not been planned (E. Moussakova, A. Dipchikova, *The Role of the National Library in Preserving National Written Heritage*, *ibid.*, p. 284-287).

- The National Museum of History (www.historymuseum.org/) does not seem to be currently involved in any digitisation-related work.

Research and/or educational institutions are the most active initiators of small-scale digitisation projects in Bulgaria. They usually do not have the funds and resources for running mass digitisation projects, but are the most active promoters of this field of work.

- The Institute of Mathematics and Informatics (www.math.bas.bg) of the Bulgarian Academy of Sciences (IMI) plays the leading role in this direction. Digitisation of Scientific Heritage department (www.math.bas.bg/digi/indexbg.html) was established in IMI in 2004. The institute took part in projects related to digitisation of mathematical heritage; cataloguing and electronic publishing of mediæval Slavonic manuscripts. In addition, IMI organised in the last years three summer schools and four specialised workshops related to digitisation of cultural and scientific heritage which were targeted at Central European countries' participants and have regional impact. The Institute produced the most extensive XML catalogue (over 800 catalogue records) of Old Bulgarian manuscripts stored in Bulgaria (P. Pavlov, *XML Presentation of Catalogue Data on Mediæval Slavonic Manuscripts: Experience and Perspectives*, in Proceedings of the 33rd Conference of the Union of Bulgarian Mathematicians, Borovets, 1-4 April 2004, p.236–240) in cooperation with specialists from the Faculty of Mathematics and Informatics of the Sofia University "Kliment Ohrdiski" and the National Library "St Cyril and St Methodius". IMI is the coordinator of the international project Knowledge Transfer for the Digitisation of Cultural and Scientific Heritage in Bulgaria (KT-DigiCult-BG), supported by the Marie Curie programme, Framework Programme 6 of the European Commission which is implemented in 2004-2008. IMI also works on presentation of folklore archives in digital form in cooperation with the Institute for folklore of the Bulgarian Academy of Sciences.
- The Institute for Bulgarian Language (IBL) works on digital preservation and use of audio archives containing live recordings presenting various Bulgarian dialects (www.ibl.bas.bg). These records originally were collected in the 50s and 60s in the 20c, and their conversion in electronic form was absolutely necessary since the original tapes started to deteriorate.
- Amongst educational institutions we should mention The State Library Institute (www.svubit.org/), which recently opened a specialized programme Information funds of the cultural and scientific heritage. Sofia University offers a general programme on Library and information activities (http://forum.uni-sofia.bg/filo/display.php?page=bibliotekoznanie).

Companies are interested in presenting sections of cultural heritage to the world which they believe will be easily realised on the market. Today it is rather difficult to establish customer interest. The Bulgarian market for such products is unsatisfactory.
This is why their main market is abroad. As an example of a company, which specializes in digitisation services,

we could mention BalkanData (www.balkandata.net/) which is a US-owned company based in Bulgaria. This combination seeks to offer the winning combination of the local technological and intellectual excellence and the low labour costs in the country.

Non-governmental institutions (NGOs). One active organisation in the library field is The Union of Librarians and Information Services Officers (ULISO) (www.lib.bg/act.htm). It produced in 1997 the National Program for the preservation of Library Collections.

Funding bodies (foundations) rarely support projects undertaken in the field of digitisation. In addition, the scale of their support cannot meet the real costs of serious digitisation projects.

4. Available instruments and the use of those: guidelines, funds, target organisations

Specific guidelines are not available in the country and their creation is amongst the purposes of the KT-DigiCult-BG project (see the section Emerging initiatives below). Targeted funds are also not available at the moment. Moreover, the lack of national strategy will be a serious obstacle to absorb such funds when they would be available (this happened in other countries, e.g. Greece).

Co-operation

1. National networks

National networks do not exist, but in the recent years the Institute of Mathematics and Informatics signed cooperation agreements with the National Library and the General Department of Archives at the Council of Ministers of Republic of Bulgaria.

2. International co-operation

Bulgarian institutions are active in searching for international cooperation possibilities. Within the trend of Digital culture (Access to and preservation of cultural heritage) in FP6, we can mention the following projects where Bulgarian institutions participate as members:

- CALIMERA (participant ULISO)
- EPOCH (participant New Bulgarian University)
- MINERVA Plus (participant - IMI-BAS as an associated member)
- PRESTOSPACE (participant Sirma AI Ltd)
- KT-DigiCult-BG is a project coordinated by IMI-BAS.

Bulgaria does not take part in the projects AGAMEMNON, TNT – The Neanderthal tools, BRICKS and DELOS.
IMI-BAS was an initiator of the creation of the South-Eastern European Network for Digitisation of Scientific and Cultural Heritage (www.ncd.matf.bg.ac.yu/?page=news&lang=en&file=declaration.htm), constituted with the signing of the Borovets declaration of 17 September 2003.

3. NRG and MINERVA results, interpretation and impact

Amongst the dissemination activities of MINERVA Plus project was the participation in the kick-off meeting of the KT-DigiCult-Bg project (G. De Francesco, *MINERVA: the Ministerial Network for Valorising Activities in Digitisation Towards an Agreed European*

Hadiths (stories about the life of the Prophet Muhammad). 16-17c, original
© General Department of Archives at the Council of Ministers of Republic of Bulgaria

A view from Sofia. Haralampi Tachev, painting

Platform for Digitisation of Cultural and Scientific Heritage, In: International Journal Information Theories and Applications, cit. p. 240-247). The kick-off meeting of the project held in 28 August- 3 September 2004 in Bansko, Bulgaria was accompanied by an international seminar entitled "Digitisation of cultural and scientific heritage" which was attended by about 50 participants from 16 countries.

Main digitisation initiatives

1. National portals for culture / networked digital repositories

Clickbg.net (The Bulgarian portal for media, education and culture) was created by a team from the Sofia University 'Sv. Kliment Ohridski' with the support of UNESCO-funded project. It does not contain any digitised resources but is a good source to search for institutions from the cultural heritage sector. Networked digital resources are not available.
www.clickbg.net/

2. Emerging initiatives

Cooperation of GDA and IMI
A joint pilot project of the General Department of Archives at the Council of Ministers of Republic of Bulgaria (GDA) and IMI was started in 2004.
The GDA is contributing with defining the priorities for selecting materials for digitisation; developing the strategy for preparing descriptions and metadata; preparing specification of the search tools and their future improvement. The selection and preparation of documents for digitisation (single documents, parts of the archival funds and complete archival funds) will be based on the holdings of the Regional Unit "State Archive" – Sofia, featuring Sofia Municipality management, Sofia University, etc. Amongst the selected materials we could mention valuable manuscripts and printed documents, photographs, sketches, etc.
As one particular example we should mention the multimedia disk "Sofia. Religious spaces" which was released in April 2005. The illustrations in this report are amongst the materials which will be available in this electronic publication.
GDA intends to digitise the archives of the former Bulgarian communist party. Documents from the archival funds of the Monarchy Institute, The Parliament, the Council of Ministers, etc. are also amongst the candidates for digitisation.

KT-DigiCult-Bg project
The project Knowledge Transfer for the Digitisation of Cultural and Scientific Heritage in Bulgaria (KT-DigiCULT-BG) is supported by the Marie Curie programme. It is coordinated by the Institute of Mathematics and Informatics (Bulgaria).
Project partners are Det Arnamagnæanske Institut (Københavns Universitet, Denmark), Trinity College (Dublin, Ireland), Charles University (Prague, Czech Republic), and the Institute of Informatics and Telecommunications, National Centre for Scientific Research "Demokritos" (Athens, Greece).
The project aims to contribute to several key fields in digitisation:

- general methodology and practical setting for digitisation of cultural and scientific heritage
- digitisation of mediaeval manuscripts (incl. digital

imaging, cataloguing, text representation, electronic publishing)
- digitisation of mathematical texts and building digital mathematical library of works of Bulgarian mathematicians
- virtual reality applications for presentation of immovable cultural heritage
- audio archives: methods for digitisation and restoration
- application of quantitative methods for the study of data related to the cultural heritage
- applications of edutainment to cultural heritage studies

During the first project year, incoming researchers included Dr. Matthew Driscoll from Copenhagen University who worked together with project team members on an XML editor for cataloguing mediaeval Bulgarian manuscripts; Boris Shishkov from Delft University of Technology, the Netherlands, suggested an electronic brokerage system for sites presenting cultural and scientific heritage, and Filip Zrantchev from the University of Reading, UK, worked on the development of an Old Cyrillic UNICODE font based on Codex Suprasliensis script.

Conclusions

Amongst the problems, which still have not been solved satisfactorily on the Bulgarian setting, we should mention:

- the absence of a national strategy, which leads to lack of co-ordination between separate local initiatives
- the imperfections in the local laws and legislative regulations lead to difficulties for the decision makers in the cultural and scientific heritage sector institutions
- the need for international co-operation on regional and European level, since it is quite clear that most of the cultural heritage is one we all share
- the ambiguity of legal copyright issues leads to serious problems in persuading researchers to share their knowledge in digitisation projects affecting the level of presentation of materials, and restricting depth of presentation. Copyright issues are related to the primary sources on the one hand; in addition the approaches to legal use of results of research work during digitisation is completely unclear.

The rich cultural heritage in Bulgaria still expects to enter the electronic space.

Acknowledgements
I would like to express my gratitude to Ms. Maya Nedeva and Mr. Nikolay Markov from GDA; to Assoc. Prof. Dr. Nikola Ikonomov for contribution with facts and images and to Dr. Mícheál Mac an Airchinnigh, Trinity Colelge, Dublin, for his encouraging presence over the years.