UNESCO Memory of the World Programme

International Advisory Committee Sub-Committee on Technology

Report of Meeting of Sub-Committee Held at Novello House, Sheraton Street, London on May 15th to 17th 1997

Those Present:

Experts:

Dietrich Schüller (Chairman), Austrian Academy of Sciences, Vienna, Austria Michael Alexander, British Library, Boston Spa, England Julían Bescós, National Library, Madrid, Spain George Boston (Rapporteur), Milton Keynes, England Astrid Brandt, Bibliothčque National de France, Paris, France Helen Forde, Public Record Office, Kew, England Adolf Knoll, National Library of the Czech Republic, Prague, Czech Republic Trudi Noordermeer, Royal Library, The Hague, The Netherlands Jonas Palm, The Royal Library, Copenhagen, Denmark

Observers:

Christopher Kitching, Royal Commission for Historic Manuscripts, London, England Patricia Methven, Kings College, London University, England Marie-Thčrése Varlamoff, IFLA PAC Programme, Paris, France

UNESCO Officer:

Abdelaziz Abid, PGI, CII, Paris, France

1. Booklet on Preservation Standards

A draft of the booklet prepared by the Rapporteur was discussed. It was agreed that further work was required on some elements of the booklet. Due to the requirement to have the text translated before the submitting it to the International Advisory Committee at its next meeting in Tashkant, Uzbekistan in September 1997, it was agreed that any amendments to the text was to be received by the Rapporteur before June 1st. He would then re-draft the document and circulate it to the members of the Sub-Committee for comments before final editing and despatch to UNESCO.

The following list of actions to be undertaken by the various members of the sub-committee to complete the work was agreed.

- a. Definitions of Conservation, Preservation and Restoration for Glossary Jonas Palm
 - b. Review lists of citations in all chapters

Everyone

c. Expand *Introduction* to include comments about dangers of attempting restorations without guidance from experts in field - literature alone insufficient for the practical application of techniques

George Boston

- d. Add caveats about handling and storage conditions to *Introduction* **George Boston**
- e. Add comments to *Introduction* about value of having access copies in addition to the original document

George Boston

f. Add words about access policy to Introduction

George Boston

- g. Additional paragraphs for *Paper and Other Traditional Materials* chapter **Helen Forde**
- h. Note about relevance of microfilm for paper documents in Paper and Other Traditional Materials chapter

George Boston (with help from Helen Forde?)

- I. Paragraph at start of *Photographic Materials* explaining scope of chapter **Jonas Palm**
- j. Incorporation of movie film section into *Photographic Materials* chapter **Jonas Palm**
- k. Combine all material on magnetic carriers, optical carriers and mechanical carriers into new chapter entitled *Audio*, *Video* and *Digital Data*

George Boston

- l. Additional chapter on Strategy for the Capture of Electronic Documents **Trudi Noordermeer**
 - m. Additional chapter on Migration Policies

Trudi Noordermeer

- n. Summary of ICA document on electronic documents

 Dietrich Schüller
- o. Comments on transfer policies etc.

Michael Alexander

2. Harmonisation of Access to Digital Documents within the Memory of the World Programme

Adolf Knoll presented the latest version of his proposal based on the use of HTML to provide universal access to digitised documents. Questions were raised about the relevance of the work in the context of the work being done by other bodies. In particular, the work being done by an ISO committee on the Text Encoding Core (TEI) and the work in the USA on Encoded Archive Descriptions (EAD) were quoted. These two initiatives were also the subject of work to bring them into line with each other.

It was felt that the proposal being considered by the sub-committee was valid as the TEI and EAD concepts, while offering a very good product, were very expensive to maintain. The use of HTML meant that a cheap, easy to use solution was being devised, primarily to answer the problems of the Memory of the World programme. It was recognised, however, that if successful, the idea would be applied to material outside the programme.

The sub-committee discussed Adolf Knoll's proposals at length. The document was accepted in principle but further work on the details has to be done.

The sub-committee agreed that it would try to have an agreed text in English ready for submission to the next meeting of the International Advisory Committee.

The following actions to be taken by members of the sub-committee were agreed.

- a. Note about the activity of the British University Archives group in this field **Patricia Methven**
- b. Paper on EAD and TEI their relevance to Memory of the World etc. **Michael Alexander**
- c. Paper placing html in context with other initiatives **Adolf Knoll**

3. Technical Standards for Digitisation

It was agreed that the original recommendations for digitisation required updating due to the changes both in technology and in the general attitude to digitisation in the library and archive worlds. In particular, publications from several other bodies including the US Committee on Preservation and Access.

The sub-committee discussed the existing paper and what the revised standards should be. It was accepted that the title should be changed to make it clearer that the standards were primarily for access: an appendix would contain recommendations for preservation quality standards where they were achievable and necessary.

Dietrich Schüller drew the sub-committee's attention to a document from a German group that advocates the use of microfilm as the primary medium for access to textual documents with digitisation being performed on the microfilm copies.

Two working groups were set up. One to consider the digitisation standards for texts and still images. The second to consider the standards for sounds and moving images.

The following actions were agreed by the members of the sub-committee.

a. Summary of German paper on subject

Dietrich Schüller

b. Title change to make it clearer that document is primarily about access standards. Preservation standards kept clearly separate

George Boston

c. New draft of main document

George Boston

d. New draft of Text and Still Image standards

Michael Alexander, Julian Bescós and Adolf Knoll

e. New draft of Sound and Moving Image standards

George Boston and Dietrich Schüller



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Mr George Boston England

Dear George,

As said in my e-mail, I am sending you herewith attached the Proposal of the Structure of Digitized Old Books and Manuscripts as required.

It is the Version 1.1. which is the result of slight modifications on the basis of received comments.

Adolf Knoll

2/

UNESCO

MEMORY OF THE WORLD

Sub-Committee on Technology

PROPOSAL

of

the Structure of Digitized Old Books

and Manuscripts

Version 1. 1. of 17th June, 1996

written by

Tomáš Mayer and Adolf Knoll

National Library of the Czech Republic, Prague

Albertina icome Praha, Prague

Proposal of the Structure of Digitized Old Books and Manuscripts (Version 1. 1.)

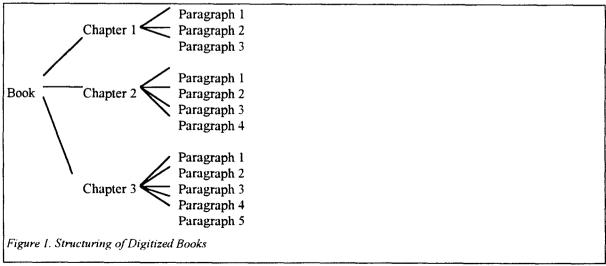
The aim of this work is to propose the rules and recommendations for the creation of the standardized description of digitized old books and manuscripts which will be stored on digital media for the purpose of the UNESCO Memory of the World programme. It has been written on the basis of the Recommendation of the Meeting of the Sub-Committee on Technology, held in Prague on the days of 1st - 4th March, 1996. The description has been created in order to present the stored works in the form which is appropriate for research. This proposal tries to build a structure applicable for WWW browsers so that the digitized works may be easily available via Internet. Simultaneously, it tries to build the structure which can be used by specialist research software. For this reason, the HTML rules have been the point of departure for this proposal. Their knowledge is indispensable for further understanding of the text written below. In harmony with the SGML standard (ISO 8879), the proposal enlarges the HTML with information for specialist software.

I. The Use of SGML and HTML

SGML is the international standard for transfer of documents. On the basis of this specification, the HTML rules have been formulated. They are used for the creation of WWW documents for Internet. In this proposal, the HTML rules remain unchanged and only the rules for the syntax of complementary information are added. The information will be placed within the HTML comments (<!-- -->). This will enable to build unified description of digitized documents in a form appropriate for the presentation in any WWW browser and appropriate for the use of specialist research software. All the complementary information can be placed only in the <BODY> section of the classical HTML document. Each comment related to the digitized document begins with the abbreviation DOBM (<!-- DOBM....-->).

II. Structuring Digitized Old Books and Manuscripts

Every digitized old book or manuscript must be presented in a certain structure. This structure should recreate the original structure of the book. It is necessary to create such a description which defines the logical structuring of the book for example into pages or chapters, parts or paragraphs. The concrete structuring depends on the type of the digitized book. It is the tree structure that is essential for the storage of the document. In this way, it is possible to express unambiguously the relations between various parts of the book (Fig. 1).



In the HTML documents, this structure will be expressed with the tags <!-- DOBM LEVEL1 -->, <!-- DOBM LEVEL2 -->... <!-- DOBM LEVEL10-->:

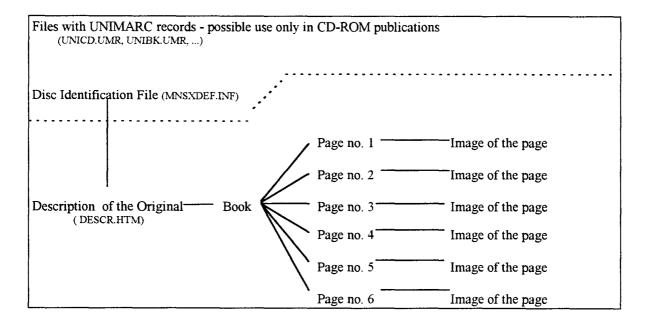
```
<!-- DOBM LEVEL1 -->
        <!-- DOBM LEVEL2 -->
        Chapter 1
            <!-- DOBM LEVEL3 -->
            Paragraph 1
            <!-- DOBM /LEVEL3 -->
            <!-- DOBM LEVEL3 -->
            Paragraph 2
            <!-- DOBM /LEVEL3 -->
            <!-- DOBM LEVEL3 -->
            Paragraph 3
            <!-- DOBM /LEVEL3 -->
        <!-- DOBM /LEVEL2 -->
        <!-- DOBM LEVEL2 -->
        Chapter 2
            <!-- DOBM LEVEL3 -->
            Paragraph 1
            <!-- DOBM /LEVEL3 -->
            <!-- DOBM LEVEL3 -->
            Paragraph 2
            <!-- DOBM /LEVEL3 -->
            <!-- DOBM LEVEL3 -->
            Paragraph 3
            <!-- DOBM /LEVEL3 -->
            <!- DOBM LEVEL3 -->
            Paragraph 4
            <!-- DOBM /LEVEL3 -->
    <!-- DOBM /LEVEL2 -->
<!-- DOBM /LEVEL1 -->
```

III. The Structure of Digitized Old Books and Manuscripts

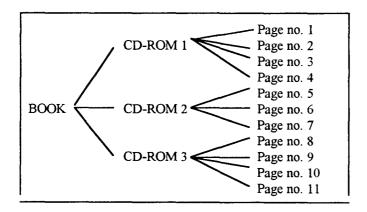
The digitized manuscript has this basic structure:

1. Disc Identification File MNSXDEF.INF.

- 2. UNIMARC records of the electronic document UNICD.UMR and of the original(s) which have been digitized UNIBK.UMR (recommended only for CD-ROMs issued as publications).
- 3. Description of the original in the HTML standard DESCR.HTM containing also data about the image capturing process.
- 4. Book level (<!-- DOBM LEVEL1 -->)
- 5. Page level (<!-- DOBM LEVEL2 -->)
- 6. Images



In a special case when the manuscript is placed on more media (it is so large that it does not fit in one CD-ROM), the number of the levels <!-- DOBM LEVELx --> will grow on three:



- <!-- DOBM LEVEL1 --> book level
- <!-- DOBM LEVEL2 --> CD-ROM level (this level will enable to divide the book onto several media)
- <!-- DOBM LEVEL3 --> page level

It is clear that no page can be divided onto two CD-ROMs.

III. 1. Disc Identification File

The <u>Disc Identification File</u> MNSXDEF.INF must be on each disc. It contains information for discs management especially for cases when one digital copy is stored on more than one disc or more digital copies are stored on one disc. It will provide the information as follows:

[Disc]

NoOfDocuments=2

number of documents on the disc

[Document 1]

description of the first document

NoOfDisks=1

number of discs necessary for storage of the document

CurrDisk=1

current disc

DocID=cz311aip/antiphonaryofsedlec

identification chain of the document

RootNode=Descr.htm

link to the root of the HTML tree structure

(containing the tag <!-- DOBM BIBLDESCR -->)

Lang=en.uk

language version (two letter language code from ISO 639, optionally followed by a period and a two letter country

code from ISO 3166

[Document_2]

NoOfDisks=1

CurrDisk=1

DocID=cz-311aip/riechental RootNode=Descr1.htm

Lang=cz.cz

description of the second document

If the document is stored on more than one disc, the RootNode of the first disc is linked to DESCR.HTM, while on the other discs it is linked to the file containing the tag <!-- DOBM LEVEL2 --> which is the level of the disc (CD-ROM) in this case.

The wording and the syntax of the above shown file is obligatory and must be written as above.

The identification chain of the document DocID consists of:

two character identification country code from ISO 3166 followed by the telephone code of the city within the country and a three character identification of the producer; after this there is the obligatory slash sign "/" followed by min. 8 and max. 32 character identification of the document; for example: cz311aip/smriechental.

III. 2. Cataloguing in the Electronic Publication

This rule can be applied only in case of CD-ROMs issued as publications, because the UNIMARC record is always bound to the information carrier. The electronic documents resulted from digitization of originals are basically independent of information carrier and for different purposes they can migrate

onto different carriers in various combinations with other digital documents. These migrations would require corrections of UNIMARC records; therefore, they can be recommended and used only in case of fixed published electronic documents in which there is a firm interdependence between the document and the carrier as a result of the publication procedure.

Basic Rules:

I.

- 1. The bibliographic records will be stored in the text format.
- 2. They will contain bibliographic data in the UNIMARC format.
- 3. The Anglo-American Cataloguing Rules AACR2 will be applied.
- 4. The ALA Code Page will be applied for Gizmo notations.

II.

- 1. The electronic document should contain its own bibliographic description (a kind of CIP). As the electronic copy cannot be considered to be a facsimile of the original, there will be two records:
- of the electronic document itself UNICD.UMR;
- of the original document UNIBK.UMR.
 - These two records will be linked by UNIMARC tools together.
- 2. The cataloguing language will be English, parallel records in national language can be added (UNICDN.UMR for the electronic document and UNIBKN.UMR for the original).
- 3. It is understood that in most cases the distribution media is the optical disc; therefore, the UNICD UMR will describe the level of the disc which can contain more documents or a part of the document (in this case the UNICD UMR will describe the set of discs), while UNIBK UMR will describe the original which has been digitized.

The UNIMARC cataloguing would describe one of the already published digitized manuscripts as shown in *Appendix B*, with the exception of characters coding for which the ALA Code Page for Gizmo notations should be used (here to encode the Latin2 characters):

III. 3. The Description of the Original

It is stored in a separate file named DESCR.HTM. The data of this description serves for the basic information about the digitized document. The structure is formulated on the basis of the first level of the catalogue record defined by the AACR2 (Anglo-American Cataloguing Rules). To the AACR2 statements, some other ones are added in order to complete the bibliographic information with other practical data concerning the character, location and ownership of the original. The cataloguing language must be English. The English version or possible national versions are pointed primarily from the MNSXDEF.INF file by the LANG attribute. The description statements are placed in the <BODY> part of the classical HTML document:

```
< HTML>
<HEAD>
<TITLE>.....</TITLE>
</HEAD>
<BODY>
```

<!-- DOBM BIBLDESCR -->

The tag <!- DOBM BIBLDESCR --> marks the area containing the data of the bibliographic description. Each obligatory statement is markuped by the predefined tag which expresses its meaning (see the list below).

```
<!-- DOBM /BIBLDESCR -->
.
.
</BODY>
</HTML>
```

Within the <!-- DOBM BIBLDESCR --> section there must be the link to the file containing the description of the book. No other links can be in the <!-- DOBM BIBLDESCR --> section.

List of Statements in the <!-- DOBM BIBLDESCR--> Area

```
<!-- DOBM MAINTTL -->
                                       main title of the book (OBLIGATORY)
<!-- DOBM FSTOFRESP -->
                                       first statement of responsibility, author, possibly other authors
<!-- DOBM EDITST -->
                                       edition statement (1st, 2nd, ..., edition)
<!-- DOBM GMD -->
                                       general material designation, type of document, for ex.
                                       "manuscript" (OBLIGATORY)
<!-- DOBM PBLSHER -->
                                       publisher
<!-- DOBM PLACEPBL -->
                                       place of publication
<!-- DOBM PRINTER -->
                                       printer
<!-- DOBM PLACEPRT -->
                                       place of printing
<!-- DOBM DATOFPUBL -->
                                       date of publication, date of creation (OBLIGATORY)
<!-- DOBM PHYSDESCR -->
                                       physical description (OBLIGATORY); it can be structured as
                                       follows:
                                       <!-- DOBM MATERIAL -->
                                                                       material, information carrier
                                       <!-- DOBM SIZE -->
                                                                       size (for ex. 15x20 cm)
                                                                       extent (number of folios, ...)
                                       <!-- DOBM EXTENT -->
                                                            ILLUMINATIONS-->information
                                              DOBM
                                                                                               about
illuminations
<!-- DOBM NOTES -->
                                       notes
<!-- DOBM ANNOTATION -->
                                       annotation (OBLIGATORY); it can be structured and can contain
                                       the following groups:
```

```
<!-- DOBM BASIC INFORMATION-->
<!-- DOBM REMARKS-->
<!-- DOBM CONTENTS -->
<!-- DOBM INDEX-->
<!-- DOBM INDEX-->
<!-- DOBM LITERATURE -->
shelf-number (OBLIGATORY)
<!-- DOBM LIBRARY -->
library in which the original is stored (OBLIGATORY)
owner of the original if other than the library in which it is stored (OBLIGATORY)
```

Within the <!-- DOBM BIBLDESCR --> tag there will be links to linguistic versions of the book (the book is here the digital document, for example descriptions of the pages can be in more languages). In the <!-- DOBM LEVEL1 --> tag there will be the LANG language attribute which is composed from the two letter language code from ISO 639, optionally followed by a period and a two letter country code from ISO 3166.

The contents of the description of the book itself has AACR2 only as guidelines in order not to forget to enter important information about the original. Nevertheless, it would be useful to follow the values of the comment tags shown above where applicable in order not to make more difficult the building of any future information system.

3.1. Information about the Image Capturing Process

This information is stored in the DESCR.HTM file in the <!-- DOBM CAPTURE--> area which is placed in the <BODY> part of the classical HTML document outside of the <!-- DOBM BIBLDESCR --> area.

List of Statements in the <!-- DOBM CAPTURE--> Area

To be completed if necessary. Otherwise the data can be stored in the plain text form within the <!-DOBM CAPTURE --> area.

The tag <!-- DOBM CAPTURE --> marks the area containing technical data about the image capturing process. This data serves for information about what technical devices were used for scanning, what was the initial resolution, whether the images were scanned directly or whether the slides had been made before, what sort of light was used, etc.

III. 4. The Book Level

The textual description of the book is created on the basis of the enlarged HTML document. In the <BODY> area there is a list of the pages of the original with their links. The book is marked by the <!-DOBM LEVEL1 --> tag. The file name is arbitrary, it is pointed by one of the obligatory statements from the bibliographic description. If there is data for specialist software in the text (tag DX see below), it is necessary to specify within the <!-- DOBM LEVEL1 --> tag all the names and types of the <!-- DOBM DX --> tag. This specification is marked by the <!-- DOBM DXDEF --> tag and it must contain the <!-- DOBM DF --> tags which predefine the important statements appearing in the document.

<HTML> <HEAD>

```
<TTTLE>Chronicon Concilii Constantiniensis<</TTTLE>
   </HEAD>
   <BODY>
   <!-- DOBM LEVEL1 LANG=en.uk -->
   <!-- DOBM DXDEF -->
   <!-- DOBM DF NAME="Pagination/Foliation" TYPE="TEXT" -->
   <!-- DOBM DF NAME="Material" TYPE="TEXT" -->
    <!-- DOBM DF NAME="Date of restore" TYPE="Date" -->
    <!-- DOBM /DXDEF -->
    <A HREF="001.html">001</A>
    <A HREF="002.html">002</A>
    <P>
    <A HREF="003.html">003</A>
    <P>
<!-- DOBM /LEVEL1 -->
This part is not the logical part of the book itself, but it is permitted to write also here.
```

The linguistic version of the book is marked by the parameter LANG in the <!-- DOBM LEVEL1 --> tag. If this parameter is missing, the default value (American English) is supposed as specified by HTML.

III. 5. The Page Level

Each page of the original corresponds to one HTML file. In the <BODY> area of this document there is the <!-- DOBM LEVEL2 --> tag, which marks the page.

```
<HTML>
<HEAD>
<TITLE>Page no. 4</TITLE>
</HEAD>
<BODY>
<!-- DOBM LEVEL2 -->
```

Description of a page of the document

```
<!-- DOBM /LEVEL2 -->
```

</BODY>

In this part, there is appropriate to place the links to the previous and next pages, perhaps also to the first and last ones:

```
<A HREF="003.html">Previous Page</A>
<A HREF="005.html">Next Page</A>
```

```
<A HREF="001.html">First Page</A>
<A HREF="00x.html">Last Page</A>
```

.</BODY>

Caution: The links within any area of the <!-- DOBM LEVELx --> tag, where x is the number from 1 to 10, must refer only to the documents, which are lower in the hierarchy (which contain only the tags with a higher number than the actual tag has). In this way, it is possible to avoid the cycling and violation of the tree structure of the hierarchy. The links to higher or the same levels must be placed outside the tag <!-- DOBM LEVELx --> area; therefore, the links to the previous and next pages are placed outside the <!-- DOBM LEVEL2 --> tag.

III. 5. 1. Important Data

Within the <!-- DOBM LEVELx --> tags - not necessarily only on the Page Level - there can be texts having particular importance for specialist software. These texts are marked with the <!-- DOBM DX --> tag. The parameters of this tag are NAME and TYPE. In order to control possible errors, these names and types are declared on the pertinent level with the help of the <!-- DOBM DF --> tags in the section marked <!-- DOBM DXDEF -->. The parameters of the <!-- DOBM DX --> tag must occur in one of the <!-- DOBM DF --> tags, otherwise the important text is not valid.

```
Example:
   <LEVEL1>
   <!-- DOBM DXDEF -->
   <!-- DOBM DF NAME="Pagination" TYPE="NUMBER" -->
   <!-- DOBM DF NAME="Foliation" TYPE="NUMBER"-->
   <!-- DOBM DF NAME="Material" TYPE="TEXT" -->
   <!-- DOBM /DXDEF -->
<!-- DOBM LEVEL2 -->
<!-- DOBM DX NAME="Pagination" TYPE="NUMBER" -->001<!-- DOBM /DX --> Correct
<!-- DOBM DX NAME="Foliation" TYPE="NUMBER" -->001<!-- DOBM /DX -->
                                                                        Correct
<!-- DOBM DX NAME="Material" TYPE="TEXT"-->Paper<!-- DOBM /DX -->
                                                                        Correct
<!-- DOBM DX NAME="Writer" TYPE="TEXT" --> Comenius<!-- DOBM /DX -->
                                                                        Incorrect, in the <!--
                                                  DOBM DXDEF --> section there is no <!--
                                                  DOBM DF NAME="Writer" TYPE=TEXT -->
<!-- DOBM /LEVEL2 -->
<!-- DOBM LEVEL2 -->
<!-- DOBM DX NAME="Pagination" TYPE="NUMBER" -->001<!-- DOBM /DX --> Correct
<!-- DOBM DX NAME="Foliation" TYPE="TEXT" -->001<!-- DOBM /DX -->
                                                                        Incorrect, for the
                                                                               statements
                                                                 which have the same name but
                                                                 different type it is supposed
                                                                 that they are different and in
                                                                 the section <DXDEF> there is
                                                                 no <DF NAME="Foliation"
                                                                 TYPE=TEXT>
<!-- DOBM DX NAME="Material" TYPE="TEXT" --> Paper<!-- DOBM /DX --> Correct
<!-- DOBM /LEVEL2 -->
<!-- DOBM /LEVEL1 -->
```

III. 5. 2. Areas not to Be Identified by the Specialist Software

In the decsription files there can be situations when a part of the document should be made invisible for the automatic identification by the specialist research software. For example there is a limitation concerning the BIBLDESCR area to enable only one link and only to the highest level of the digitized document (LEVEL1). In case that the creator of the description needs to use another link in this area, he must mark it as invisible for the specialist research software by the tag <!-- DOBM PASS -->.

Example:

Note

The sequence of the characters marks the blank which does not divide the words on lines. See V. 1. Used Symbols.

III. 6. Images

Into the <!-- DOBM LEVELx --> area, it is possible to write links to bitmap images. These images can be in various quality and the specialist software can decide on the basis of formal marks how it will process the image. The digital images of the original pages are stored in files in one of these formats: GIF for smaller bitmaps (images with low resolution) or in JPEG for higher resolution.

III. 6. 1. Bitmap Categories

The bitmaps of the original pages can be divided into the following groups on the basis of their quality:

Gallery Level

This level is proposed for identification icons of the pages on the Book Level; GIF format max. 10 KB; 256 colours; 72 dpi resolution.

Preview Level

It is proposed for previews of the original pages on the Page Level; GIF format max. 50 KB. 256 colours.

Low Quality Level

Bitmap in the JPEG format applicable for Internet; size of the compressed file max. 150 KB.

High Quality Level

Bitmap in the JPEG format; 180 dpi resolution; size of the compressed file should be ca. 1 MB.

Excellent Quality Level

Bitmap in the JPEG format; maximal resolution which can be reached with the scanning device; very high quality.

Detail Level

This level has no limits; it is proposed for details cut from original pages and stored as such.

III. 6. 2. Markup of the Image Quality in the Document

Any image of the pages of the book can be assigned one of the above listed groups. Any link to image must be marked by tags which inform about the pertinence of the image to a group. The following tags are applied:

```
<!-- DOBM GALLERY -->
```

<!-- DOBM PREVIEW -->

<!-- DOBM LOW -->

<!-- DOBM HIGH -->

<!-- DOBM EXCELLENT -->

<!-- DOBM DETAIL -->

Example: <!-- DOBM GALLERY --><!-- DOBM/GALLERY -->

Thus the specialist software can distinguish the quality of the bitmap and through this also the way how to work with this image. In case that the link is not be placed within one of the quality tags, it is supposed that the image is not a component part of the book and the specialist software will not work with it. Thus, icons for browsing management (clickable icons) can be placed in the HTML documents.

The tags can be plunged in other quality tags. In this case, the inner tag is more actual.

IV. Description Tags

<!-- DOBM BIBLDESCR --><!-- DOBM /BIBLDESCR -->

Within this tag, there will be the obligatory description of the original. This tag must be in the electronic document in the DESCR.HTM file describing the stored original. For the description of the original the tags are proposed for the statements of this description. The whole field BIBLDESCR will be used for basic information about digitized originals.

Parameters -

ID - identifier

LANG= 2-character abbreviation of the language . 2-character abbreviation of the country; default value *en.us* TITLE="markup of a part", default value ,,"

This tag marks the highest level in the tree hierarchy. Usually, it is a book. The text within this tag is considered to be the text of the book. The area can be further divided into sections with the tag

Parameters -

ID - identifiers

LANG= 2-character abbreviation of the language . 2-character abbreviation of the country; default value *en.us* TITLE="markup of a part", default value "".

This tag marks the second level. This level usually marks the pages of the book.

In case that the book should be divided into finer parts, there are other levels with the same parameters at disposal.

<!-- DOBM LEVEL8 --><!-- DOBM /LEVEL8 -->
<!-- DOBM LEVEL9 --><!-- DOBM /LEVEL9 -->
<!-- DOBM LEVEL10 --><!-- DOBM /LEVEL10 -->
<!-- DOBM DX --><!-- DOBM /DX -->

The markup of important data. The DX tags mark the text, which concerns an important concrete theme. In this way the information that is important for further processing is marked.

Parameters:

NAME="Name". default value "TEXT"

TYPE="Type of important data", default value TEXT.

Permitted values: TEXT, DATE, NUMBER.

In the types DATA and NUMBER also intervals can be given in this way:

9.12.1996..13.12.1996

>=2.2.1992 or 2.2.1992...

<=31.12.1996 or ..31.12.1992

Example: Date of publication: <!-- DOBM DX NAME="Date" TYPE="DATE" -->6.7.1415<!-- DOBM /DX -->

<!-- DOBM DXDEF --><!-- DOBM /DXDEF -->

This tag appears on the level <!-- DOBM LEVEL1 --> and it contains the declaration of all the statements of important texts <!-- DOBM DF -->

<!-- DOBM DF -->

This tag appears only in the section <!-- DOBM DXDEF --> and it declares one statement applicable to important text.

Parameters:

NAME="Name", default value "TEXT"

TYPE="Type of important data", default value TEXT.

Permitted values: TEXT, DATE, NUMBER.

Example: <!-- DOBM DF NAME="Material" TYPE="TEXT" -->

<!-- DOBM PASS -->

It marks the area which shall be ignored by the specialist research software.

V. Sets of Characters

The basic code page is ISO Latin 1 which is supported by HTML. If the characters used are not contained in this code page, it is necessary to apply the entities for substitution. The list of such supported characters is in the ISO standard SGML 8879 Annex D.

Example:

u=û

the word Řečtina is written thus as Řečtina

V. 1. Used Symbols

Some symbols using substitution are in the following table:

indivivisible space

"

quotation mark

>

"greater than" mark

<:

"less than" mark

Appendix A

Rules for Writing Some Data Contained in HTML Documents Presenting the Original

The specialist software should interpret HTML documents presenting the original document correctly in order to be able to extract from them detailed information; therefore, well defined conventions should be taken into account when writing some data.

Pagination and Foliation

The pages of the manuscript can be numbered in two ways - pagination or foliation (see the below shown example):

Pagination:	Foliation:	
PD	PD	front cover (external side)
PP	PP	front cover (internal side)
I	Ir	first Roman numbered page in the beginning of the manuscript
II	Iv	second Roman numbered page in the beginning of the manuscript
III	IIr	third Roman numbered page in the beginning of the manuscript
IV	IIv	fourth Roman numbered page in the beginning of the manuscript
1	1r	first page
2	$1\mathbf{v}$	second page
3	2r	third page
4	$2\mathbf{v}$	fourth page
5	3r	fifth page
	•	
I	Ir	first Roman numbered page in the end of the manuscript
II	Iv	second Roman numbered page in the end of the manuscript
III	IIr	third Roman numbered page in the end of the manuscript
IV	IIv	fourth Roman numbered page in the end of the manuscript
•		
•	·	
ZP	ZP	end cover (internal side)
ZD	ZD	end cover (external side)

Contents (BIBLDESCR area)

Each part of the contents (characteristics) is preceded by the marking of the pages to which it is related. If there is only one page, the line begins with its pagination (foliation) followed by the colon. If there are more such pages, the pagination (foliation) of the first page from this sequence is written, then a dash follows, then the pagination (foliation) of the last page of the sequence followed by a colon:

<!-- DOBM CONTENTS -->

IIv: Index for the Prague College

IIIr-Vv: Collegium Pragense

1r-21r: Annuae literae provinciae Austriae. Anni 1608

1r-4r: Collegium Viennense

4r: Residentia Sancti Bernhardi

4r: Residentia Lincensis

4r-4v: Missio Inferioris Hungariae

4v-5v: Collegium Graecense

6r: End of the Report on the Prague College

6r-7v: Collegium Olomucense

7v-8r: Missio Opaviensis et Cremsiriensis

8r-9r: Domus probationis Brunensis

9v-11r: Collegium Crumloviense

11r-11v: Collegium Novodomense

11v-13v: Collegium Commotoviense

13v-14v: Collegium Labacense

14v: Residentia Pletriacensis

14v-15v: Collegium Glacense

15v-16v: Collegium Clagenfurtense

16v-21r: Residentia Zagrabiensis. Annorum 1606, 1607, 1608

21v-27v: Catalogus personarum provinciae Austriae pro anno

1608, factus ad initium 1609

28r-56r: Annuae literae provinciae Austriae anni 1609

28r-35r: Collegium Viennense

35v-36v: Residentia Lincensis

<!-- DOBM /CONTENTS -->

Note: In order not to complicate the text no HTML formatting tags have been shown in the example (for ex.
, <P>, etc.).

Index (BIBLDESCR area)

Used for writing and pointing to important themes, features, persons, etc.

Date

The month and the day are written max. with two digits; in front of a one character number a zero can be inserted. The year is written with four digits. A space can be inserted between the data marking the day, month and year and the separating signs as dash, point or slash.

The permitted formats for writing the date are as follows:

USA standard - rule month/day/year

```
06/10/1996 ... means 10th June, 1996
6/10/1996 ... means 10th June, 1996
6/2/1996 ... means 10th June, 1996
6/2/1996 ... means 2nd June, 1906
```

German standard - rule day. month. year

```
10. 6. 1996 ... means 10th June, 1996
10. 06. 1996 ... means 10th June, 1996
10.06.1902 ... means 10th June, 1902
```

Polish standard - rule year - month - day

```
1996-06-10 ... means 10th June, 1996
1996 - 6 - 10 ... means 10th June, 1996
1902 - 6 - 10 ... means 10th June, 1902
```

Numbers

The numeral data can contain positive or negative numbers with a decimal part or without it. Only the decimal format of writing is permitted (figures 0, 1, 2, 3 ... 9). If the number is negative, it is preceded by the minus "-" mark. Positive numbers can (but need not) be preceded by the plus "+" mark. Thousands can (but need not) be separated by one space " " mark. The only permitted separating mark for the decimal part of the number is the dot "." mark. If the absolute value of the number is less than 1, the initial zero can be omitted.

```
.34 = 0,34

-.34 = -0,34

0.34 = 0,34

+1 001.34 = 1001,34

-1001.34 = -1001,34

1 000 000 = 1 000 000

10000000 = 1 000 000
```

Appendix B Examples

Unimarc Record of the Digitized Manuscript

001	##	000001
100	##	\$a19960314d1995####m##y0engy0103####ba
101	2#	<pre>\$alat\$acze\$dcze\$deng\$icze\$ieng\$jcze</pre>
102	##	\$aCZ
135	##	\$ab
135	##	\$ac
135	##	\$ad
200	1#	\$aChronicon Concilii Constantiniensis\$bcomputer
		file\$eMalá Riechentalova kronika\$ftexts Zdeněk
		Uhlíř\$gtranslation Zdeněk Uhlíř, Hana
		Krejčová\$gdigitization Albertina icome Praha
210	##	\$aPraha\$cNárodní knihovna v Praze\$cAlbertina icome
		Praha\$dc1995\$eLoděnice u Berouna\$gGZ
215	##	<pre>\$a1 optical disc\$ccolour\$d4 1/2 inches\$e1 manual</pre>
		for users
225	2#	\$aMemoriae Mundi Series Bohemica\$v2
230	##	\$aData
300	##	\$aLatin texts translated into Czech

305	##	\$aPublished within the frameworks of the UNESCO Memory of the World programme
314	##	\$aSoftware: Albertina icome Praha
314	##	\$aAdministration of the project: Adolf Knoll, Stanislav Psohlavec
314	##	\$aThe CD-ROM has been published thanks to the financial support based on gifts of friends, libraries, readers and writers presented to the Foundation for the Rescue of the National Library
324	##	\$aOriginal: Chronicon Concilii Constantiniensis / Ulrich Riechental. Manuscript, XV century, paper, 36 folios, 40 x 29 cm, in Latin, illuminated
336	##	\$aText (medieval manuscript)
336	##	\$asoftware
336	##	\$agraphics
337	##	<pre>\$aSystem requirements: min. PC 386, Windows 3.1, 256 colours</pre>
410	#0	\$12001#\$aMemoriae Mundi Series Bohemica\$v2
500	10	<pre>\$aMalá Riechentalova kronika\$nVIII A 18</pre>
700	#1	<pre>\$aRiechental\$bUlrich\$f1360-1436\$4070</pre>
702	#1	\$aUhlíř\$bZdeněk\$4080\$4730
712	02	<pre>\$aAlbertina icome Praha\$cPraha\$4570</pre>
801	#0	\$aCZ\$bABA001\$c19960314\$gAACR2
928	02	\$aNárodní knihovna v Praze\$cPraha\$4650
928	02	<pre>\$aAlbertina icome Praha\$cPraha\$4650</pre>

Unimarc Record of the Original Manuscript

001 100	## ##	000002 \$a19960314f14501475m##y0engy0103####ba
101	1#	\$alat\$cger
102	##	\$aDE
105	##	\$acfioz###000zy
106	##	\$ah
122	1#	\$ad1414\$ad1417
200	1#	<pre>\$aChronicon Concilii Constantiniensis\$bmanuscript \$eVII A 18\$fUlrich Riechental</pre>
210	##	\$as.l.\$cs.n.\$d1450-1475
215	##	<pre>\$a36 folios\$cilluminated\$d40 x 29 cm</pre>
304	##	\$aThe Petersburg manuscript of the chronicle, called also small Riechental, does not contain the text of the chronicle, but only picture decoration with short accounts in Latin. This manuscript contains the best creative accompaniment of the Riechental Chronicle at all. The manufacturer is unknown.
310	##	\$aNew binding from the year 1995
310	##	<pre>\$aAvailable on CD-ROM, in LAN of the National Library of the Czech Republic, in WWW</pre>
345	##	\$aManuscript donated by the Leningrad (Petersburg) Academy of Sciences to the National Library of the Czech Republic in 1946
452	#0	\$150010\$aChronicon Concilii Constantiniensis\$nCD-ROM and WWW editions
500	10	\$aMalá Riechentalova kronika\$nVII A 18
700	#1	\$aRiechental\$bUlrich\$f1360-1436\$4070
	801	#0 \$aCZ\$bABA001\$c19960314\$gAACR2

Example of the Description of the Original

Antiphonarium Sedlecense

```
<HTML>
<HEAD>
<TITLE>Antiphonary of Sedlec</TITLE>
</HEAD>
<BODY>
<H2>Antiphonary of Sedlec</H2>
<!-- DOBM BIBLDESCR -->
\langle DI \rangle
\DT>\B>Title</B></DT>
<DD><!- DOBM MAINTTL ->Antiphonary of Sedlec<!-- DOBM /MAINTTL -></DD>
<DT><B>Shelf-mark</B><DT>
<DD><!-- DOBM SHELFNO -->MS XIII A 6<!-- DOBM /SHELFNO --></DD>
<DT><B>Type of Document</B><DT>
<DD><!-- DOBM GMD -->Manuscript<!-- DOBM /GMD --></DD>
<DT><B>Information Carrier</B><DT>
<DD><!- DOBM CARRIER -->Parchment, paper<!- DOBM /CARRIER --></DD>
<DT><B>Date of Creation or Publication/B><DT>
<DD><!-- DOBM DATOFPUBL -->ca. 1240<!-- DOBM /DATOFPUBL --></DD>
<DT><B>Physical Description</B><DT>
<DD><!-- DOBM PHYSDESCR -->266 folios, 44 x 32 cm<!-- DOBM /PHYSDESCR --></DD>
<DT><B>Notes</B><DT>
<DD><!- DOBM NOTES ->Illuminated, in Latin<!-- DOBM /NOTES -></DD>
<DT><B>Library</B></DT>
<DD><!-- DOBM LIBRARY -->National Library of Czech Republic<!-- DOBM /LIBRARY --></DD>
<DT><B>Owner</B></DT>
<DD><!- DOBM OWNER -->National Library of Czech Republic<!- DOBM /OWNER --><DD>
<DT><B>Annotation</B></DT>
<DD><!-- DOBM ANNOTATION --> The original parchment codex of 32 sections was made in the 13th century.
    It was subjected to a thorough revision in the 17th century, when some damaged parchment pages were
    substituted bynew, paper ones with identical text, or new texts were added, and the whole was bound in
     1671. The paper has no water-mark. In the present state, the codex bears a shelf-mark from the 17th century
    on the front inside cover: "T.1 in Folio Maiori" and a pasted label from the 19th century with the shelf-mark
    of the University Library in Prague XIII A 6 which is also written in the lower left corner of the front end-
    paper, this was appended with pencil in the 20th century by an auxiliary shelf-mark Cim A 3. In the left part
    of the upper margin, the latest but wrong shelf-mark Cim 8 is written with pencil.<!-- DOBM
    /ANNOTATION -></DD>
</DL><P><A HREF="gallery.htm">Contents</A><P>
<!-- DOBM /BIBLDESCR -->
 <hr>
 <DT><B>Image Capturing Data</B></DT>
 <DD><!- DOBM CAPTURE --> The manuscript was photographed on high-quality professional colour slides 6
     x 9 cm. The slides were scanned on rotation laser scanners. The resulted BMP images were stored on CD-
```

ROMs and for publication they were reduced on 1 MB Windows BMP files. The manuscript was published on CD-ROM in the Memoriae Mundi Series Bohemica. This publication was sponsored by UNESCO. The

</BODY>

</HTML>

Example of the Book Level

Antiphonarium Sedlecense

(First Eight Pages)

<HTML>

<HEAD>

<TTTLE>Antifonarium Sedlecense</TTTLE>

</HEAD>

<BODY>

<H2>GALLERY</H2>

<H2>Antifonarium Sedlecense</H2>

<!-- DOBM LEVEL1 LANG=en.uk -->

001001<!-- DOBM GALLERY --><!-- DOBM/GALLERY -->

002002<!-- DOBM GALLERY --><!-- DOBM/GALLERY -->

003003<!-- DOBM GALLERY --><!-- DOBM /GALLERY -->

004004<!-- DOBM GALLERY -><!-- DOBM /GALLERY ->

005005<!-- DOBM GALLERY --><!-- DOBM /GALLERY -->

006006<!- DOBM GALLERY --><!- DOBM /GALLERY -->

007007<!-- DOBM GALLERY --><!-- DOBM /GALLERY -->

008008<!-- DOBM GALLERY --><!-- DOBM /GALLERY -->

<!-- DOBM LEVEL1 -->

<HR>

Bibliography description

</HTML>

Example of the Page Level Antiphonarium Sedlecense

<HTML>

<HEAD>

<TITLE>Antifonarium Sedlecense: 001001 </TITLE>

</HEAD>

```
<BODY>
<!-- DOBM LEVEL2 -->
<H2>Antifonarium Sedlecense</H2>
<H1>
<B>Pagination/Foliation: </B>
<!-- DOBM DX NAME="Pagination/Foliation" -->001r / 1, orig.1<!-- DOBM /DX -->
<!-- DOBM LOW -->
           HREF="lowq/001001.jpg"><!--
                                               DOBM
                                                               PREVIEW
                                                                                 --><IMG
SRC="preview/001001.gif"ALT="001001"><!-- DOBM /PREVIEW --></A>
<!-- DOBM /LOW -->
<P>
<DL>
<DT><B>Writing Material: </B></DT>
<DD><!-- DOBM DX NAME="Writing Material" -->paper<!-- DOBM /DX --></DD>
<DT><B>Description of Area: </B></DT>
<P>
\langle DD \rangle
<!-- DOBM DX NAME="Description of Area" -->heading in capital letters, alternately in red and
blue with calligraphic decoration<!-- DOBM /DX -->
<!-- DOBM DX NAME="Description of Area" -->initial A, ornamental, painted, vegetative motif<!--
DOBM /DX -->
<P>
<!-- DOBM DX NAME="Description of Area" -->notation with text<!-- DOBM /DX -->
<!-- DOBM DX NAME="Description of Area" -->double frame<!-- DOBM /DX -->
<P>
<!-- DOBM DX NAME="Description of Area" -->majuscules red<!-- DOBM /DX -->
<!-- DOBM DX NAME="Description of Area" -->rubrics<!-- DOBM /DX -->
<P>
<!-- DOBM DX NAME="Description of Area" -->ownership and cataloguing inscription, from the
17th century<!-- DOBM /DX -->
<!-- DOBM DX NAME="Description of Area" -->running-title<!-- DOBM /DX -->
<!-- DOBM DX NAME="Description of Area" -->pagination<!-- DOBM /DX -->
<!-- DOBM DX NAME="Description of Area" --> stamp of the University Library, in the right upper
corner<!-- DOBM /DX -->
<P>
<!-- DOBM DX NAME="Description of Area" --> paper, partly torn, in the right lower corner<!--
DOBM /DX -->
<P>
</DD>
<DT><B>Scriber</B></DT>
<DD><!-- DOBM DX NAME="ScriberC" -->(17th century)<!-- DOBM /DX --></DD>
<DT><B>Supplement</B></DT>
<!-- DOBM DX NAME="Supplement" -->ownership and cataloguing inscription, from the 17th
century<!-- DOBM /DX -->
<P>
<!-- DOBM DX NAME="Supplement" -->ornamental initial A-Antiphonarium sedlicense ...<!--
DOBM /DX -->
<P>
<DT><B>Motif of Ilumination</B></DT>
<P>
```

```
<DD><!-- DOBM DX NAME="Motif of Ilumination" -->vegetative ornament with flowers and fruits
- /grapes/<!-- DOBM /DX --></DD>
>
<DT><B>Author of Ilumination</B></DT>
<DD><!-- DOBM DX NAME="Author of Ilumination" -->painter, 17th century<!-- DOBM /DX --
></DD>
<P>
<DT><B>Liturgical Section</B></DT>
<DD><!-- DOBM DX NAME="Liturgical Section" -->Proprium de Tempore<!-- DOBM /DX --
></DD>
<P>
<DT><B>Liturgical Day</B></DT>
<DD><!-- DOBM DX NAME="Liturgical Day" -->Dominica I. Adventus<!-- DOBM /DX --></DD>
<DT><B>Hora</B></DT>
<P>
<DD><!-- DOBM DX NAME="Hora" -->Ad I. Vesperas<!-- DOBM /DX --></DD>
<DT><B>Function</B></DT>
<DD><!-- DOBM DX NAME="Function" -->Antiphona super Psalmum primum<!-- DOBM /DX --
<P>
<DT><B>Incipit</B></DT>
<DD><!-- DOBM DX NAME="Incipit" --> Custodit Dominus omnes<!-- DOBM /DX --></DD>
</DL>
<!-- DOBM /LEVEL2 -->
<HR>
<A HREF="002002.htm">NEXT PAGE</A> | <A HREF="gallery.htm">GALLERY</A>
</BODY>
</HTML>
```

Note: This version has been corrected on the basis of received comments. As there have been no substantial changes, the version has been marked as 1. 1.

The last information concerning questions related to these Recommendations included samples of data, information on new digitized manuscripts, development of the Prague Memory of the World programme, etc., can be found at the URL: http://www.nkp.cz/externi/digit/digit.htm

Please, address your comments to Mr Adolf Knoll, National Library of the Czech Republic, Klementinum 190, 110 01 Praha 1, Czech Republic.

Use the e-mail address: adolf.knoll@nkp.cz - Use the fax number: +42/2/24227796

Heritage in Digital Form: Memory of the World

From 1 - 4 March 1996 the Sub-committee on Technology of the International Advisory Committee of the Unesco Memory of the World Programme met in the National Library in Prague.

The discussion at that meeting focused largely on the processes and guidelines for making available digital copies of old printed books and manuscripts either on CD-ROM or via Internet. At the end of the meeting a set of recommendations was drafted, stating that for digital copies of the foresaid material:

- 1.1 the same structure for both remote and local access should be maintained
- 1.2 HTML version 2.0 should be used as a basic presentation tool
- 1.3a the bibliographic description should be included in HTML format, based upon appropriate cataloguing rules, and describing the original document
- 1.3b a separate file containing the UNIMARC record of the document itself should be included
- 1.3c a record describing the capturing process should be included
- 1.4 to mark up data to be indexed
- 2.1 to prepare a detailed specification of formal tags where those tags are missing in the HTML standard
- 2.2 to specify the appropriate description rules, their application, and additional data necessary for the basic identification of the original
- 2.3 to prepare a digitized manuscript demonstrating the viability of the recommendations
- 3.1 to consider the practical applicability of the principles in 1.1 1.4 to other types of material
- 3.2 to prepare a detailed specification of formal rules where missing

It can be stated that HTML is a very powerful presentation tool, but lacking any content oriented tags. Furthermore guidelines do not exist on recording basic information (for identification purposes) on old printed books and manuscripts nor do guidelines exist on the recording of metadata, describing the digitization process.

Other types of material, such as photographs, audio, video, film, archive records also lack relevant HTML tags and basic guidelines.

It is therefore proposed that a project will be defined concentrating on:

- drafting an extension to the HTML standard in the sense as described under 2.1;

- drafting a set of guidelines as described under 2.2;

- extending the scope from digital copies of manuscripts to all types of library and archive material as is relevant to the Memory of the World Programme;

- testing the HTML extensions and the guidelines on sample material.

Funding for the project should be sought within Unesco, and failing that within the research programmes of the European Commission. Relevant EC programme is the Telematics/Libraries Programme. An earlier suggestion to apply for a grant within the framework of the Info2000 programme is not viable for two main reasons:

- funding is limited to 40% of the total cost, and more important

- a Info2000 project is split into two parts, in between which there is a gap of 6 months, thus endangering the continuity of the project.

It is to be expected that the Call for Proposals for the Libraries Programme will be out in December 1996. The suggestion therefore is to adhere to the following schedule:

- initial comments on the project content as stated above and suggestions for possible partners (commercial and non-commercial) by end of September 1996,

- draft of a preliminary outline of the project by end of November 1996,

- draft of a project description by end of January 1997, followed by a meeting of all partners beginning of February 1997,

- final project description ready at the end of February 1997.

It is requested of Unesco/PGI/Memory of the World to fund the preparatory work and the meeting of participants. A budget will be prepared in due course.

Comments and suggestions are invited and should be sent to: Jan H.E. van der Starre RKD

PO Box 90418 2509 LK Den Haag

Netherlands tel.: +31(70)3471514

fax.: +31(70)3475005

e-mail: jvdstarre@artnet.xs4all.nl (or: rkd@bart.nl)

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