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The digitization
of manuscripts
at the Apostolic Vatican Library

Rome

Biblioteca Vallicelliana

23 October 2014

1. Basic choices

2. Facts – 3. Observations and conclusions

1. A. What to digitize

All 80.000 manuscripts,
as they are unique pieces

(together with a group of *incunabula*, for the same reasons).

Drawings and prints, coins and medaillons,
with different processes

(not addressed here).

1. Basic choices

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1. B. General Criteria

Accomplish the digitization once and for all: images are checked in every aspect and realized in high-definition, in order to reasonably exclude the need to later redo the reproductions.

1. *Basic choices*

2. *Facts* – 3. *Observations and conclusions*

1. C. *Priorities*

Keeping in mind, in principle, the delicacy and fragility of the manuscripts, their importance and preciousness, the funds availability for certain groups of *codices*, the requests of the users.

1. *Basic choices*

2. *Facts* – 3. *Observations and conclusions*

1. D. *Accessibility*

Free online consultation and free download (only registration is required), according to the service the *Vaticana* provided since its inception.

Online images are downloadable in a definition apt for studying, marked with a light watermark; for reproductions a specific request is needed.

1. Basic choices

2. Facts – 3. Observations and conclusions

1. E. Conservation

In a high-definition reproduction process, the goal is to determine the current status of the manuscript, in order to avoid excessive consultation.

However, the manuscript remains accessible to scholars; but they are invited firstly to consult its digitized reproduction.

1. Basic choices

2. Facts – 3. Observations and conclusions

1. F. Inventorying and cataloging

It is not possible to have a simultaneous overall inventory or cataloging of manuscripts.

The minimum data available for each manuscript is the shelf mark.

Nonetheless, for some parts of the total project, complete or partial cataloging data are supplied (Some specific indications will follow).

1. *Basic choices*

2. *Facts* – 3. *Observations and conclusions*

1. **G.** Images format

On the web: *JPEG*

Exchange format: *TIFF* or *JPEG*

Conservation format: *FITS* (Flexible Image Transport System), non-proprietary format, entrusted to the international scientific community (IAU FITS

Working Group), which has been updating it for more than 40 years; its adaptability to specific digitization aimed to preserve cultural heritage is on the way.

1. *Basic choices* – **2. Facts**
3. *Observations and conclusions*

2.A. Test bed

23 March 2010: beginning of the *test bed*, with a forecast of 40 millions pages in 45 millions billions of byte .

Scanner reproductions (Metis Systems company), using flexible cradles when necessary for conservation purposes (110° opening angle).

In particular cases, reproductions with cameras equipped with digital backs (50 Mpixel Hasselblad).

- 1. Basic choices –*
- 2. Facts**
- 3. Observations and conclusions*

2.B. Works beginning

Beginning of manuscripts' digitization with the technical collaboration of the EMC² and Dedagroup companies.

1. *Basic choices* – **2. Facts**
3. *Observations and conclusions*

2.C. Palatini (Universitätsbibliothek Heidelberg)

January 2012: beginning of *Palatini latini* project (about 1900 *codices*).

Photographic reproductions performed by a team from Heidelberg, with procedures different from the *standard* ones of the Vatican Library.

Cataloging of manuscripts.

Dwork program for images publication online.

1. *Basic choices* – **2. Facts**
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2.D. Polonsky Foundation (with Bodleian Library)

April 2012: digitization begins with 2.000 volumes (Greek and Hebrew manuscripts and *incunabula*).

Shared project with the Bodleian Libraries of Oxford.

Supported by the American Polonsky Foundation.

Online cataloging of the digitized materials and creation of a shared website, launched on 3 December 2013.

- 1. Basic choices* – **2. Facts**
- 3. Observations and conclusions*

2.E. Alamire (with Alamire Foundation)

November 2012 – April 2013:

Digitization of 40 manuscripts credited to Pietro Alamire and his library workshop.

13.500 images accompanied by descriptions.

Thanks to an agreement with the Alamire Foundation.

- 1. Basic choices* – **2. Facts**
- 3. Observations and conclusions*

2.F. Heydar Aliyev Foundation, Azerbaijan

About 80 manuscripts, with poetry, scientific and religious texts of particular relevance for the history of Islamic civilization in Central Asia.

Conservative restoration and digitization.

With the Heydar Aliyev Foundation from Azerbaijan.

1. *Basic choices* – **2. Facts**
3. *Observations and conclusions*

2.G. 84 Syriac manuscripts

84 Syriac manuscripts

With the Brigham Young University (Provo, Utah).

Study and online cataloging of manuscripts and their digitization.

1. *Basic choices* – **2. Facts**

3. *Observations and conclusions*

2.H. *Carte Marega* (NIHU and Japanese institutions)

28 January 2014: beginning of *Carte Marega Project*.

10.000 documents concerning the Christian persecution in Japan from 1600s to 1800s.

Because of their consistency, the digitization is extremely complex. The project also includes conservation, study and documents' cataloging.

Together with the National Institute for Humanities (NIHU) and other Japanese institutions.

1. Basic choices – **2. Facts**

3. Observations and conclusions

2.1. 3.000 manuscripts (with NTT Data)

20 March 2014: 3.000 manuscripts in 4 years.

With NTT Data, Japanese technological services company particularly important worldwide for its expertise in the field of information and communication structures.

Further development of the project and possible involvement of NTT Data in the challenging next step regarding the reality of the Library's manuscripts not yet digitized.

- 1. Basic choices* – **2. Facts**
- 3. Observations and conclusions*

2.J. Recovery of previous digitizations

800 previously digitized manuscripts.

Data log and verification of the correct file name of each reproduction.

This information helps us understand how important and essential is to have a defined, precise and structured workflow that governs and guides all the steps of the project.

- 1. Basic choices* – **2. Facts**
- 3. Observations and conclusions*

2.K. Chinese volumes recovery

Digitization and facsimile production of Chinese volumes of the XVII-XIX centuries.

In collaboration with the University for Foreign Languages in Beijing, amidst the ministerial program for the history of the Qing dynasty.

Recovery to adapt the current parameters.

1. *Basic choices* – **2. Facts**
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2.L. *Cicero* Project with Toppan

Cicero, a collateral project with the Japanese company Toppan.

Highest definition reproduction of palimpsest manuscripts on scanner designed *ad hoc* by Toppan for shooting both in normal light and ultraviolet.

Particular scanners appropriate for this purpose.

1. Basic choices – 2. Facts

3. Observations and conclusions

3.A. Complexity and timeframe

The digitization of 80.000 manuscripts is a complex operation, which demanded multiple reflections and improvements up to the actual workflow, which we deem adequate.

We do not have a foreseen timeframe.

In 4 years, we aim to go as far as 10.000 (if not 15.000) digitized manuscripts online.

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3.B. Current status

Up to date, we have online

1.084 manuscripts

and 624 incunabula

However 1.220 manuscripts have been already digitized and are waiting to be put online.

$$1.084 + 624 + 1.220 = 2.928$$

1. Basic choices – 2. Facts

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3.C. General involvement

A great effort: economic and organizational.

The whole structure of the Library is involved and partly unbalanced.

In particular: the Manuscripts Department, the Conservation Laboratory, the Photographic Laboratory, the Bursar Office, the Information Technology Department.

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3.D. Dialogue and collaboration

The work requires dialogue, intense and hard-working collaboration (and sometimes exhausting).

A dialogue where the humanistic culture and technical skills find good and appropriate ways to build together.

In this spirit of dialogue and cooperation at many different levels, it is legitimate to look forward, thanking all those who are already in dialogue and collaboration.