



Deliverable no. 2, ref. D6.2, Project presentation (start version)

By The Bernstein Consortium, ECP-2005-CULT-038097/Bernstein
To eContentPlus, European Commission, Information Society and Media Directorate-General
Ref. Deliverable no. 2, ref. D6.2, Project presentation (start version), due 2006.11
– amended version by Dec., 22nd, 2006 (ref. to letter: Dec. 15th, 2006: subject: Contract No. ECP 2005 CULT 038097 Bernstein – Deliverable D6.2)

Project presentation (start version)

Summary

The project presentation is composed of a *multimedia PowerPoint presentation* that can be automatically run, a printed project *poster* (format A1/2) and a project *folder* (format A5), already sent on Nov., 29th, 2006. The *presentation* indicates the project goals and all participants of the Bernstein project (The Bernstein Consortium). The mentioning of the URL of our website (www.bernstein.oeaw.ac.at) and of the addresses for contacting are important factors for the dissemination of the project. Furthermore it explains the main objectives, the services, the results and the target users. Various imaging techniques for watermarks are explained and underlaid with descriptive images.



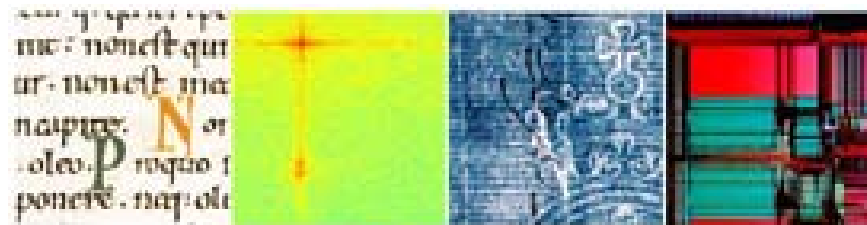
BERNSTEIN–THE MEMORY OF PAPERS

Collaborative systems for paper expertise and history
(targeted eContentplus project)

max. EU funding: 1,6 Mill EURO

project start date: September 1st, 2006

duration: 30 months

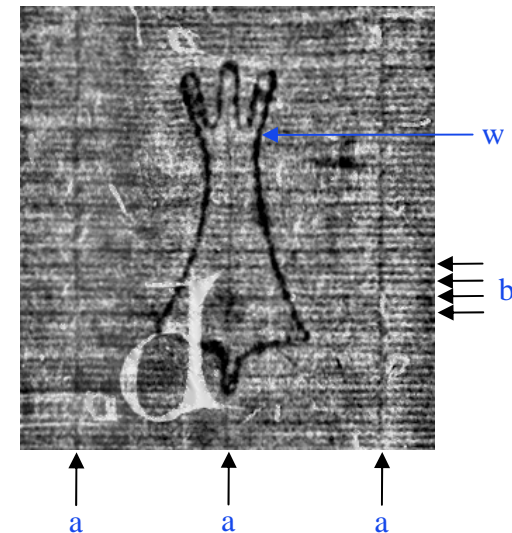




Motivation

Paper studies are important because paper is a 'memory bearer'. By examining characteristics of the paper (e.g. watermarks, chain lines, laid lines), its date, location and mill of production can be estimated and information about the technological, economical, social and cultural environment of its origin can be obtained. Tracing the movement and the usage of a sheet of paper in time and space provides a thread of captured events that form a basis for historical research and exploration of cultural heritage.

The enormous amount of papers available – millions of samples stretching 800 years back in time – contains a sizable part of what can be learned of Europe's past, and is both a richness waiting to be tapped into and a technological challenge.



watermark of type bell (w)
chainlines (a)
laid lines (b)

A watermark is a change in the thickness of the paper that can be seen when the paper is hold up to the light.



Main Objectives

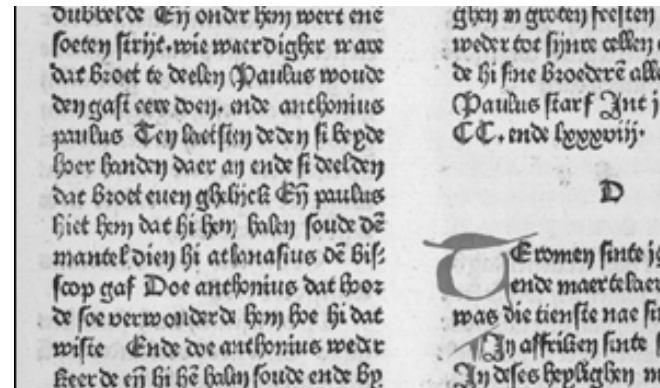
Substantial improvements of all expertise areas related to paper studies ...

- **Linking all existing European databases of paper reproductions**
- Generating the conceptual and technical infrastructure for enabling access to paper expertise and enriching paper data by contextual data (bibliography, GIS, Incunabula Short Title Catalogue ISTC etc.)
- Creating an integrated European digital environment for paper expertise
- Providing a multilingual interface to these digital resources

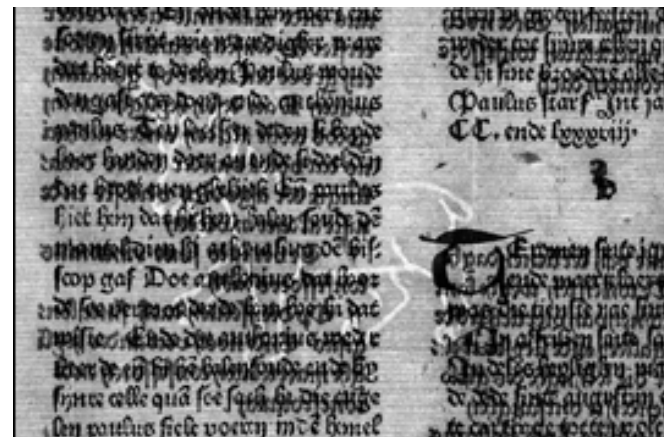


Why the Title *Bernstein* ?

Bernstein is German for *amber*, which is the fossilized resin of ancient trees and famous also for the insects amber pieces may contain sometimes. They can be seen by raising the stone to the front of the eyes and looking at a source of light, a gesture identical to that of a historian looking for traces of the past captured in the structural features of a sheet of paper – hence the metaphorical name of the consortium and title of the project.



Part of a page from an incunable (source: KB)



The watermark and the chain and laid lines are made visible with a light box (KB)



Consortium

1. **Austrian Academy of Sciences, Vienna, Austria (OEAW, Coordinator)**
management, database of mediaeval watermarks, dig. repertories, image processing tools
2. **Archives of the State of Baden-Württemberg, Stuttgart, Germany (LABW)**
huge collection of watermarks (Piccard, 95000 watermark entries)
3. **University of Technology, Institute for Information Systems and Computer Media, Graz, Austria (TUG)**
integration software (implementation), user interface
4. **Laboratory for Occidental Medieval Studies in Paris, France (LAMOP)**
historical GIS
5. **National Library of Germany, Leipzig, Germany (DNB)**
bibliography on paper, huge paper collection
6. **Dutch University Institute for Art History, Florence, Italy (NIKI)**
paper database, art historical expertise
7. **Delft University of Technology, Delft, Netherlands (DUT)**
data mining software, intelligent image processing
8. **Koninklijke Bibliotheek, National Library of the Netherlands, The Hague, Netherlands (KB)**
watermarks in incunables,
9. **Liverpool University, United Kingdom (LU)**
integration architecture

Co-operators (Staatsbibliothek zu Berlin, British Library, IPH, Bundeskriminalamt Wien etc.)



Content to be Aggregated

Paper related data and tools

- A) **Images** (drawings, rubbings, X-ray images, beta and electron radiographies digital photos etc.)
1. WZMA (Wasserzeichen des Mittelalters) OEAW: grayscale images (mainly beta radiographies) with textual German descriptions, 8.000 entries (continuously growing)
<http://www.ksbm.oeaw.ac.at/wz/wzma.htm>
 2. Piccard Online LABW: binary images (drawings) with textual German, English and French descriptions, 95.000 entries (completed)
<http://www.piccard-online.de>
 3. NIKI (Dutch University Institute for Art History Florence): grayscale images (electron radiographies) with textual English descriptions, 1.500 entries (continuously growing)
<http://www.iuoart.org/wmdb.htm>
 4. WILC (Watermarks in Incunabula printed in the Low Countries) KB: grayscale images (mainly electron radiographies and rubbings) with textual English descriptions, 16.000 entries (completed)
<http://www.kb.nl/bc/incun/watermerken-en.html>



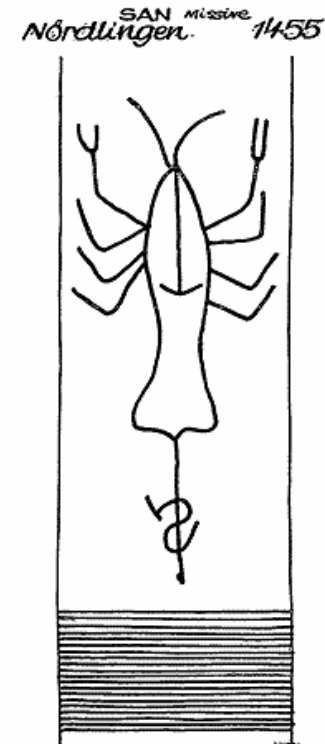
Content to be Aggregated (cont.)

Examples of watermark images



Rubbing (WILC-KB)

WM I 54717, bull's head, cross, Deventer, Netherlands, deduced date 1480-1481, Koninklijke Bibliotheek, The Hague



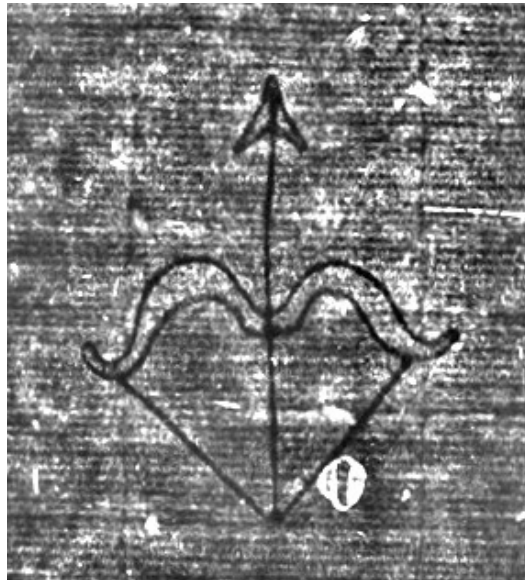
Drawing (Piccard-LABW)

Piccard-Online No. 42778, Vierfüßer – Krebs/Skorpion – Darunter S, Nördlingen 1455, Hauptstaatsarchiv Stuttgart



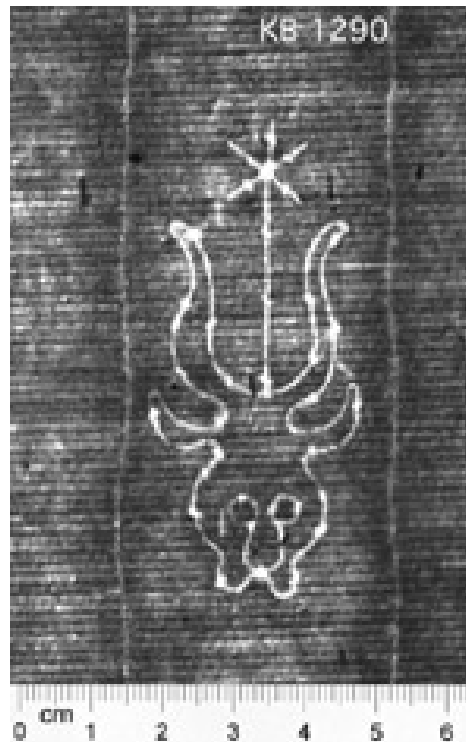
Content to be Aggregated (cont.)

Examples of watermark images



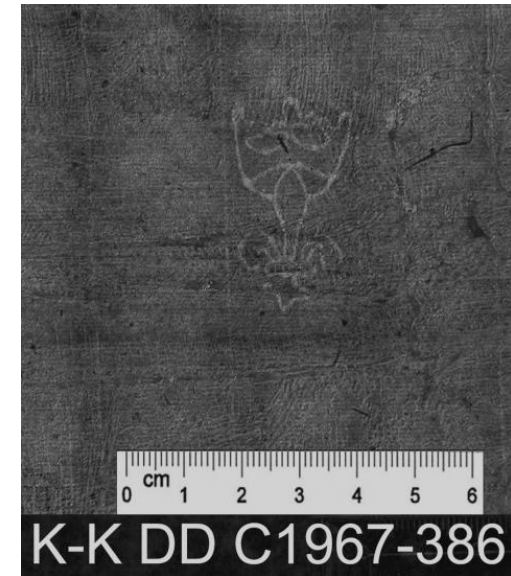
Beta radiography (WZMA-OEAW)

AT5000-158_60, Bogen / waagrecht,
Handschrift: Klosterneuburg OSA, Cod. 158, Teil 2 (fol.
57-117), 1. Jz. 15. Jh.?, Klosterneuburg



Electron radiography (WILC-KB)

WMI 01290, bull's head, cross, curved muzzle, Gouda,
Netherlands, Nov., 29th, 1481, Koninklijke Bibliotheek, The Hague



Electron radiography (NIKI)

DE-KKDD-C1967-386: Images, Crown, Dutch, William
of Maleval (the large one), 1500, Dutch University
Institute for Art History Florence



Content to be Aggregated (cont.)

B) Metadata

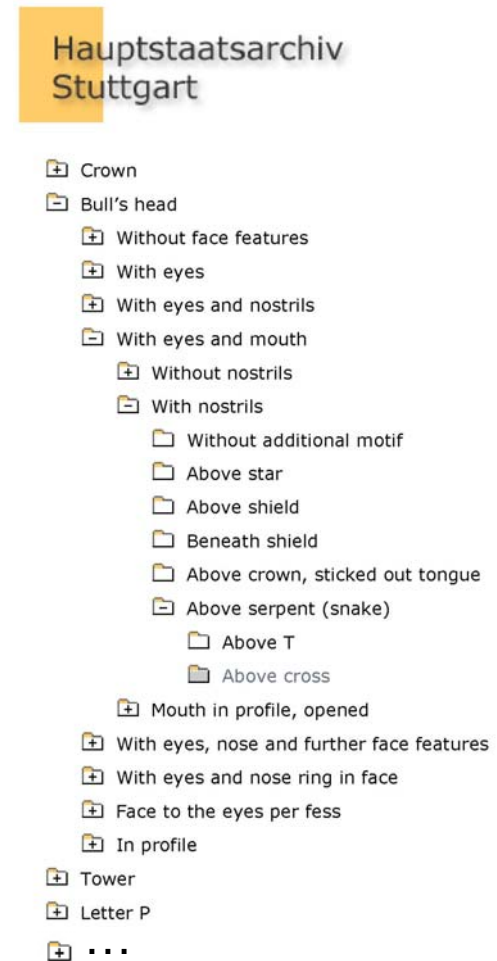
Measured paper characteristics, watermark classification, date and place of production, information about the documents (manuscript, title, author, name of publisher and date of publication etc.).

C) Contextual data

- bibliography,
- Incunabula Short Title Catalogue ISTC,
- historical geographical data.

D) Content processing software

- image processing software,
- measurement tools,
- historical cartography, statistics programs.

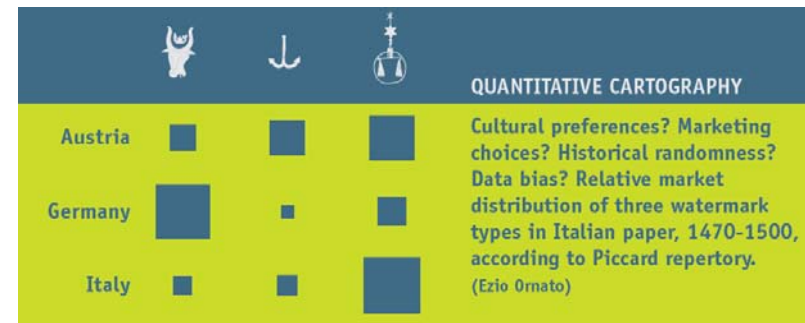


Excerpt of the list of watermark types (Piccard-Online)



Services, Tools, Results

- Paper expertise
 - *Dating* — main motivation
 - *Identification* — establish time and place of production and usage of a sheet of paper
 - *Comparison* — are two sheets similar or identical ?
 - *Contextualization* — provide contextual information about paper
 - *Measuring* — obtain size of a watermark, distances between chain lines, number of laid lines (art restorers and paper makers)
- Paper description standards
- Multi-lingual support (English, German, French, Italian, Spanish, Dutch, Russian)
- Tutorials: July, 10th-12th, 2007, Fabriano, Italy
July 2008, Stuttgart, Germany
February 2009, Vienna, Austria
- Exhibitions
- Dissemination toolkit



Example for paper expertise



Target Users

Everybody engaged in paper and/or paper studies ...

- historians (e.g. codicologists), art historians, economic historians
- musicologists
- archivists, conservators, librarians
- antiquarians, art dealers, auctioneers
- restorers, paper makers, artisans
- computer scientists
- forensic experts



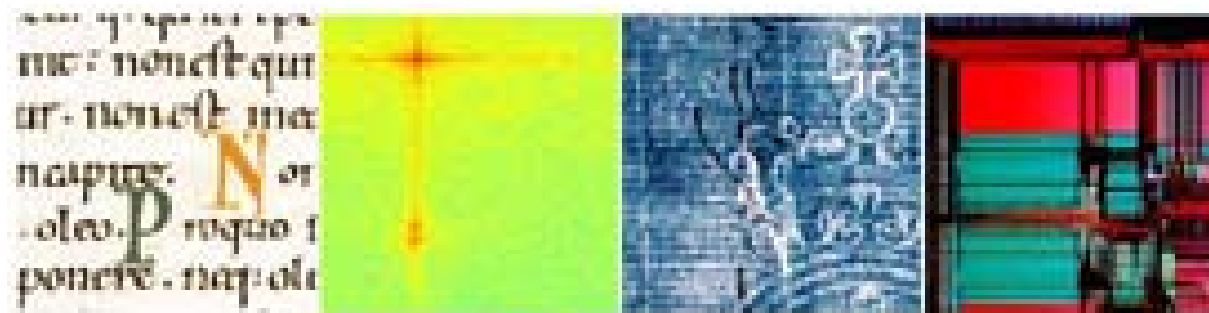
Contact

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Co-ordinator: emanuel.wenger@oeaw.ac.at



The Bernstein Consortium is solely responsible for the project.

This does not represent the opinion of the Community and the Community is not responsible for any use that might be made of information contained therein.