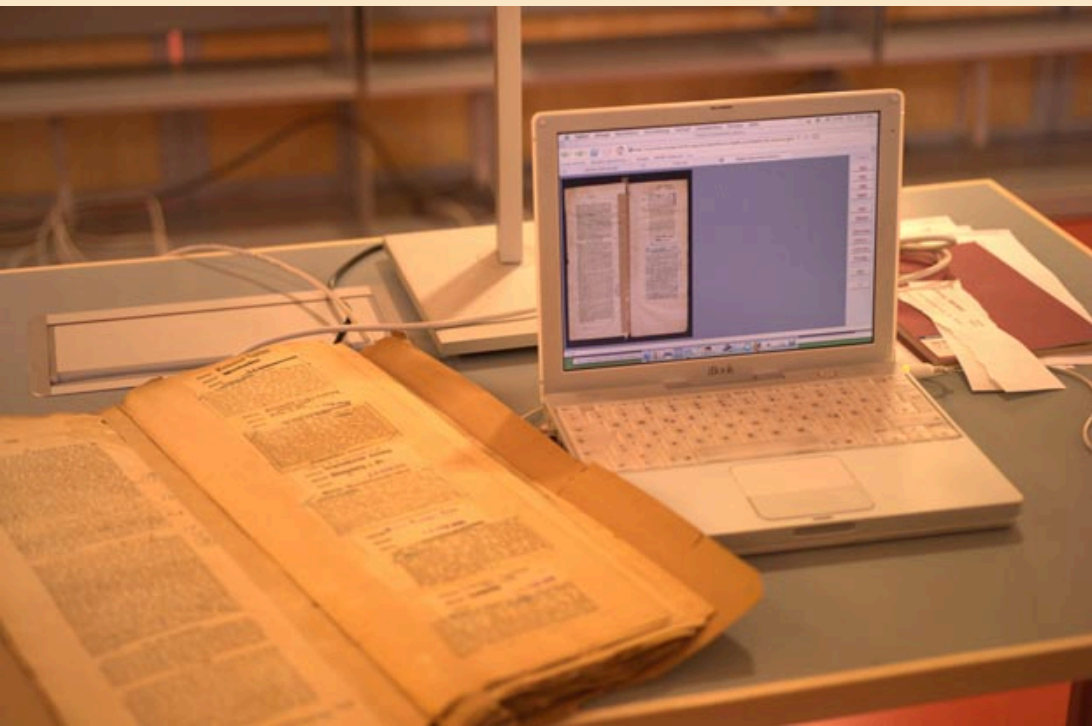


# How Can We Bring Forward Communities with less Open Access Experience?

## – Scholarly Challenges for the Humanities –

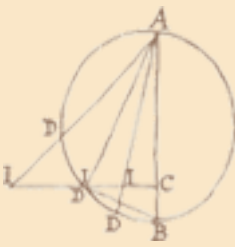


Open Access Conference Berlin 9

**Urs Schoepflin**

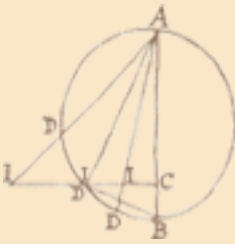
Max Planck Institute  
for the History of Science

Bethesda, November 2011



# Experiences of the Max Planck Institute for the History of Science

- Humanities in the Berlin Declaration
- Building an Open Access Research Infrastructure
- Content Acquisition Strategy
- Research Driven Tool Development
- Agora Idea
- Publishing Research Results and Primary Sources
- Recognition
- Funding Issues



## Humanities in the Berlin Declaration

“Our mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society.

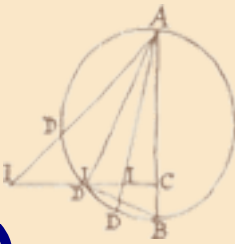
New possibilities of knowledge dissemination not only through the classical form but also and increasingly through the open access paradigm via the Internet have to be supported.

We define open access as a comprehensive source of **human knowledge and cultural heritage** that has been approved by the scientific community.”

Max Planck Society,  
“Berlin Declaration on Open Access to Knowledge in Science and Culture”, 2003

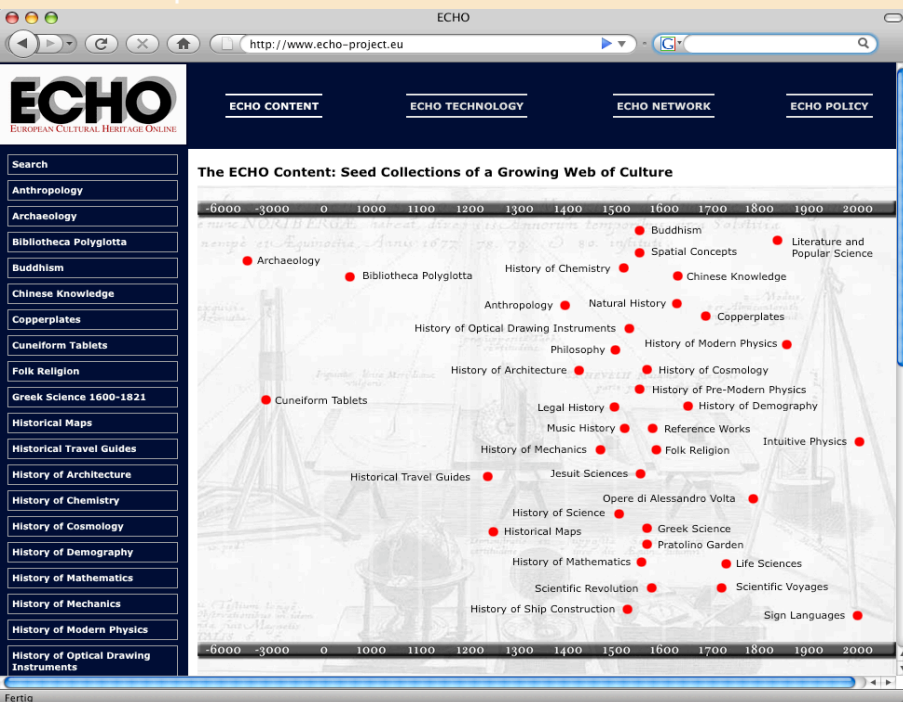




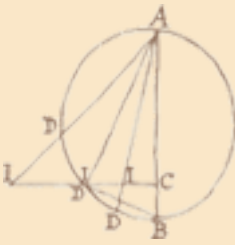


# “European Cultural Heritage Online” (ECHO)

Graphical overview on the ECHO content

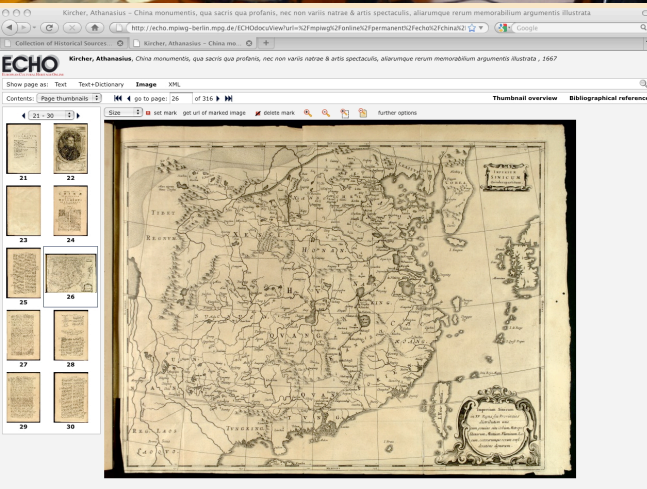


- ECHO Website:
  - <http://www.echo-project.eu>
  - first hit on Google search for *European cultural heritage*
  - starting point for including cultural heritage in the open access movement (Berlin Declaration)
- representations of cultural heritage made openly available:
  - ca. 818,000 high resolution images;
  - 9 multilingual dictionaries;
  - transcriptions of ca. 57,500 texts;
  - databases with more than 250,000 items;
  - 240 video sequences
- technology development:
  - development of open source tools (XML-based language technology for annotation, morphological analysis, search, and dictionary access, image server, annotation tools for multimedia)

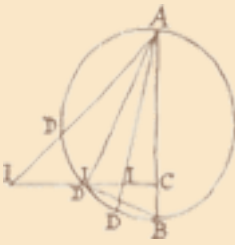


# Content Acquisition Strategy

- digitization of primary sources
  - digitization campaigns (worldwide)
  - support of competence centers for digitization of cultural heritage (e.g. in Mongolia)
  - digitization of high quality images
  - production of structured full texts

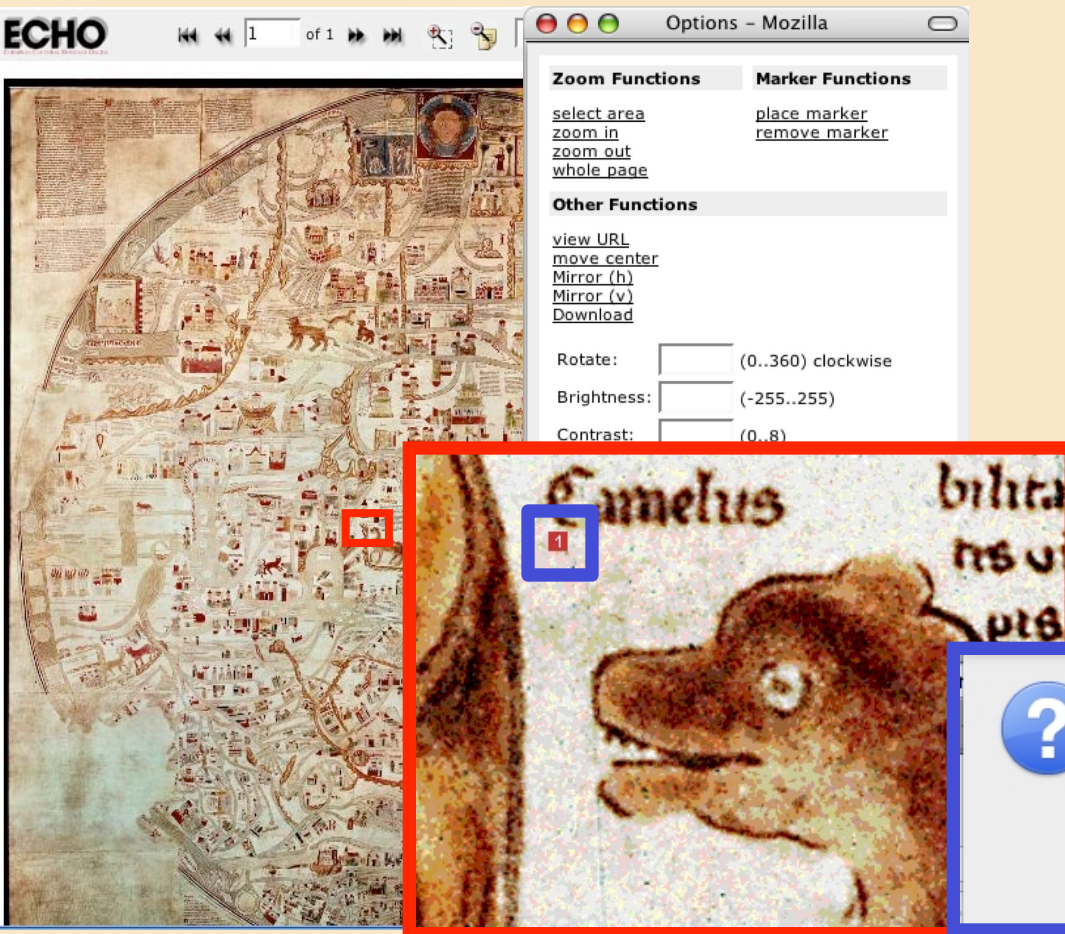




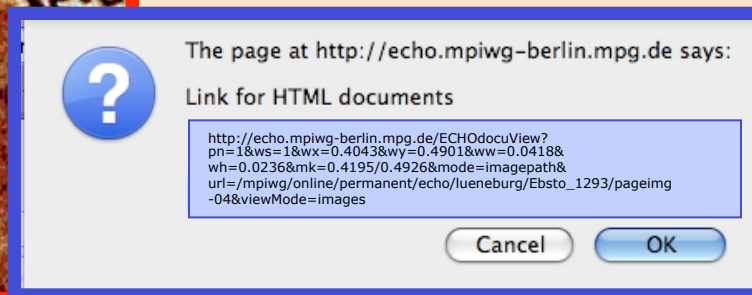


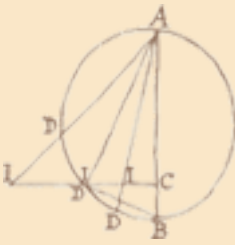
# Research Driven Tool Development: Image Analysis and Annotation

Ebstorf World Map, 13<sup>th</sup> century



- development of tools and workflows for analysis and presentation of primary sources
  - image viewer *digilib*, for online image manipulation for specific research questions
- open access to sources and tools





# Research Driven Tool Development: XML-Text Production

- presentation of image and full text in a web-based working environment
  - image viewer
  - image annotation
  - verification of text transcription
  - download of full xml text

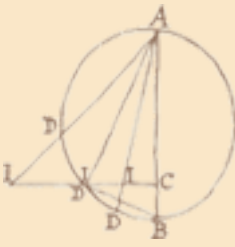
The screenshot displays the ECHO (Electronic Chinese Heritage Online) web application. The main window shows a facsimile of a Chinese manuscript page, titled "Song Yingxing - Tian gong Kai wu". The page is divided into a grid of thumbnails (1-10) and a detailed view of the selected page (461). The detailed view shows the original image and a corresponding XML transcription. The XML code is as follows:

```
<echo version="1.0RC">
<text xml:lang="zh" type="book">
<div type="front" level="1" n="1">
<div type="preface" level="2" n="1" xml:id="N400018">
<p xml:id="N400020">
明博物者。則人推焉。乃棗梨之花
未實。而臆度楚萍。金幣之範鮮經。
而侈談呂鼎。畫工好圖鬼魅而惡
犬馬。即鄭僑。晉華。豈足為烈哉！幸
生聖明極盛之世。滇南車馬縱貫
遼陽。嶺徽宦商衡遊薊北。為方萬

```

The interface also includes a search bar, a navigation pane, and a download button. A small dialog box is visible in the center, asking for confirmation to download the XML text.

Working environment presenting digitized source with xml text, image with marker and corresponding URL for referencing



# Research Driven Tool Development: Linguistic Analysis

- linking tools for text analysis and interpretation

DelMonte, Guidubaldo - Mechanicorum Liber

http://echo.mpiwg-berlin.mpg.de/ECHODocuView?tocMode=thumbs&start=11&url=%2Fmpiwg%2Fonline%2Fpe...

The Collection Browser of the ... DelMonte, Guidubaldo - Mecha...

ECHO DelMonte, Guidubaldo, Mechanicorum Liber, 1577

Show page as: Text Text+Dictionary Image XML

Contents: Page thumbnails 11 of 288

Thumbnail overview Bibliographical reference

natura ponderis Search

Contains

Contains morphological

XPath query

XQuery

Fulltext index

Morphological index

Morphological expansion: see here

1. Page 7, Sentence 6 / Page 8, continuation of the sentence:

quae quidem non solum geometriam (vt Pappus testatur) abfoluit, & (...)

2. Page 8, Sentence 1:

quippè quod aduersus naturam vel eiudem emulata leges exercet; summa id certè admiratione (...)

3. Page 11, Sentence 2:

(...) quâ vitreo orbe concilium ita effinxit, simulatis altris viuum naturae opus, ac iura poli motibus certis adeo prae fe ferentibus; vt æmula naturae manus tale de fe encomium fit promissa: fic manus naturam, vt naturæ manum ipsa immitata putatur.

4. Page 11, Sentence 6:

denum hac arte confusus è proceffit audacia, vt eam vocem naturæ legibus adeo repugnantem protulerit.

5. Page 26, Sentence 2:

(...) C immobilis propter lineam CF prohibetur; deorfum tamen licuti eius natura pulsatur, femper mouebitur.

6. Page 36, Sentence 11:

(...) grauius effe videtur; cum pondus liberum, atq; folutum fuisset naturæ rectè mouetur; fed in A rectius descendit; ergo in A grauius erit.

7. Page 50, Sentence 1:

In quocunq; enim litu pondus aliquod constituitur, si natura (...)

8. Page 52, Sentence 10 / Page 53, continuation of the sentence:

non autem ex ipsa natura rei.

9. Page 73, Sentence 6:

da, nisi forte uellimus tam nobilis disciplinae con-  
templationem quidem ociosam laudare; fructum  
uero, & usum, artis; finem improbare. sed prae  
omnibus mathematicis unus Archimedes ore  
laudandus est plenior, quem uoluit Deus in me  
chancis uelut ideam singularem esse, quam om-  
nes earum studiosi ad imitandum sibi propone-  
rent. is enim Coelestem globum exiguo admo-  
dum, fragili que uitreo orbe conclusum ita effi-  
xit, simulatis astris uiuum naturae opus, ac iura  
poli motibus certis adeo prae se ferentibus; ut  
æmula naturae manus tale de se encomium sit  
promissa: sic manus naturam, ut natura ma-  
nū ipsa immitata putetur. is sola, quinquies milienum modiorum  
pondus attraxit. nauem in siccum litus educatam,  
ac grauius oneratam solus machinis suis ad se  
dixit. ab lato etiam ea exiterunt bellica tor-  
menta, quibus Syracusae aduersus Marcellum  
ita defensus sunt, ut passim eorum machinator  
Briareus, & centimanus a Romanis appellare-  
tur. denum hac arte confusus eo processit au-  
daciae, ut eam uocem naturae legibus adeo re-  
pugnantem protulerit. Da mihi, ubi sistam, ter

Working environment with digitized and  
morphological analyzed full text, linked with  
dictionary

DelMonte, Guidubaldo - Mechanicorum Liber

http://echo.mpiwg-berlin.mpg.de/ECHODocuView?url=%2Fmpiwg%2Fonline%2Fpermanent%2Flibrary%2FA41541...

The Collection Browser of the ... DelMonte, Guidubaldo - Mecha...

ECHO DelMonte, Guidubaldo, Mechanicorum Liber, 1577

Show page as: Text Text+Dictionary Image XML

Contents: Page thumbnails 7 of 288

Thumbnail overview Bibliographical reference

AD FRANCISCVM  
MARIAM II  
VRBINATVM  
AMPLISSIMVM DVCEM  
GVIDVALDI  
E MARCHIONIBVS  
MONTIS  
PRAEFATIO.

DVAE res (AMPLISSIME PRIN-  
CEPS) quae ad conciliandas homi-  
nibus facultates, utilitas nempe, &  
nobilitas, plurimum ualere consue-  
uerunt. illae ad exornandam mecha-  
nicam facultatem, & eam prae om-  
nibus aliis appetitibus reddendam conspicias-  
se mihi uidentur: nam si nobilitatem (quod pleriq;  
modo faciunt) ortu ipso metimur; occurrit hinc  
Geometria, illinc uero Physica; quorum gemina  
to complexu nobilissima artium prodit mechani-  
ca. si enim nobilitatem magis, tum stratae materiae,  
tum argumentorum necessitati (quod Aristote-  
les fatetur aliquando) relatum uolumus, omnium  
procul dubio nobilissimam perspicimus. quae

1 2 3 4 5 6 7 8 9 10

MPDL

http://echo.mpiwg-berlin.mpg.de/ECHODocuView/template/fulltextclient/template/head\_main\_voc?language=...

• Lewis and Short, Latin dictionary

• metiri mensus (post-class. metitus, Dig. 32, 1, 52), 4, v. dep. (Sancr. ma, to measure; cf. Gr. me/-tron, Lat. modus), to measure, mete (lands, corn); also, to measure or mete out, to deal out, distribute by measure (class.).

I. Lit.: "metiri agrum", Cic. Fam. 9, 17, 2: "frumentum", id. Verr. 2, 3, 83, 192: "sol, quem metiri non possunt", id. Ac. 2, 41, 128: "magnitudine mundi", id. Off. 1, 43, 154: nummos, to measure one's money, i. e. to have a great abundance of it, Hor. S. 1, 1, 95: "nummos modio", Petr. S. 37: "se ad candelabrum", id. lb. 75: "pedes syllabis",

to measure by syllables, Cic. Or. 57, 194: "frumentum milibus metiri", Caes. B. G. 1, 16: "cum exercitu frumentum metiri oportet", id. lb. 1, 23; "7, 71: Caecubum", Hor. Epod. 9, 36: "quis mensus est pupillo aquas?" Vulg. Isa. 40, 12: "tantus acervus fuit, ut metientibus dimidium super tres modios explese, sint quidam auctores", Liv. 23, 12.—

B. Poet. transf., to measure a distance, i. e. to pass, walk, or sail through or over, to traverse: "Sacram metiente te viam (of the measured pace of a proud person)", Hor. Epod. 4, 7: "aequor curru",

to sail through, Verg. G. 4, 389: "taquas carinā", Ov. M. 9, 446: "tu, curru, dea menstruo metiens Rer annuum", to go through complete, Cat. 34, 17: "instabili gressu metitur litora cornu", Luc. 5, 556.—Also absol.: "quin hic metitur gradibus militaris", to walk, Plaut. Ps. 4, 4, 11.—

II. Trop., to measure, estimate, judge one thing by another; also simply to measure, estimate, judge of, set a value on a thing.

(a). With abl. of the standard of comparison, or the means of judgment: "sonantia metiri auribus", Cic. Or. 68, 227: "oculo latus", Hor. S. 1, 2, 103: "omnia quaestu",

by profit, Cic. Phil. 2, 43, 111: "qui nihil alterius causa faciet et metietur suis commodis omnia", id. Leg. 1, 14, 41: "vides igitur, si amicitiam sua caritate metiare, nihil esse praestantius", id. Fin. 2, 26, 85: "vim eloquentiae sua facultate non rei naturae", id. Opt. Gen. Or. 4, 10: "omnia volutate", id. Fam. 7, 12, 2: "studia utilitate", Quint. 12, 11, 29: "magnos homines virtute, non fortuna", Nep. Eum. 1: "usum pecuniae non magnitudine, sed ratione", Cic. Att. 14: "officia utilitate", Lact. 6, 11, 12: "odium in se aliorum suo in eos metiens odio", Liv. 3, 54: "pericula suo metu", Sall. C. 31, 2: "peccata vitii", Cic. Par. 3, 1, 20: "aetatem nostram non spatio senectutis, sed tempore adulescentiae", Quint. 12, 11, 13.—

(b). With ex (very rare): "fidelitas, quam ego ex mea consensitā metior", Cic. Fam. 10, 4, 2: ex eo, quantum cuique satis est, metiuntur homines diuitiarum modum, id. Par. 6, 1, 14.—

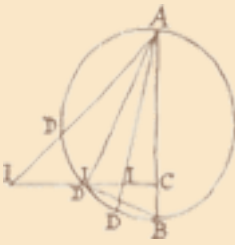
(g). With ad: "nec se metitur ad illum quem dedit haec (paupertas) posuitque modum", i. e. accommodates herself, Juv. 6, 358.—

(d). Absol. (post-Aug.): "metiri ac diligenter aestimare vires suas", Quint. 6, 1, 45: "pondera sua", Mart. 12, 100, 8: "sua regna", Luc. 8, 527.—(e) With quod: "quanto metiris pretio, quod etc.", Juv. 9, 72.—

B. To traverse, go over, pass through: "late Aequora prospectu metior alta meo", Ov. H. 10, 28: "tot casus, tot avia", Val. Fl. 5, 476: "jamque duas lucis partes Hyperione mense", Ov. M. 8, 564.—

C. To measure out, deal to any one, treat one well or ill: "mensurā quā mensi fueritis, remetietur vobis", Vulg. Luc. 6, 38,





# Research Driven Tool Development: Data Analysis and Visualisation

Song Yingxing - Tian gong kai wu

http://mpdl-dev.mpiwg-berlin.mpg.de/ECHODocView?url=x%2Fmpiwg%2Fonline%2Fpermanent%2Fecho%2Fchir Google

http://chinagis.pg.de/chinagis Song Yingxing - Tian gong Kai ... +

# MPIWG MPDL

## Song Yingxing.

Tian gong kai wu, 1959 (Facsimile of the "tuben" edition, printed 1637 in Nanchang)

bibliographical reference thumbnail overview

Search

pages 138 of 461 Image Text

Text Text+Dictionary XML Places normalPlaces V00064P-01

十三

麥

凡麥有數種。小麥曰來，麥之長也；大麥曰牟，曰穉；雜麥曰雀，曰薺；皆以播同時，花形相似，粉食同功而得麥名也。四海之內，燕、秦、晉、豫、齊、魯諸道。燕民粒食，小麥居半。而秦、魏、趙、梁僅居半。西極川、秦，東至關、浙，珍饈，瑱田，粳道，湯科之屬。而襄陽不及焉。種余麥者五十分之一。閩閩作苦以充朝膳。而貴介不與焉。漢麥擅陝西，一名青稞。即大家，隨土而變，而皮成青黑色者，秦人

Mozilla Firefox

http://chinagis.mpiwg-berlin.mpg.de/chinagis oac8 Beijing

http://chinagis.pg.de/chinagis Song Yingxing - Tian gong Kai ... tgkw\_map.tif (image/tiff-Object) http://chinagi... TCKW\_Ming.html

### MAX-PLANCK-INSTITUT FÜR WISSENSCHAFTSGESCHICHTE

Max Planck Institute for the History of Science

### Experimental Site of the ChinaGIS-Projekt

User Manual

Current User: rieger

#### Main Function

Data Entry  
Search and Mapping  
Select

#### Select in

User Tables  
China Historical GIS  
MPDL  
Select

#### Selected Database Directory is "User Tables"

language teachers lyiguan  
lifangcarvers  
metadata  
mingmanufactures  
mingsieide  
ministry\_of\_work  
ministry\_of\_work\_nanjing  
newtest  
objekt  
objektmedien  
silk  
sometable  
song\_yingxing  
test  
test1  
Select

#### Map of selected features from user-table " song\_yingxing "

Back Refresh

Karte Satellite Hybrid Gellinde

Layer From To

Prefecture seat -9999/12/31 9999/12/31 Load Layer

Province seat -9999/12/31 9999/12/31 Load Layer

Regime border -9999/12/31 9999/12/31 Load Layer

County seat -9999/12/31 9999/12/31 Load Layer

Prefecture border -9999/12/31 9999/12/31 Load Layer

Province border -9999/12/31 9999/12/31 Load Layer

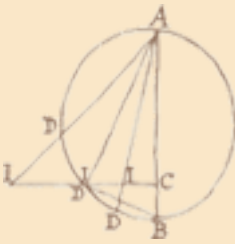
Regime border -9999/12/31 9999/12/31 Load Layer

Rivers Length (km) > 500 Load Layer

Manufactures -9999/12/31 9999/12/31 Load Layer

- historical data referring to time periods, specific dates or geographical locations
  - visualizing locations named in the text, other places of the time
- Tool map-Places-In-Time (*mapPIT*)
  - based on GoogleMaps combined with specific research database

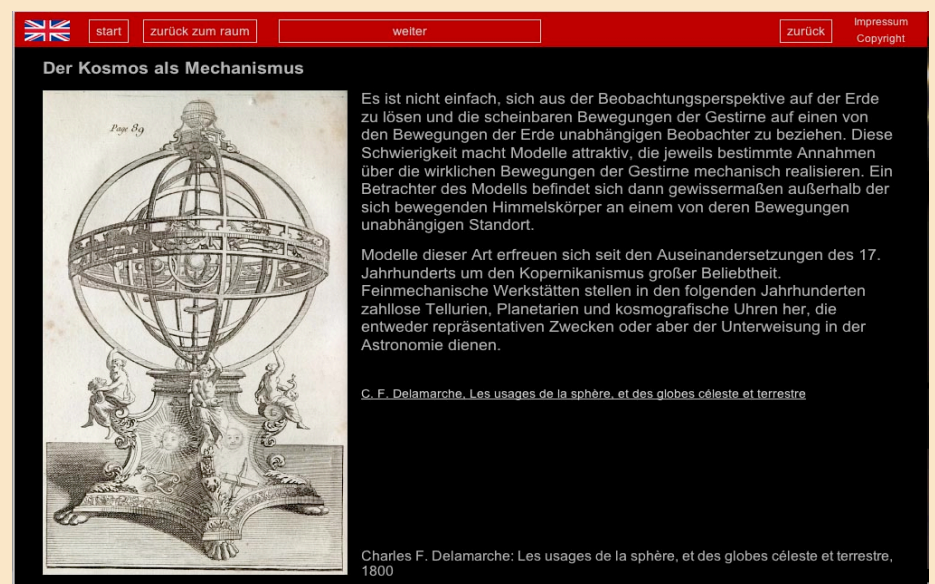
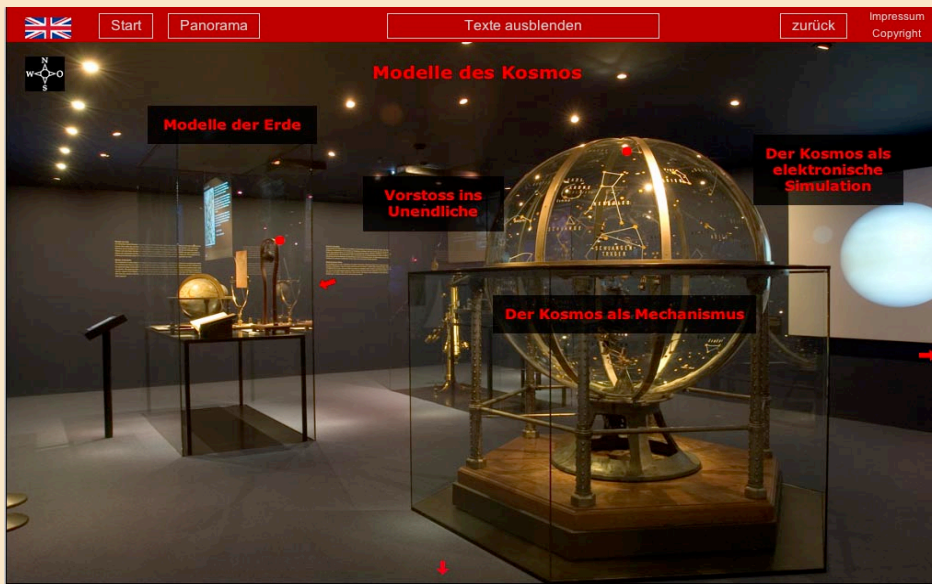
<http://mappit.mpiwg-berlin.mpg.de/mappit>



# Research Driven Tool Development: Data Analysis and Visualization

- integration of objects from different collections and of different media types
- allow for different thematic approaches
- integration of Webservices (e.g. Google Earth)
- sustainable instrument to publish temporary exhibitions of real objects (*virtual spaces*)

Virtual Einstein exhibition: an exhibition without walls





# Publishing Research Results and Primary Sources

- online availability of sources, scholarly metadata and research results
- enabling collaborative work
- immediate verification of scholarly interpretation
- creating a new situation for peer reviewing
- preservation of cultural heritage

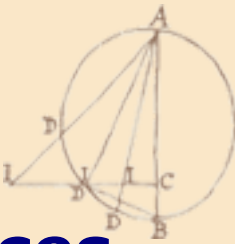
Open access journal of CDLI with hyperlinks to sources

The first screenshot shows the 'The Ur III Collection of the CMAA' page. It includes the title 'The Ur III Collection of the CMAA', the author 'Robert K. Englund', and a list of keywords: 'Ur III, Umma, Drehem, labor, animals'. A red circle highlights a thumbnail image of a tablet.

The second screenshot shows the 'CDLJ 2002/1, no. 1' record page. It includes the title 'CDLJ 2002/1, no. 1', the record number 'Record 1 of 1 records found', and a list of metadata: 'Primary Publication: CDLJ 2002/1, no. 1, Englund, Robert K., 2002', 'Collection: California Museum of Ancient Art, Los Angeles, California, USA', 'Museum no.: CMAA 002-C0005', 'CDLI no.: P212341', 'Provenience: Drehem', 'Genre: Administrative', 'Period: Ur III', 'Measurements (mm): 30x27x13'. A red circle highlights the 'Download Full CDLI F' button.

The third screenshot shows a large image of a tablet. A red circle highlights a specific section of the tablet, which is a list of items: '1. 4(disz) gu4 4(disz) ab2', '2. e2 muhaldim', '3. u4 2(u) 5(disz)-kam', '4. zi-ga', '5. ur{d}-li2-la2'. Below this list is a section for 'Rev.' with the text 'n lines broken', 'blank', and '1. mu us2-sa ki-masz(ki) ba-hul'.

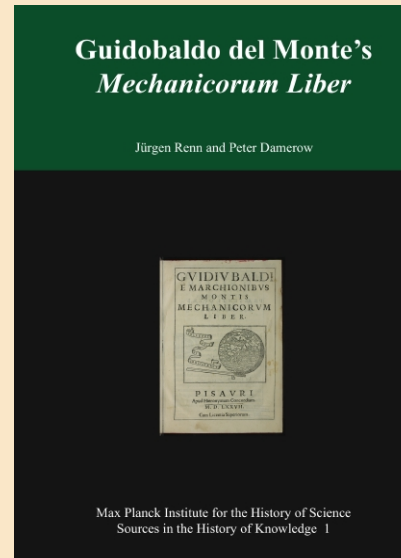




# Publishing Research Results and Primary Sources

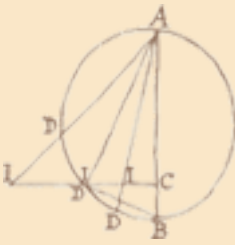
- the traditional way:  
printed book as aim

- obstacles
  - diminishing editorial support
  - high dissemination costs
  - space limitations
  - format limitations
  - high barriers for open access

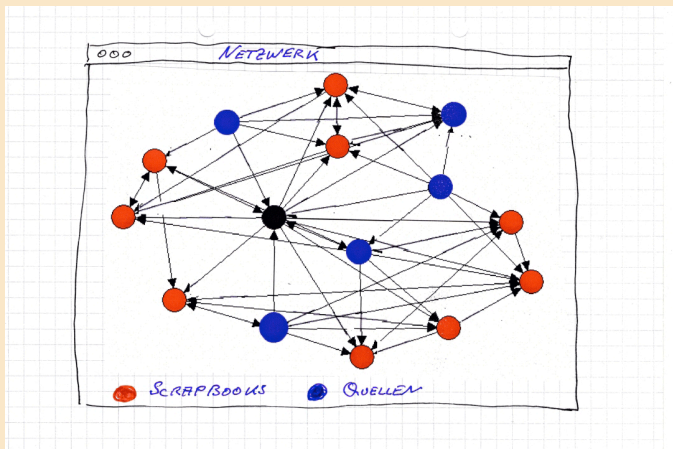
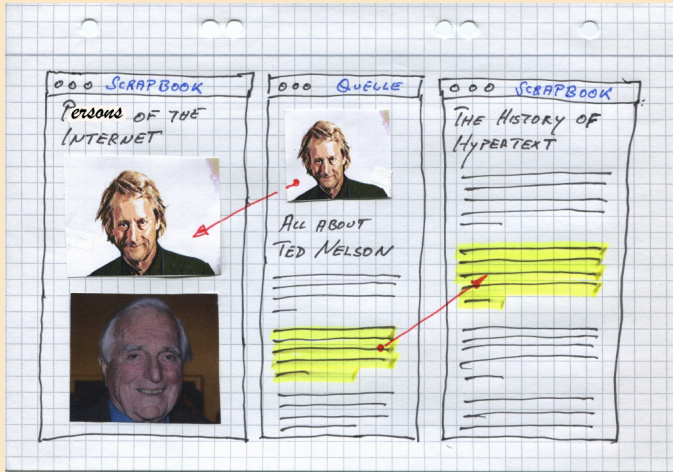


Max Planck Research Library  
<[www.edition-open-access](http://www.edition-open-access)>

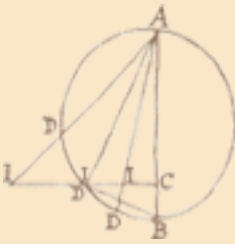
- the future perspective:  
sources and commentary  
online with additional print  
on demand
- benefits
  - workflow combining  
current status of research  
results with online sources
  - free download as e-  
publication book with  
creative commons license
  - additional print-on-  
demand service



# Working with Primary Sources: “Digital Scrapbook”



- access to digital repositories (e.g. search for terms and concepts)
- scrapbook as “windows” to full sources
- annotations and commentaries to images and texts
- linking scrapbooks and sources
- integrating dynamic elements
- saving referenced data
- new publication paradigm: releases

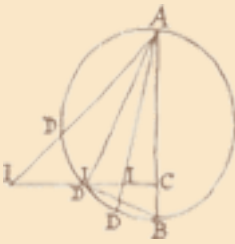


# Recognition

“Our organizations are interested in the further promotion of the new open access paradigm to gain the most benefit for science and society. Therefore, we intend to make progress by

- [...]
- advocating that open access publication **be recognized in promotion and tenure evaluation.**
- advocating the **intrinsic merit of contributions to an open access infrastructure by software tool development**, content provision, metadata creation, or the publication of individual articles.”

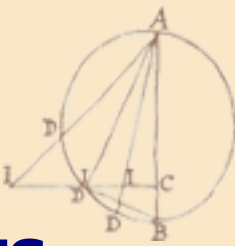
Max Planck Society,  
“Berlin Declaration on Open Access to Knowledge in Science and Culture”, 2003



## Funding Issues

“We realize that the process of moving to open access changes the dissemination of knowledge with respect to legal and financial aspects. Our organizations aim to **find solutions that support further development** of the existing legal and financial frameworks in order to facilitate optimal use and access.”

Max Planck Society,  
“Berlin Declaration on Open Access to Knowledge in Science and Culture”, 2003



# Advancement of Infrastructure Developments

- sustainability and generalization of content and research driven developments of single projects and research institutes
- innovation by cooperation
  - distributed competence and central management
- project “eSciDoc: Scholarly Workbench”
  - development of a publication management infrastructure and a scholarly workbench for the Humanities



