



MAX PLANCK
digital library



digitization
lifecycle

Digitization Lifecycle Project (DLC)





The Project Consortium

- MPI for European Legal History, Frankfurt (Lead Partner)
- Bibliotheca Hertziana, Rom
- Kunsthistorisches Institut, Florence (KHI)
- MPI for Human Development, Berlin
- Max Planck Digital Library, Munich

- Affiliated:
 - MPI for the History of Science, Berlin
 - MPI for Mathematics in the Sciences, Leipzig
 - MPI for Medical Research, Stuttgart



Project Team





Working areas

- Requirements
 - From all MPI
- Formats
 - Now METS and TEI
- Bibliographic metadata and interfaces to library systems
 - MAB, MODS, DC
- Viewing Environment
- Editing Environment
- Export
- Digitization Guidelines
 - From sourcing of suppliers to scientific collaboration on digitized resources



Based on....

- Functional and technical experiences from all partners
- Requirements derived from defined collections
- Many software packages from the institutes (XML Workflow or)
- VIRR software (Virtueller Raum Reichsrecht)

The screenshot shows the website of the Max-Planck-Institut für europäische Rechtsgeschichte. The main heading is "Juristische Zeitschriften 1703 - 1830". Below this, there is a description of the project, which is a DFG-funded cooperation project between the Max-Planck-Institut für europäische Rechtsgeschichte and the Staatsbibliothek zu Berlin - Preußischer Kulturbesitz. The text mentions that the project aims to digitize and make available all legal journals from the period 1703-1830. It also mentions that the project is part of the "Virtueller Raum Reichsrecht" (VIRR) project.

There are two examples of digitized documents shown on the right side of the page:

- Wetzlarische Nebenstunden:** A document titled "Joh. Mr. Freyherr Kayserl. und des Reichs. Can".
- Keyserlich-Französischer Friede:** A document titled "Keyserlich-Französischer Friede, soicher dem fünfften Tag des H 1679ten Jahr getroffen und worden".

The website also features navigation links for "Anmelden", "Impressum", and "Copyright".



VIRR Software

- Used for two collections
 - 42 books, 25,000 scans
 - 218 journals, 1130 journal issues, 500,000 Scans
- Based on eSciDoc
- Web based viewing and editing environment



GUI Version 1 and 2



Oertel, Christian Gottfried: Vollständiges Corpus Gravaminum Evangelicorum. Band 2, 1775

Navigation: Ausblenden, Paginierung Ausblenden, Struktur Ausblenden

Formal: Ausbüch, Start 1, Filter 1-30

Elementtyp: Kapitel, Ebene 1-1

Zeige: Seiten, Strukturtypit

Struktur:

- Band 2
 - 1: e0001 ()
 - 2: e0002 ()
 - Kapitel: TestKapitel
 - 3: v0001 ()
 - 4: v0002 ()
 - 5: v0003 ()
 - 6: v0004 ()
 - 7: d0001 ()
 - 8: d0002 ()
 - 9: d0003 ()
 - 10: d0004 ()
 - 11: d0005 ()
 - 12: d0006 ()
 - 13: d0007 ()
 - 14: d0008 ()
 - 15: d0009 ()
 - 16: d0010 ()
 - 17: d0011 ()
 - 18: d0012 ()
 - 19: d0013 ()
 - 20: d0014 ()
 - 21: d0015 ()
 - 22: d0016 ()
 - 23: d0017 ()
 - 24: d0018 ()
 - 25: d0019 ()
 - 26: d0020 ()
 - 27: d0021 ()
 - 28: d0022 ()
 - 29: d0023 ()
 - 30: d0024 ()
 - 31: d0025 ()
 - Tabelle:
 - 9: d0003 ()
 - 10: d0004 ()
 - Kapitel: TestKapitel
 - 11: d0005 ()
 - 12: d0006 ()

Metadaten Ausblenden

Metadaten Einblenden

Zugewiesene Seiten löschen

Signatur: Dt 9 Bg 20 Q [2]

Autor: Oertel, Christian Gottfried

Titel: Vollständiges Corpus Gravaminum Evangelicorum

Band 2

Erscheinungsjahr: 1775

Buttons: Speichern & Veröffentlichen, Speichern

START BROWSE COLLECTION

[Pachner von EggenstorffX, Johann JosephX (edt)]:
Vollständige Sammlung Aller von Anfang des noch fürwährenden Teutschen Reichs-Tags de Anno 1663 biß anhero abgefaßten Reichs-Schlüsse, Vol. 1. - RegensburgX 1740

Image: Scan 9 / 49 of 938

Pagination: Format Arabic, Start 1, Filter 1-50

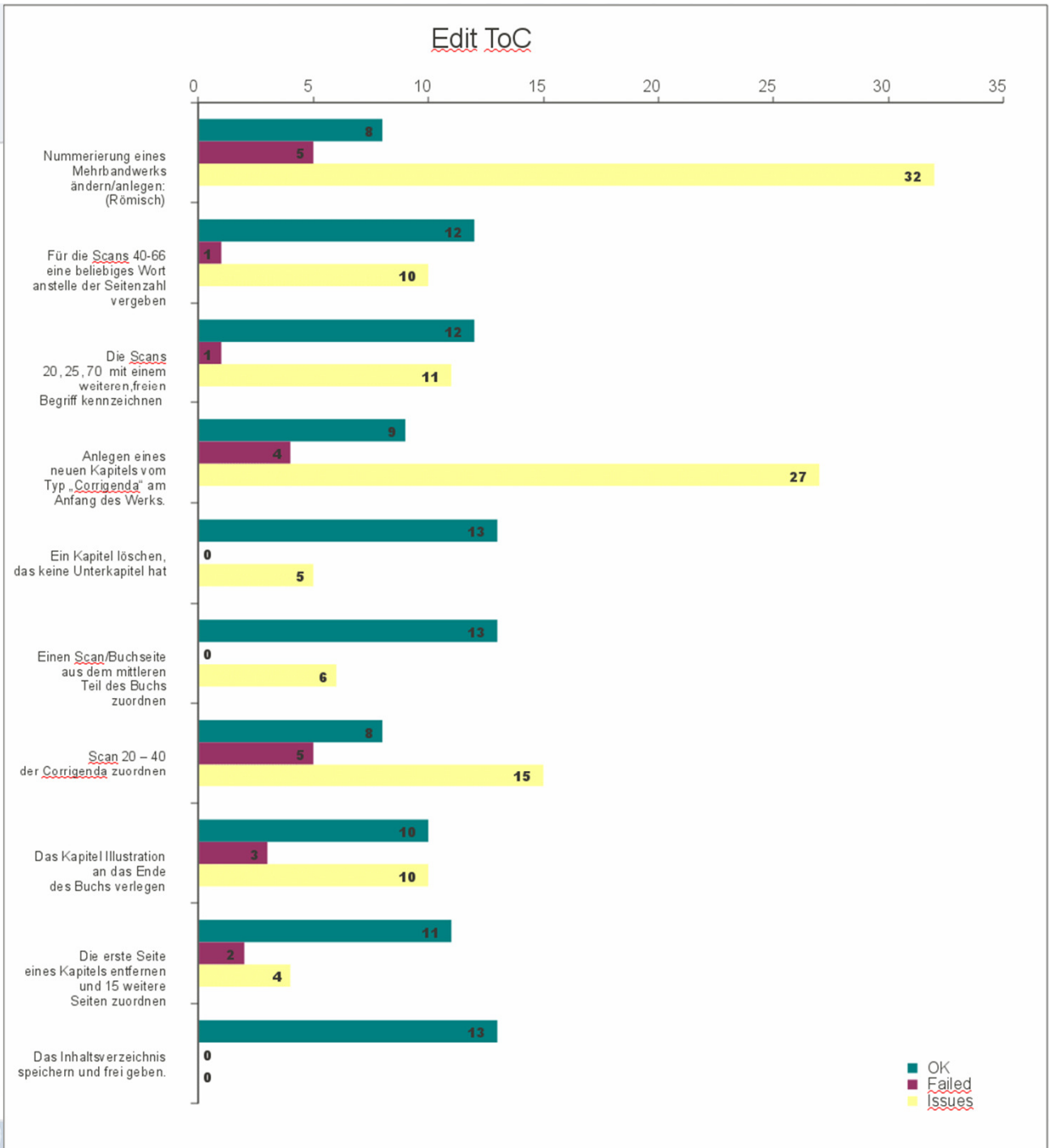
Buttons: Paginate, Show

<input type="checkbox"/>	1:e0001	41	✓
<input type="checkbox"/>	2:e0002	42	✓
<input type="checkbox"/>	3:v0001	43	
<input type="checkbox"/>	4:v0002	44	
<input type="checkbox"/>	5:v0003	45	
<input type="checkbox"/>	6:v0004	46	
<input type="checkbox"/>	7:v0005	47	
<input type="checkbox"/>	8:v0006	48	
<input type="checkbox"/>	9:d0001	49	✓
<input type="checkbox"/>	10:d0002	50	✓
<input type="checkbox"/>	11:d0003	51	
<input type="checkbox"/>	12:d0004	52	✓
<input type="checkbox"/>	13:d0005	53	✓
<input type="checkbox"/>	14:d0006	54	
<input type="checkbox"/>	15:d0007	55	
<input type="checkbox"/>	16:d0008	56	
<input type="checkbox"/>	17:d0009	57	



GUI Evaluation

- n=13





VIRR Review

- 😊 Large batch ingests work fine
- 😊 Web interface for editing structure
- 😊 Going for METS was a good decision
- 😊 Compatible to DFG viewer
- 😊 We have results from user interface evaluation

- 😞 No fulltexts, no TEI
- 😞 User interface evaluation: difficult online editor
- 😞 Just static elements and attributes for structural statements (like ,chapter' or ,introduction')
- 😞 Versioning of containers doesn't scale well



VIRR Review continued...

Code Re-Use?

- Presentation changed from JSF1 to JSF2
- Fulltext integration required a new internal data format
- Data modelling was not efficient
 - Versioning for containers does not scale
- Too monolithic
- Transformation Service and mappings are re-usable
- Image converter could be re-used
- No more ToC, no more containers



The End

Thanks for your attention !



CoNE: Control of Named Entities



Beispiel: Warum Author Identifiers?

- Frage: Wie viele Publikationen gibt es von Prof. Helmut Grubmüller in 2010?
- -> Suche nach Author „Grubmüller“ und Jahr „2010“
- Aber: Unterschiedliche Schreibweisen in den Publikationen:
 - Grubmueller, H.
 - Grubmuller, H.
 - Grubmüller, H.
 - Grubmuller, Helmut
 - Grubmüller, Helmut
- eDoc kann hier nur einen ungefähren Wert bieten
- PubMan kann exakt antworten



Warum Author Identifiers?

- Fra
- -> S
- Abe
- Gru
- Gru
- Gru
- Gru
- Gru
- eDo
- Pubman kann exakt antworten

```

URI persons/resource/persons2668
Complete Name SHIMAMURA, Kiyoshi
Complete Name 島村 清史
Family Name SHIMAMURA
Family Name 島村
Given Name Kiyoshi
Given Name 清史
Identifier
Value 006881
Position
Organization Frequency Conversion Group, Optronic Materials
Center, National Institute for Materials Science
Organization 物質・材料研究機構 光材料センター 光周波数変換グループ
Position Appellation グループリーダー
Position Appellation Group Leader

```

ller in 2010?



Ähnliche Abfragen

Zusammenhang mit Organizational Units

- „Welche/Wie viele Publikationen gibt es von Abteilung xyz in 2010?“
- „Abfrage aller Publikationen der Abteilung xyz inkl. thematischer Vorläufergruppen“
- In den Publikationen finden sich teilweise Angaben wie
- „MPI“ oder „MPI for ..“, „MPI für ...“, „MPI f. ...“ ohne Beschreibung der Gruppe oder Abteilung
- Zusätzliche Verbindung mit „Organizational Unit Identifiers“ und Abbildung der gewünschten wissenschaftlichen Institutsstruktur



Ähnliche Abfragen

Zusammenhang mit Organizational Units





Control of Named Entities - CoNE

- Ermöglicht die Abfrage und verteilte Pflege dieser Referenzdaten
- Kann auch beliebige externe IDs mit einbinden
- Zurzeit: Personen, Journals, Lizenzen, Mime-Types, ISO639-1,3

eSciDoc.CoNE [Login](#) [About](#)

[Home](#) [Back to Search](#)

CoNE - Search

[Search](#)

Search term	
persons	schutz
Search results	Schutz, Bernard F. (Astrophysical Relativity, AEI-Golm, MPI for Gravitational Physics, Max Planck Society)
	Schutz, B. F. (Astrophysical Relativity, AEI-Golm, MPI for Gravitational Physics, Max Planck Society)
	Schuetz, A. (Department of NMR Based Structural Biology, MPI for biophysical chemistry, Max Planck Society)
	Schuetz, Anne (Department of NMR Based Structural Biology, MPI for biophysical chemistry, Max Planck Society)



Digitization Lifecycle

- Start zum 1. Februar
- 7 Projektmitarbeiter
- 19 Personen insgesamt beteiligt

- „Nachfolger“ von VIRR – Virtueller Raum Reichsrecht



DIGITIZATION
LIFECYCLE



Digitized Resources: Images





Digitized Resources: Texts

141. Page 25, Sentence 9:

Pa-tet enim ex præcedenti theoremate .m. q. radicem **effe** quadratam producti .l.e. in .e.p. quod productū **fit** (...) .c.g. cogitemus pariter duo quadrata .l.e. et .e.p. **effe** pariter corpo-rea, tantę profunditatis, quantam, vnitas linearis (...)

142. Page 26, Sentence 2:

Vn-de ex decimaoctaua, aut decimanona feptimi, eadem **erit** proportio .a.g. ad .c.g. quæ **eft** .l.b. ad .l.x. corporeum, fed ex .25. vndecimi & prima fepti, ita (...)

143. Page 26, Sentence 4:

Vnde ex nona quinti .a.K. æqualis **erit** .e.b. & confequenter æqualis .m.e.

144. Page 26, Sentence 5:

Iam verò **fit** .u.g. productum .l.b.cubi, in cubum .o.p. vt fupra dictum **eft** (...) duarum propofitio-num, decimaoctaua, aut decimanona feptimi, eandem **futuram** proportionem .u.g.ad .a.g. quæ **eft** .o.p. ad .x.p. quadratum corporeum.

145. Page 26, Sentence 6:

Quare ex poſtremis, dictis ratio-nibus, eadem **erit** proportio .u.K. ad .a.K. quæ **eft** (...) q. ficut nume rus .q.e. ad fuam vnitate, fed cū numerus .a.K. æqualis **fit** numero .m.e. vt probatū **eft** erit ergo ex vndecima & nona quinti, numerus .u.K. æqualis numero (...)

146. Page 26, Sentence 7:

At .f.g. pariter æqualis **eft** numero .m.q. ex præcedenti theoremate, vnde .K.u. pariter æqua lis **erit** .f.g.

147. Page 26, Sentence 8:

Itaque fequitur .u.g. cubum **effe**, & f.g. radicem ipſius, æqualem numero .m.q. quod quærebatur.

[4.3. 攻黍稷標梁麻菽 小礪 枷具圖]

Page: 125

[4.4. 攻治成糧諸色圖]

Page: 127

[5. 作成第五卷]

Page: 143

[5.1. 鹽產]

Page: 143

[5.2. 海水鹽]

Page: 144

[5.3. 池鹽]

Page: 147

[5.4. 井鹽]

Page: 149

[5.5. 末鹽]

Page: 157

[5.6. 崖鹽]

Page: 157

[6. 甘嗜第六卷]

Page: 159

[6.1. 蔗種]

Page: 159

[6.2. 蔗品]

Page: 162

[6.3. 造糖 具圖]

Page: 163

[6.4. 造白糖]

Page: 166

[6.5. 蜂蜜]

Page: 169

[6.6. 飴餹 天工開物上卷]

Page: 171

[7. 陶埏第七卷]

Page: 173

[7.1. 瓦]

Page: 173

[7.2. 磚]

Page: 176

[7.3. 罌甌]

Page: 185

[7.4. 白瓷 附青瓷]

Page: 192

[7.5. 附: 窯變 回青]

Page: 199

[8. 冶鑄第八卷]

Page: 205

[8.1. 鼎]

Page: 205

[8.2. 鐘]

Page: 207

[8.3. 釜]

Page: 210

[8.4. 像]

Page: 212

[8.5. 炮]

Page: 213

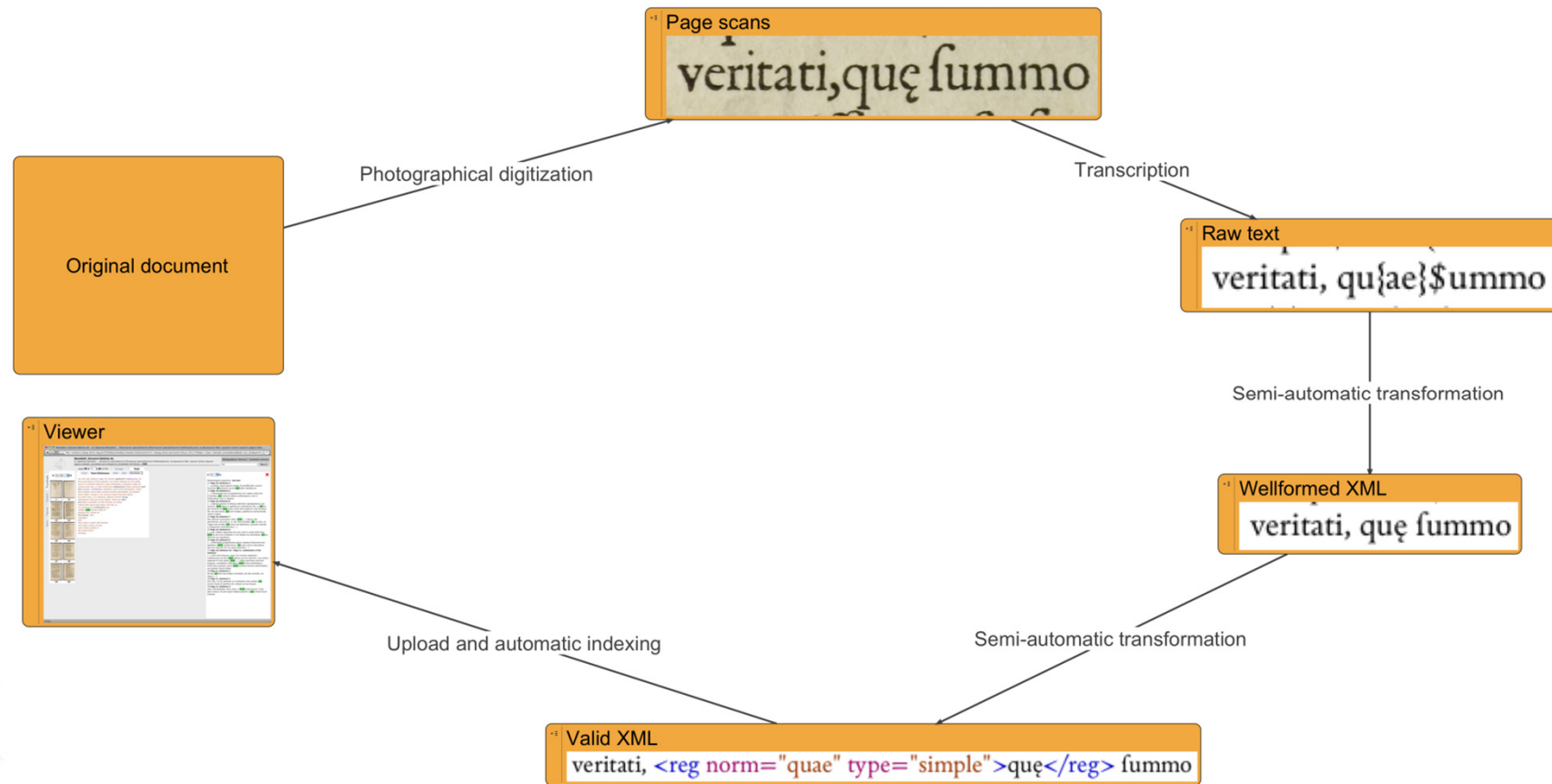
[8.6. 鏡]

Page: 213

[8.7. 錢]

Page: 220

Digitized Resources: Natural Language Processing





Digitized Resources: Dictionaries

Mpdl-Pollux

http://mpdl-proto.mpiwg-ber Google

Mpdl-Pollux

**Mpdl-Pollux: Result of your query: Language=la,
Query=appareo appario**

- Lewis and Short, Latin dictionary [This is a MPDL [Pollux](#) service] ⓘ
 - ap-pārĕo (adp-, Ritschl, Fleck., B. and K.; app-, Lachm., Merk., Weissenb., Halm, Rib.), ui, itum, 2, v. n., *to come in sight, to appear, become visible, make one's appearance* (class. in prose and poetry).

I. A.. Lit.: "ego adparebo domi", Plaut. Capt. 2, 3, 97: "ille bonus vir nusquam adparet", Ter. Eun. 4, 3, 18; Lucr. 3, 25; so id. 3, 989: "rem contra speculum ponas, apparet imago", id. 4, 157: unde tandem adpares, Cic. Fragm. ap. Prisc. p. 706 P.; id. Fl. 12 *fin.*: "equus mecum una demersus rursus adparuit", id. Div. 2, 68; so id. Sull. 2, 5: "cum lux

START BROWSE COLLECTION

DESCRIPTION DOCUMENT EXPORT EDIT

Pagination | Outline | Details | Assign Pages | Publish |

Back to Multivolume

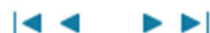
Editor

[Pachner von EggenstorffX, Johann JosephX (edt)]:

Vollständige Sammlung Aller von Anfang des noch fürwährenden Teutschen Reichs-Tags de Anno 1663 biß anhero abgefaßten Reichs-SchlüsseX, Vol. 1. - RegenspurgX 1740

Image

Scan 9 / 49 of 938



Pagination

Format Arabic

Start 1

Paginate

Filter 1-50

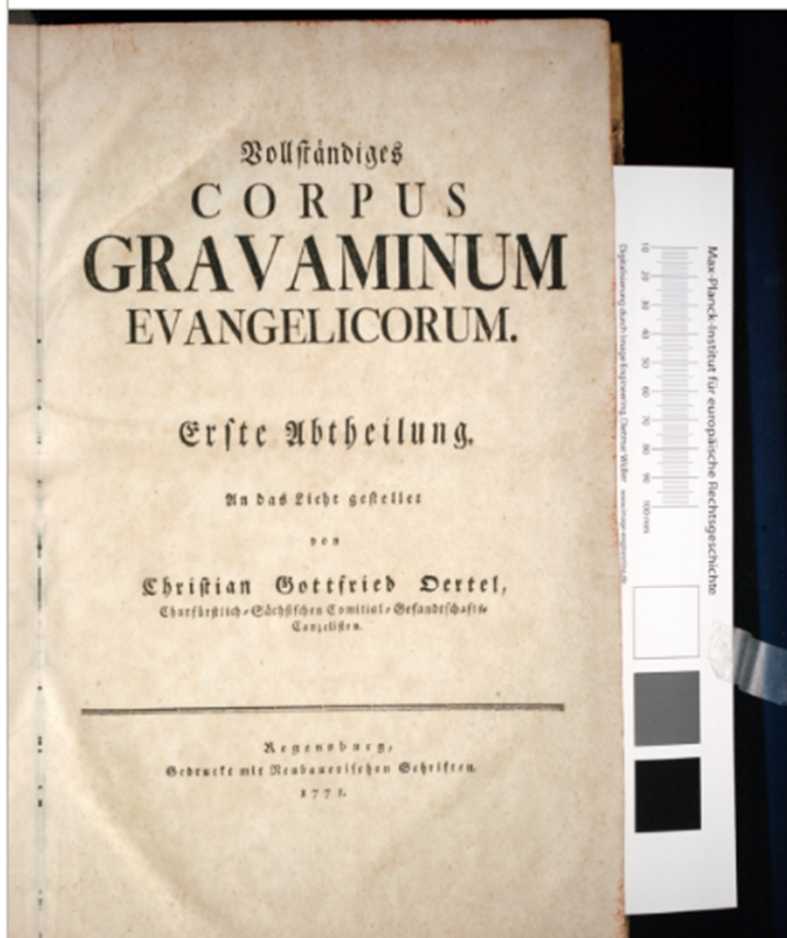
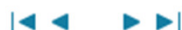
Show

<input type="checkbox"/>	1:e0001	41	✓
<input type="checkbox"/>	2:e0002	42	✓
<input type="checkbox"/>	3:v0001	43	
<input type="checkbox"/>	4:v0002	44	
<input type="checkbox"/>	5:v0003	45	
<input type="checkbox"/>	6:v0004	46	
<input type="checkbox"/>	7:v0005	47	
<input type="checkbox"/>	8:v0006	48	
<input type="checkbox"/>	9:d0001	49	✓
<input type="checkbox"/>	10:d0002	50	✓
<input type="checkbox"/>	11:d0003	51	
<input type="checkbox"/>	12:d0004	52	✓
<input type="checkbox"/>	13:d0005	53	✓

Oertel, Christian Gottfried:
Vollständiges Corpus Gravaminum Evangelicorum, Vol. 1. - Regensburg 1775

Image

Scan 7 / I of 288



Outline

Volume

Level 1-1

- [-] Digital facsimile 1
 - [-] Cover (Einband)
 - [-] Einband
 - [-] Einband
 - [-] Fly-leaf (Vorsatz)
 - [-] Vorsatz
 - [-] Vorsatz
 - [-] Vorsatz
 - [-] Vorsatz
 - [-] Title page: [Titelblatt]. (I)
 - [-] I
 - [-] II
 - [-] Preface: Vorbericht. (III)
 - [-] III
 - [-] IV
 - [-] V
 - [-] VI
 - [-] Table of contents: Verzeichniß der in dieser ersten Abtheilung sich findenden Religions-Beschwerden. (VI)
 - [-] VI
 - [-] Chapter Num. I.: enthält die Religions-Gravamina zu Wörrstadt, Ober-Saulheim und Eichloch. (1)
 - [-] 1
 - [-] 2

START BROWSE COLLECTION

DESCRIPTION DOCUMENT EXPORT EDIT

Pagination | Outline | Details | Assign Pages | Publish |

Show: Pages Structure types

Back to Multivolume

Editor

[Pachner von EggenstorffX, Johann JosephX (edt)]:

Vollständige Sammlung Aller von Anfang des noch fürwährenden Teutschen Reichs-Tags de Anno 1663 biß anhero abgefaßten Reichs-SchlüsseX, Vol. 1. - RegenspurgX 1740

Pagination

Format Arabic

Start 1

Paginate

Filter 1-50

Show

<input type="checkbox"/>	1:e0001	41		<input checked="" type="checkbox"/>
<input type="checkbox"/>	2:e0002	42		<input checked="" type="checkbox"/>
<input type="checkbox"/>	3:v0001	43		<input type="checkbox"/>
<input type="checkbox"/>	4:v0002	44		<input type="checkbox"/>
<input type="checkbox"/>	5:v0003	45		<input type="checkbox"/>
<input type="checkbox"/>	6:v0004	46		<input type="checkbox"/>
<input type="checkbox"/>	7:v0005	47		<input type="checkbox"/>
<input type="checkbox"/>	8:v0006	48		<input type="checkbox"/>
<input type="checkbox"/>	9:d0001	49		<input checked="" type="checkbox"/>
<input type="checkbox"/>	10:d0002	50		<input checked="" type="checkbox"/>
<input type="checkbox"/>	11:d0003	51		<input type="checkbox"/>
<input type="checkbox"/>	12:d0004	52		<input checked="" type="checkbox"/>
<input type="checkbox"/>	13:d0005	53		<input checked="" type="checkbox"/>



Outline

Struct. type Chapter

Add

Level 1-1

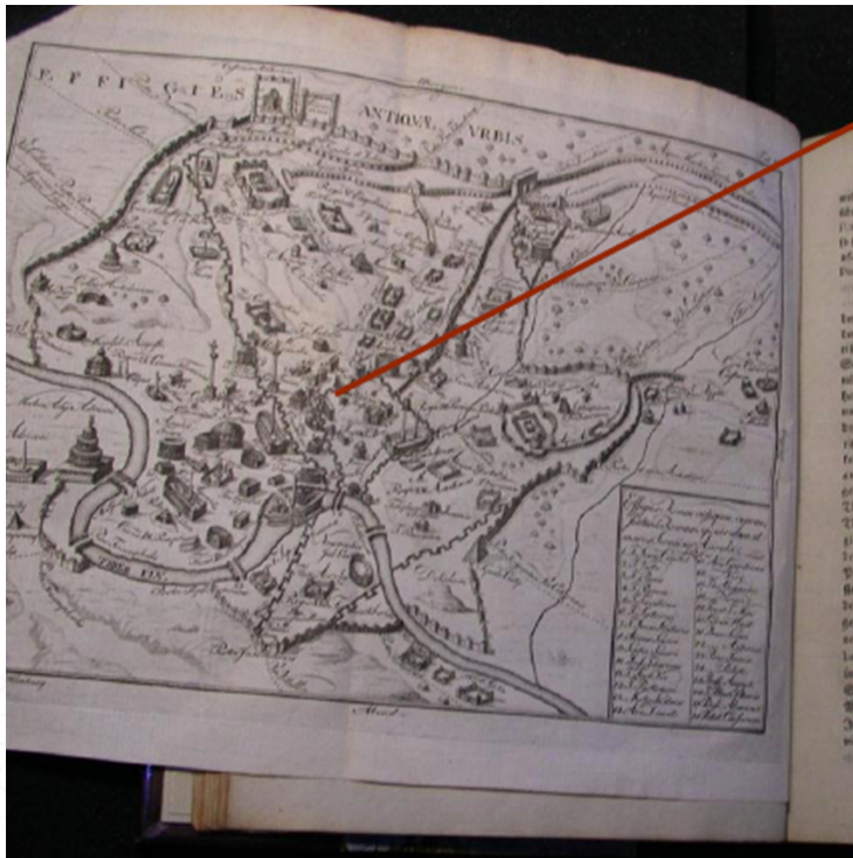
Move ▲ ▼ ◀ ▶

Remove

- ☐ Digital facsimile 1
 - ☐ Corrigendum (Alte Nummerierung)
 - └ Introduction
 - ☐ Introduction
 - └ Cover
 - └ Chapter (52)
 - └ Dedication (49)
 - └ Illustration
 - └ Chapter (75)
 - └ Empty page XVI: Kapitel.
 - └ Corrigendum: Neue Corrigenda.

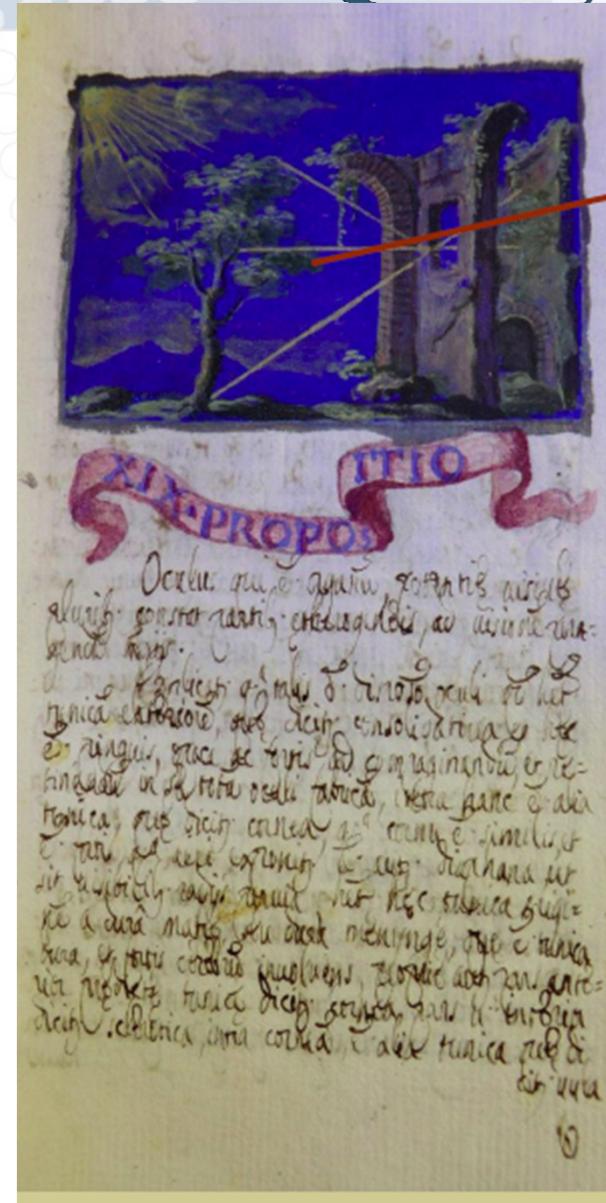


Kartenbeschreibungen





Bildbeschreibungen





Personen und Entitäten referenzieren





XML Workflow (MPI WG)


MPIWG MPDL Benedetti, Giovanni Battista de, *Io. Baptistae Benedicti ... Diversarvm speculationvm [Diversarum speculationum] mathematicarum, et physicarum liber: quarum seriem sequens pagina indicabit; [annotated and corrected by Guidobaldo Del Monte], 1585* bibliographical reference

pages 7 of 445 Image Text

Thumbnails

Content

Figures



444
7

**SERENISSIMO
CAROLO EMANVELI
Sabaudiae Duci, &c.**

A Gitur nonusdecimus annus ex quo litteris Serenissimi patris tuae Celsitudinis, accersitus ex urbe Parmensi in banc me ciuitatem contuli. Is aduenientem tam bumane excepit, tanta deinde liberalitate fuit complexus ego uicissim ei deseruendi, tam uebementi cupiditate fui accensus, ut sub eius ditione quodsUPERESSET uitae agere constituerem. Cuius in me benignitas, mea in illum obseruantia mirum in modum mutuo usu, & consuetudine est adaucta, ut idem Dux me secum dum rusticaretur esse uellet, saepe etiam secum pernoctare; quo quidem tempore de Matbematicis scientiis mecum agebat, in quibus perdiscendis mea opera utebatur, quaestiones, Arithmeticam, Geometria, Astronomiam, acris fuisserunt. Principum per litteras me consuluerunt. Sa defugerim, sa scrutatus, corpus mediocre epistola subuiusque alterius uolui apparere; ar erat, tum

Morphological expansion: [see here](#)

1. Page 7, Sentence 3:
(...) mirum in modum mutuo vfu, & confuetudine est adaucta, vt idem **Dux** me fecum dum rusticaretur esse uellet, faepè etiam fecum pernoctare;

2. Page 13, Sentence 1:
(...) exiguam, occasione diuerforum problematum mihi à Serenissimo Sabaudiae **Duce** propofitorum praebi-ta, de ijs quae ab antiquis propofita fuerunt (...)

3. Page 13, Sentence 3:
INTERrogavit me Sereniffimus **Dux** Sabaudiae, qua ratione cognofci pot-fet fcientificè & fpeculatiue (...)

4. Page 41, Sentence 4:
(...) ignotae ipfius .a.d. effe .a.b. et .b.d. & à puncto .b.**duci** lineam .b.h.g. parallelam .d.f. et .m.h.k. parallelam .d.a. (...)

5. Page 84, Sentence 12 / Page 85, continuation of the sentence:
(...) termino .f.n. (majoris intelligètie gratia) vtranque perpèdiculariter **duci**, □ducatur deinde .n.e. donec .e.d. aequalis fit itineri diurno primi (...)

6. Page 148, Sentence 8:
(...) æ. & planum perpendicularare orizō-ti, fuper quod punctum .k. perfecti **duci** debet fit .R.D.B.fintque ductae per imaginationem lineae .T.K: Q.K. (...)

7. Page 172, Sentence 3:
(...) brachium moueret, optimo iure in admirationem potfet Ari-ftoteles **duci**.

8. Page 172, Sentence 10:
(...) fieret manu, quod corpus liberatum deinde cum fuerit à funda, natura **duce**, iter fuū à puncto, à quo proflijit, per

Mpdl-Pollux

Google

Mpdl-Pollux

Mpdl-Pollux: Result of your query: Language=la, Query=appareo appario

- Lewis and Short, Latin [This is a MPDL Pollux service] dictionary
 - ap-pārĕo (adp-, Ritschl, Fleck., B. and K.; app-, Lachm., Merk., Weissenb., Halm, Rib.), ui, itum, 2, v. n., to come in sight, to appear, become visible, make one's appearance



START WORKSPACE COLLECTIONS UPLOAD

[VIEW](#) [DOWNLOAD AS](#) [EDIT](#) [ADD TO COLLECTION](#) [SEARCH IN DOCUMENT](#)

[PDF](#) | [DocX \(Open XML\)](#) | [LaTeX](#) | [XSL-FO](#) | [TEI](#) |

Actions and Reactions

Basic

URL http://vm20.mpd.l.mpg.de:8080/tei_demonstrator/view/tei/escidoc

Genre OTHER

Title Actions and Reactions

Creators Rudyard Kipling

File

File Name [actions_and_reactions.xml \[MD5\]](#)

Visibility PUBLIC

MIME-Type / Size text/xml / 0B

System Details

Identifier escidoc:1009:1

Date Last Modified Mon Jun 21 14:03:43 CEST 2010

Status RELEASED

START WORKSPACE COLLECTIONS UPLOAD

Search Selected Document(s)

Actions and Reactions



Element

Element Name

Element Content

CONTAINS

Boolean Operator

AND

Element Content

CONTAINS AND

Attribute

Attribute Name

Attribute Value

CONTAINS

Boolean Operator

AND

Attribute Value

CONTAINS

Node to return

Attribute Value

CURRENT_NODE

Results

In: Actions and Reactions (actions_and_reactions.xml)

```
<p xmlns="http://www.tei-c.org/ns/1.0">"A house!" said Sophie, in a whisper. "A Colonial house!"</p>
```

```
<p xmlns="http://www.tei-c.org/ns/1.0">"Send and have that mended to-morrow," Sophie whispered.</p>
```

```
<p xmlns="http://www.tei-c.org/ns/1.0">"That's the other end of the riddle," Sophie whispered, when he saw her that evening. "Read her note. The English write beautiful notes."</p>
```