

# IEG

Das Leibniz-Institut für  
Europäische Geschichte  
in Mainz



Digitale Forschungsinfrastruktur für die  
Geistes- und Kulturwissenschaften

## Overview

11:00–12:15: Finding your way in digital collections

*12:15–13:00: Lunch break*

13:00–14:15: Tools for quantitative text analysis

*14:15–14:30 Coffee break*

14:30–15:45: Tools for Geohumanities

15:45–16:00: Concluding session

# Overview: Finding your way in digital collections

## Part I: The Archaeology of Reading in Early Modern Europe (AOR)

- 1) Structured data and metadata
- 2) Scholarly background
- 3) Structured data and AOR: editorial principles
- 4) Navigating and using AOR

## Part II: comparing digital collections

- 1) DARIAH-DE Collection Registry
- 2) EADH Catalogue of Digital Editions

## Structured data and metadata

- *Structured data*: the data is divided into distinguishable entities that can be recognized as such by computer software (e.g. search engines). It is layered and, often, hierarchical. Example: relational databases.
- *Semi-structured data*: some structure is added to the data, e.g. in the form of tags. Examples: XML, [Wikidata](#).
- *Unstructured data*: flat files which contain data but no metadata. Examples: Word docs, PDF, etc.
- *Metadata* is data that gives information or describes other data. It provides properties about data which can be used by computers to interpret or process that data in a particular manner.

# Structured and unstructured data: [an example](#)

## Letter from Thomas Bodley to William Cecil (1595):

‘....I never craved allowance for the portage of lettres, which have bin chargeable to me, nor for the expenses of many messengers, which I have purposely imploied, by expresse commaundement, and with promesse of rembourment, sometimes upon her Majesties owne lettres, and some times by order from my LL. of the Councel, from your Sonoy, of the banished *L. and Sir Francis Walsingham, about the causes of Schencke, of the Amon of Tiel, of Monsieur* men of Utrecht and Leiden, of the towne of Gertrudenbergh, when it fell from the states, and for sundrie buisnesses besides, for which all my charges being pu[t] in a reckning, will growe to a greater ~~reckning~~ /summe/, then I have reason to neglect’

## XML:

```
</sup> L. and <person id="2033" person_id="Walsingham"> S<sup id="1595" replace="ir">r</sup> Francis  
Walsingham  
</person>, about <image name="thorn"/> e causes <newline/> of <person id="2039" person_id="Schenck, M">  
Schencke, </person>  
of <image name="thorn"/> e Amon of Tiel, of <person id="2045" person_id="Sonoy"> Mons <sup id="1598"  
replace="ieur">
```

## The Archaeology of Reading in Early Modern Europe (AOR)

- Funded by the Mellon Foundation (2014-2019)
- International collaboration: Princeton University, Johns Hopkins University, University College London
- Lisa Jardine and Tony Grafton, 'Studied for action: how Gabriel Harvey read his Livy', *Past & Present* (1990)
- Enabling a more systematic analysis of historical reading practices through the creation of a digital bookwheel
- <https://bookwheel.org/>

### THE ARCHAEOLOGY OF READING

WHAT IS THE ARCHAEOLOGY OF READING?  
WHO ARE THE ARCHAEOLOGISTS?  
PARTNER INSTITUTIONS  
CONTACT



GO TO AOR VIEWER

THE BOOKS AND THEIR READERS  
BOOKWHEEL BLOG  
HOW TO USE AOR  
DOWNLOADS  
AOR DATA

The Archaeology of Reading in Early Modern Europe (AOR) uses digital technologies to enable the systematic exploration of the historical reading practices of Renaissance scholars nearly 450 years ago. This is possible through AOR's corpus of thirty-six fully digitized and searchable versions of early printed books filled with tens of thousands of handwritten notes, left by two of the most dedicated readers of the early modern period: John Dee and Gabriel Harvey.

Though the surviving remnants of their massive libraries are scattered across research libraries throughout the United Kingdom, Europe, and the United States, AOR presents a virtual library of many of Dee's and Harvey's most engaging and revealing annotated books. Their contents span a wide range of subjects, including agriculture, alchemy, ancient and medieval history, astrology, astronomy, humor, law, linguistics, mathematics, medicine, military theory, natural history, navigation, the occult, oratory, politics, poetry, and topography.

The AOR viewer places each page of each book alongside a text panel containing full transcriptions (and English translations) of all the manuscript marginalia on that page. A second text panel enables users to conduct complex searches across all of Dee's and Harvey's marginalia. Through AOR, users can either browse or locate precisely every one of their annotations in these books, all parts of the printed texts they underlined, all their manuscript symbols and marks, all the people, places, and books they mentioned, and much more.



The early modern bookwheel, from *Le discours et artificieuse machine du capitaine Agostino Ramelli* (1538)





## “Information overload”

[illegible]



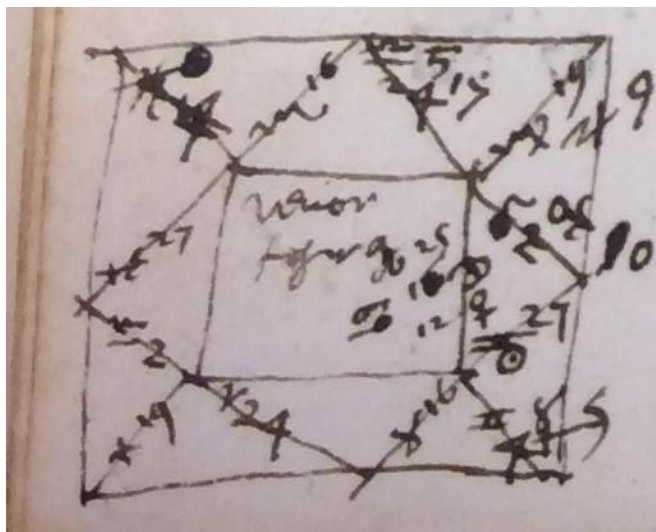
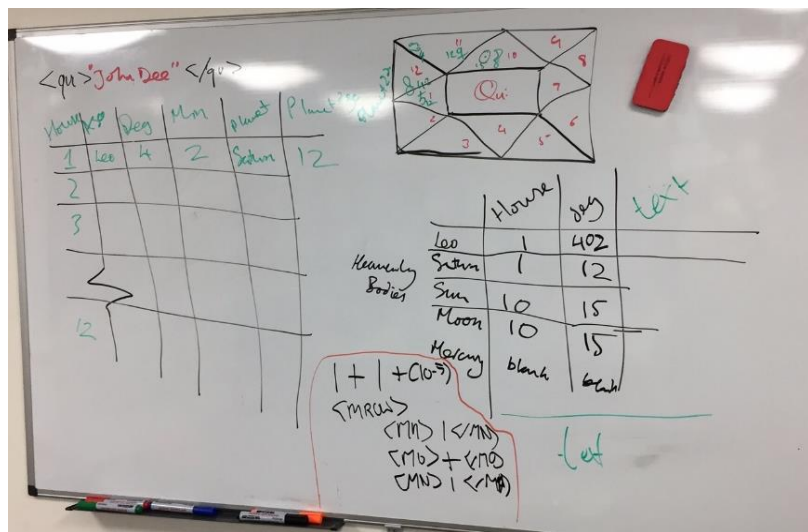
## From MS annotation to structured data: AOR XML schema

- Conceptualization of annotations
- Bespoke schema, in-house created (no TEI!)
- Classification
- Editorial decisions and interventions
- Creation of structured data
- Enable query-based searches

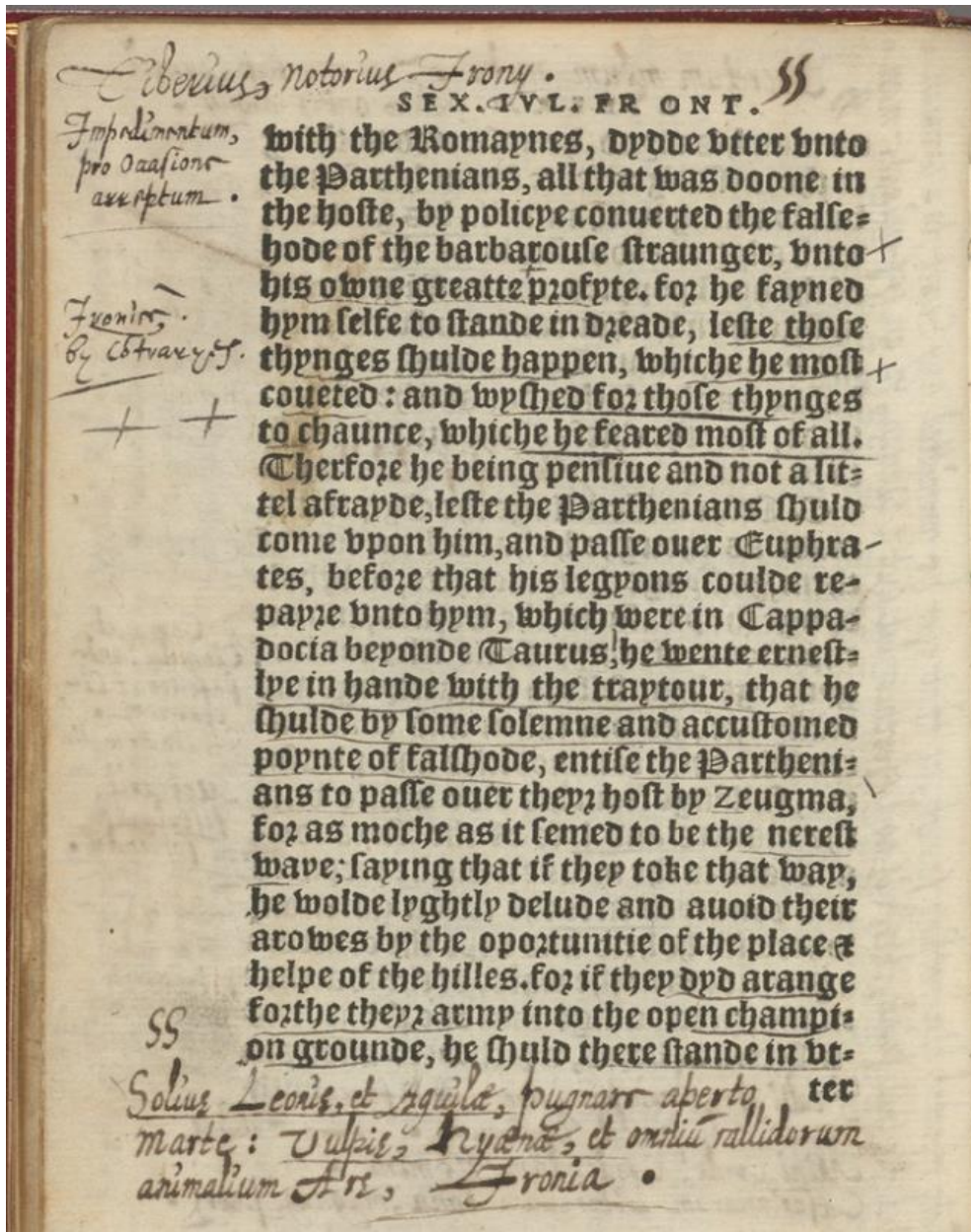
that one of his swyftest shippes shoulde +  
make out harde by his ennemies garrison : whiche sene, all the shippes that lay  
to kepe the haven, made out a mayne to  
pursue her: Than Chares with his other  
shippes, swypte in to the haven, and got  
the citie.

Or The Spanishe Armada,  
the summer  
1588. rowed  
not off any  
sur advantage  
against England  
or otherwise

What tyme the Romaynes in Sicilia  
layde siege to Lilybei, bothe by land and  
see: Barca, the capytayne of Carthage,  
commaunded parte of his nauy, to shew  
them selves a far of in theyr armur: whan  
the Romaynes sawe that they made out







<marginalia hand="Italian">

<language ident="EN">

<position place="head">

book\_orientation="0">

<marginalia\_text>Tiberius, notorius  
Irony.</marginalia\_text>

<person name="Tiberius"/>

</position>

</language>

</marginalia>

<underline method="pen" type="straight">

language="EN" text="his owne greatte profyte"/>

<underline method="pen" type="straight">

language="EN" text="leste those thynges shulde  
happen"/>

<symbol name="SS" place="head"/>

<symbol name="SS" place="left\_margin"/>

<mark name="vertical\_bar" method="chalk">  
place="intext"/>

<mark name="plus\_sign" method="pen">  
place="intext" language="EN" text="his owne  
greatte profyte"/>



## De Origine & Gestis Britannorum

Mors Be-  
lini & ei-  
spelica.

ante turrem munita magnitudinis: portusq; subtus ad pedem  
applicandis navibus idoneum. leges patris ubiq; per re-  
gnū renouavit constanti iustitiā insistent. In diebus eius  
tāta copia diuitiarū populū refecit: quantam nec ante vlla  
aetas nec postea assecuta perhibeatur. Demū cū suprema  
dies ipsū ex hac vita rapuisset: cōbustum est eius corpus: &  
pulsus in aureo cado recōditus: quē in vrbe Ternouārina  
in summitate praeclatā turris mira arte locauerunt.

Post Belinum regnauit Gurguintus Brabtrucus patris  
studiosus amulator. hic in Daciā cū exercitu profectus  
regem sibi tributum denegantem interemit: rediens inde  
exulē ex Hispaniis populū ad Orcades insulas reperiens:  
ad Hyberniam tunc incolis vacuā direxit. Post ipsum suc-  
cessit Guithelinus post quem Sisillius: ex illo tertius Mo-  
rindus qui rege Maurorum cum crudelitate triumphato  
ab immani belua deuoratus est.

### Cap. XX.

Gur-  
guintus

Ost hęc successit ei Gurguintus Brabtrucus eius-  
dem filius vir modestus & prudēs: qui per omnia  
actūs paternos imitans pacem & iustitiā ama-  
bat: & cū vicini aduersus eum rebellabant audaciā exem-  
plo genitoris reuocans dira praelia committebat, & hostes  
ad debitam subiectionem reducebat. Inter multa alia con-  
tigit q; rex Dacorum qui diebus patris tributū reddebat  
huic reddere diffugeret & ei subiectionem abnegaret: qđ  
iple grauiter ferens duxit nauigiū in Daciā afflictorū du-  
rissimis praeliis populo interfecit regem, patriamq; pristī-  
no iugo supposuit. Ea tempestate cū post illam victoriā  
domū per insulas Orcades rediret: inuenit triginta naues  
viris & mulieribus plenas: & cum causā aduentus eorū  
inquisisset: accessit ad eū dux ipsorum Partholemus no-  
mine & adorato eo veniā & pacem rogauit. Dicebat au-

Dacia  
subiu-  
gatur.

Libet. I.

Fo. XXII.

tem se ex partibus Hispaniarum expulsum fuisse & maria  
illa circuire vt locum mansionis haberet. Petiuit ergo ab eo  
portiunculam Britanniae inhabitandam: ne odium iter  
maris diutius pererrarent: Annus enim cum dimidio iam  
elapsus fuerat: ex quo patria sua pulsus per oceanum cum  
sociis nauigauerat. Vt igitur Gurguintus Brabtrucus ip-  
sos ex Hispania venisse & Balenses esse vocatos petitionem  
q; eorum edoctus fuit: misit homines cum eis ad insulam  
Hyberniam quae tunc vacua ab omni incoleratur: eamq; eis  
concessit. Deinde creuerunt illis & multiplicati sunt: insu-  
laq; usq; ad hunc diem tenuerūt. Gurguintus vero Braba-  
trucus cum dies vitae cum pace expleuisset: sepultus fuit i  
vrbe Legionum quam propter obitum patris aedificiis &  
muris decorare studuerat.

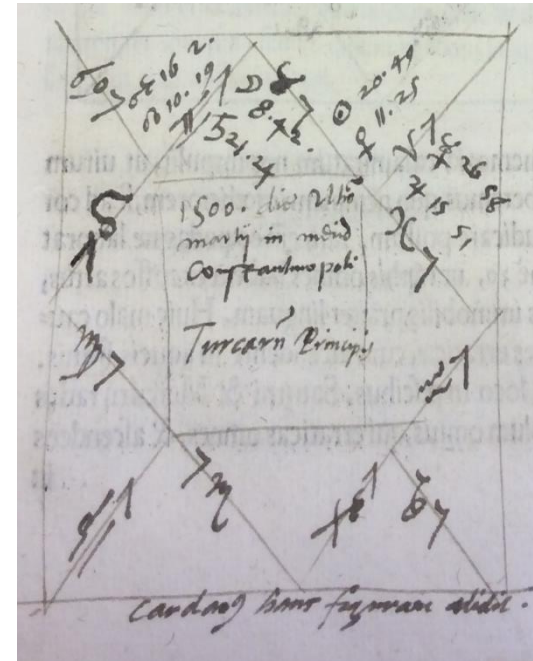
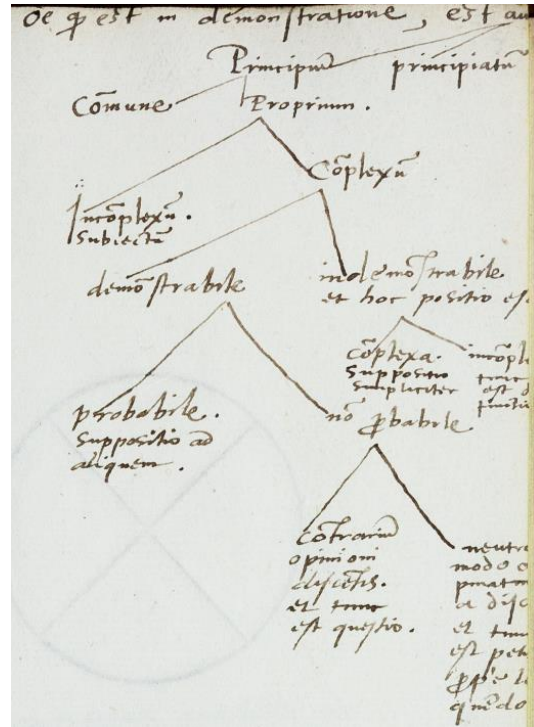
Origo  
Hyberni-  
ensium.

Ost illum Guithelinus diadema regni suscepit  
quod omni vitae suae tempore benigne & mode-  
ste tractauit. erat ei nobilis mulier Martia nomi-  
ne: omnibus artibus erudita. hac inter multa & inaudita  
quae proprio ingenio inuenerat, inuenit legem quam Bri-  
tones Martianam vocauerunt. Hanc etiam rex Aluredus  
inter ceteras trāstulit quā Saxonica lingua Marthe helage  
vocaluit. At vt Guithelinus obiit cessit regni gubernaculū  
diatē reginae: & filio ipsius qui Sisillius vocabatur. Erat tūc  
Sisillius septem annorum cuius nondum aetas expetebat:  
vt regni moderationi praeferreretur. Quare mater cōsilio &  
sensu pollēs totius insule imperium obtinuit: quae cum ab  
hac luce migrasset Sisillius sumpto diademate regni gua-  
bernaculo potitus est. Post ipsū Kimarus eius filius regnū  
obtineuit. Cui successit Elam? eiusdē frater: quo defuncto isū  
gnitus est Morindus quē ex Tāguetela cōcubina genuerat  
Hic nimia pbitate famosissimus esset nisi immoderate cru-  
delitati indulgisset: nemini namq; poebat iratus quin itera-

Lex Mar-  
tiana.

Marchenleage.

Lynvarchus





# AOR DEMO

1519. die 21 Februarij,  
hora 3. mi. 46. à  
meridie.

Cor coeli 13 8.

addo hor. 4 m 22.  
igitur R. ip. hor. 5. m 53.  
Reuolutio uigesima secūda  
incipiens.

Signa mortis  
clara.

8 apparet loco  
et ad in  
8a et ot  
D° apparet  
loco 8 radi  
cis. 8

8 cadit 8  
loco 8 radi  
cis 8 domi  
7 et 8 loci  
radiis orar.  
et ad exad  
in emdom  
8° sub uera

ot ipi per  
apud  
8° radio ex  
Signo hirma  
no, et clava  
4/5 loco  
ad du9 octadi

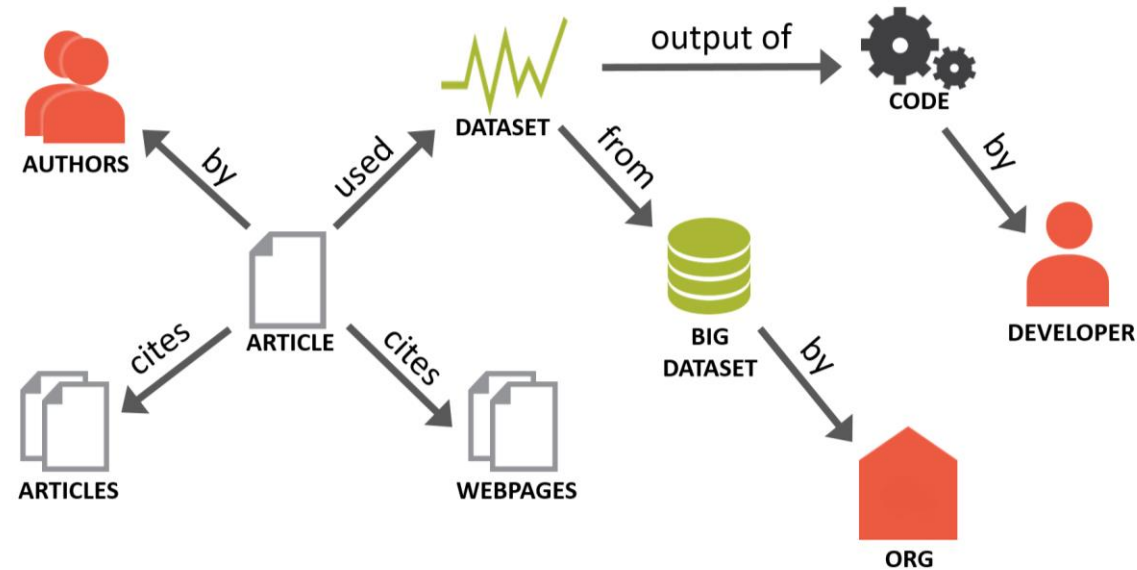


# Task 1: AOR Viewer

- Open a random book and try the a) basic search and b) advanced search. How do these functionalities work?
- Explore the different buttons in the AOR viewer. Do you like the interface? Why (not)?
- Open Titus Livius, *Romanae historiae principis*, and search for ‘infra’. Navigate to the first search result (p. 446) and try working with the clickable links in the annotation panel. What are your thoughts on this functionality?

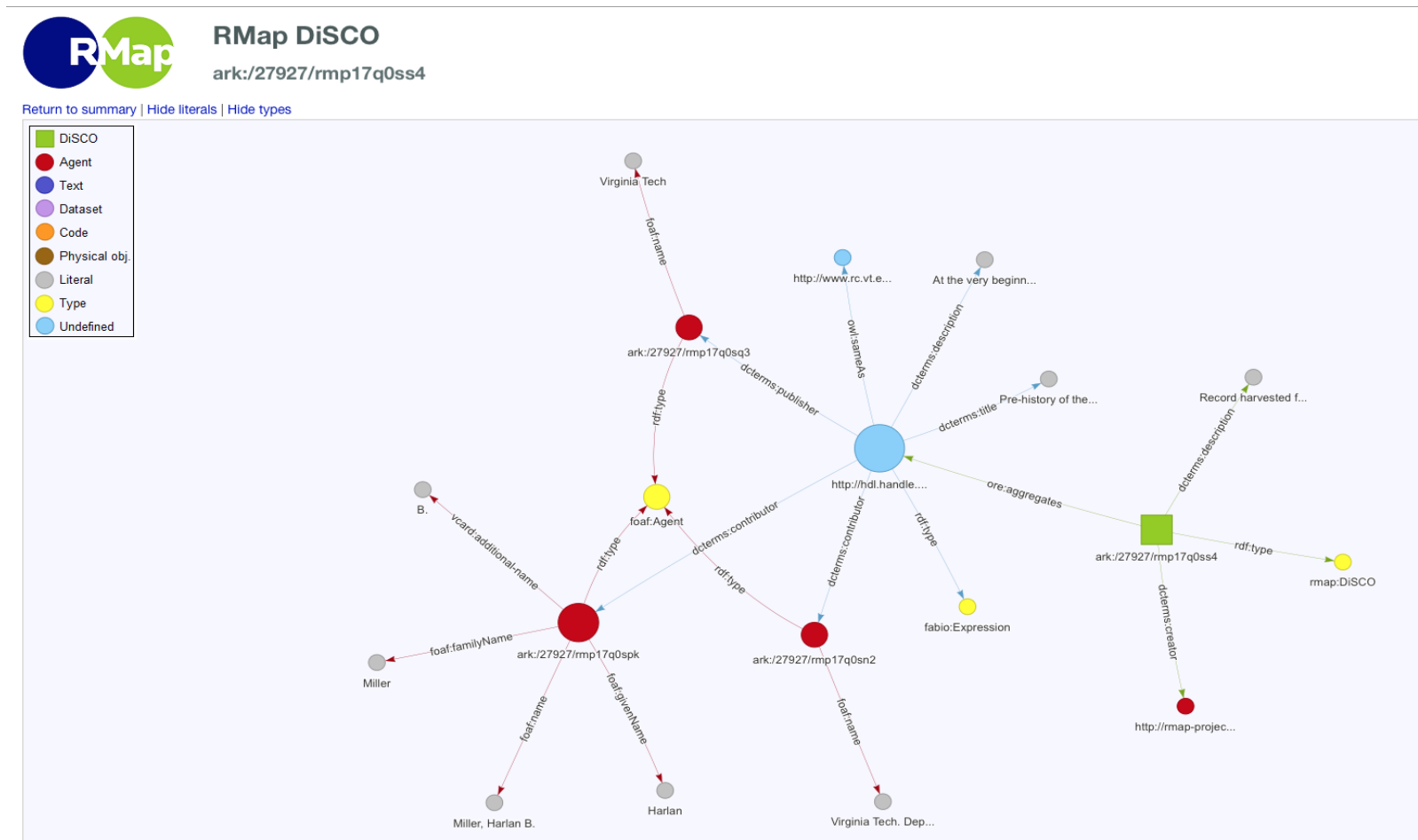


- RMap (resource map)
- <http://rmap-project.info/>
- Preserving and visualizing links between complex relationships among scholarly publications and their underlying data



Source: [http://rmap-project.info/rmap/wp-content/uploads/RMap\\_iPres\\_20161005.pptx](http://rmap-project.info/rmap/wp-content/uploads/RMap_iPres_20161005.pptx)

- DiSCO: Distributed Scholarly Compound Object
- [RMap examples](#)



## Part II: comparing digital collections

### 1) [DARIAH-DE Collection Registry](#)

- Free tool to describe and link to collections (NB: the actual data of collection is not included)
- Broad definition of collections
- Provide searchable overview of collections that are or will be made publicly available



# Task 2: DARIAH Collection Registry

Try to accomplish one (or more) of the following actions while taking into account the following aspects of this repository:

- Graphical user interface (GUI)
- available metadata
- available functionalities

- 1) Find a *manuscript* (Handschriften) collection within the registry and navigate to it
- 2) How easy is it to find all the collection associated with a particular agent, say the famous *library in Wolfenbüttel*?
- 3) Find the *Leibniz-Institut für Europäische Geschichte* (IEG) in the network overview at the home page.



## 2) [EADH Catalogue of Digital Editions](#)

- European Association for Digital Humanities (EADH)
- Provide overview of digital editions and identify best practice in digital scholarly editing (e.g. rationale, methodologies)
- Comprises a searchable overview of digital editions and provides means to export the data in the catalogue



# Task 3: EADH Catalogue of Digital Editions

Try to accomplish one (or more) of the following actions while taking into account the following aspects of this repository:

- Graphical user interface (GUI)
- available metadata
- available functionalities

- 1) How easy is it to find all digital editions which comprise letters (from any period)? How would you go about finding these?
- 2) How easy is it to find *all the early modern digital editions in English* that are generated by *University College London* and that are *classified in the catalogue as an edition*?
- 3) Use the network and/or map functionality (in the ‘analyze the data’ menu) to find the *Universitätsbibliothek Frankfurt am Main*. How useful are these functionalities?

# Links

- AOR Website: <https://archaeologyofreading.org/>
- AOR Viewer: <https://archaeologyofreading.org/viewer/>
- DARIAH Collection Registry Homepage: <https://colreg.de.dariah.eu/colreg-ui/>
- DARIAH Collection Registry: <https://colreg.de.dariah.eu/colreg-ui/collections/>
- EADH Catalogue of Digital Editions Homepage: <https://eadh.org/projects/catalogue-digital-editions>
- EADH Catalogue of Digital Editions: <https://dig-ed-cat.acdh.oeaw.ac.at/browsing/editions/>

# Vielen Dank für Ihre Aufmerksamkeit

