Humanities and FAIR data

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4eu+ workshop series "Open for you! An introduction series to open science" - May 9, 2022

4EU+ Alliance and Open Science

- 4EU+ is a transnational strategic university association.
  - Aim: Strengthen the European vision of deepened cooperation and mutual enrichment in research and teaching
  - Open Science is an integral part of this.
  - Two 4EU+ projects currently work on Open Science.
  - Open for you – an Introduction Series to Open Science" – 14 session on OS topics!
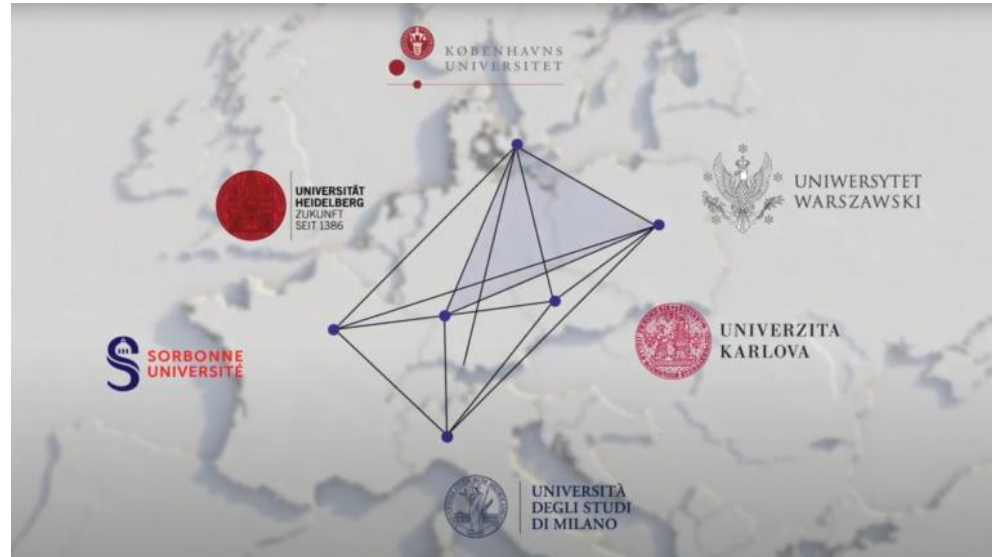
Overview

- Digital Humanities and research data
- Research data life cycle
- FAIR data in the Digital Humanities
- Selected tools and good practice examples

Overview

- **Digital Humanities and research data**
- Research data life cycle
- FAIR data in the Digital Humanities
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Digital humanities

Digital tools

Methods and practices

Transdisciplinary

Humanities

Computing

Images

Text editing

Many definitions…

https://whatisdigitalhumanities.com/

What Is Digital Humanities?

'Digital Humanities' is what happens when you bring together digital content, tools and and methods to address humanities research questions. *lorna hughes*

Digital humanities is a subset of humanities scholarship concerned with the historical and prospective influences of technology on human culture. *Nathan Kelber*

Using computers to see and model what happens when people express themselves and communicate. *Neven Jovanovic*

The exercise of defining digital humanities can often leave us with more questions, lingering theories and answers that allude to some aspect of the question but which inevitably lead to assertions that perhaps, digital humanities, is open to interpretation. Essentially, what it is or is not is based on "your" interpretation and perspective as either a practitioner, theorist or an observer. In its simplest guise, digital humanities (from my perspective) is the provision and development of technology for the humanities, which is itself focused on artifactual evidence to theorise and explore human culture, thought and society. *Sharon Webb*

The digital humanities is a name claimed by a community of those interested in digital methodologies and/or content in the humanities. *Rebecca Davis*

A strange question. The only winning move is not to answer. *Jeremy Boggs*

6

DH and research data

- DH projects reuse data:
  - Digital archives as data: text files extracted from a corpus of texts by OCR
  - Text mining
  - Digitized manuscripts transcriptions
  - Geospatial data
  - Oral history sounds files and transcripts
  - Archival metadata
- DH projects produce data:
  - Databases
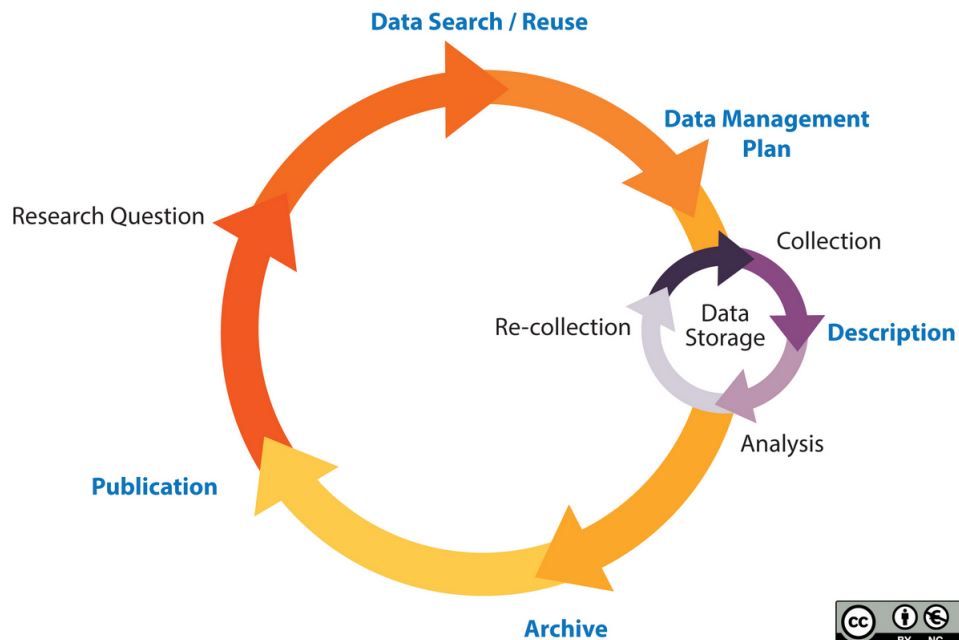 - Data visualization
  - Interactive maps
  - Timelines

Some examples of digital data in the humanities

Tabular data

Metadata

Structured text

Non-structured text

Image files

Digitized manuscripts

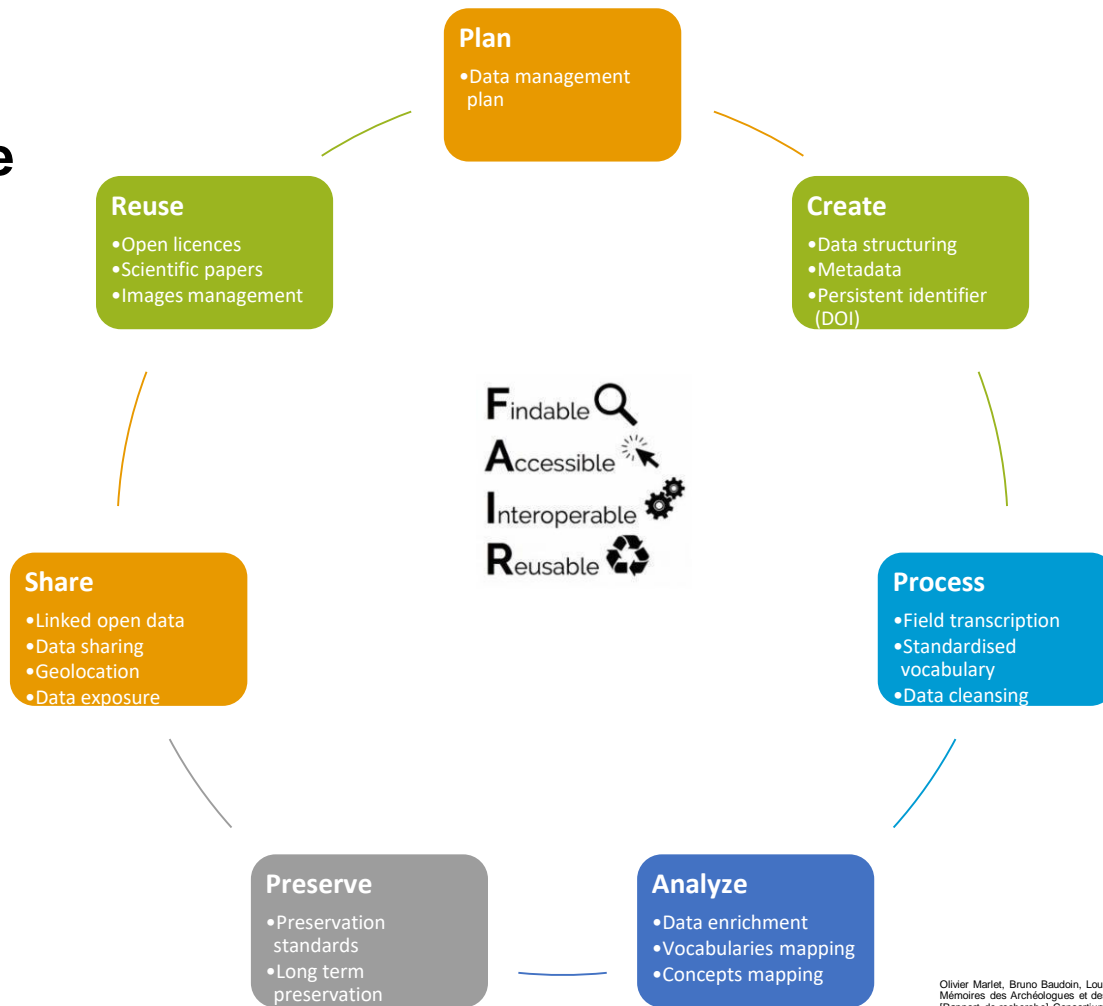**Relational database**

Sound files

Maps

Overview

- Digital Humanities and research data
- **Research data life cycle**
- FAIR data in the Digital Humanities
- Selected tools and good practice examples

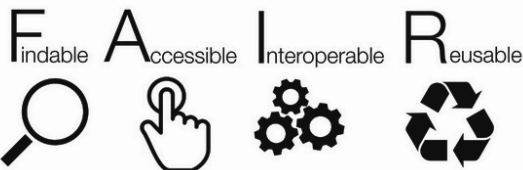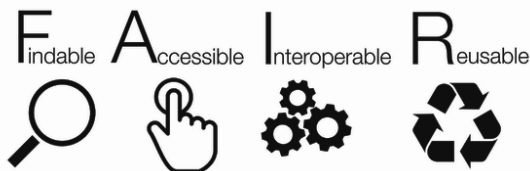# Data lifecycle

Data lifecycle
Example of Archaeology

Plan
- Data management plan

Create
- Data structuring
- Metadata
- Persistent identifier (DOI)

Reuse
- Open licences
- Scientific papers
- Images management

Findable
Accessible
Interoperable
Reusable

Process
- Field transcription
- Standardised vocabulary
- Data cleansing

Share
- Linked open data
- Data sharing
- Geolocation
- Data exposure

Preserve
- Preservation standards
- Long term preservation

Analyze
- Data enrichment
- Vocabularies mapping
- Concepts mapping

Olivier Marlet, Bruno Baudoin, Loup Bernard, Laure Bézard, Romain Boissat, et al.. Le Livre Blanc du consortium Mémoires des Archéologues et des Sites Archéologiques : Guide des bonnes pratiques numériques en archéologie. [Rapport de recherche] Consortium MASA. 2022. ⟨halshs-03561376⟩

Overview

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The

F indable A ccessible I nteroperable R eusable

principles

Detailed introduction:
Session "Research Data Management -
Introduction to FAIR and Open Data"
(Workshop series "Open for you! An
introduction series to open science",
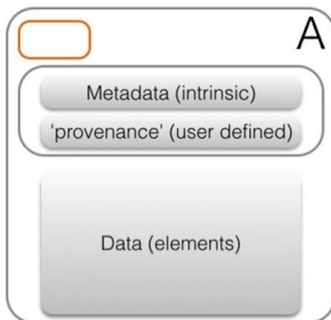March 7, 2022)

Literature: see Bibliography

FAIR logo: SangyaPundir. CC: BY-SA 4.0.

Image : ANDS. CC: BY 4,0,

Data as increasingly FAIR Digital Objects

Findable Accessible Interoperable Reusable

- is not a standard
- is not equal to RDF, Linked Data, or the Semantic Web
- is not only for humans
- is not equal to Open

Mons, Barend, et al. "Cloudy, Increasingly FAIR; Revisiting the FAIR Data Guiding Principles for the European Open Science Cloud." *Information Services & Use* 37, no. 1 (January 1, 2017): 49–56. https://doi.org/10.3233/ISU-170824.

Re-useless data (80%) — A
Metadata (intrinsic) / 'provenance' (user defined) / Data (elements)

Findable — B
PID / Metadata (intrinsic) / 'provenance' (user defined) / Data (elements)

FAIR metadata — C
PID / Metadata (intrinsic) / 'provenance' (user defined) / Data (elements)
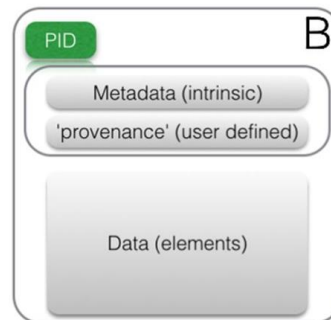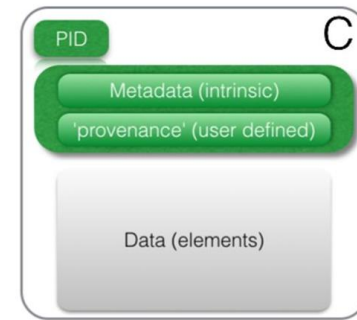
FAIR data-restricted access — D
PID / Metadata (intrinsic) / 'provenance' (user defined) / Data (elements)

FAIR data-Open Access — E
PID / Metadata (intrinsic) / 'provenance' (user defined) / Data (elements)

FAIR data-Open Access/Functionally Linked — F
PID / Metadata (intrinsic) / 'provenance' (user defined) / Data (elements)

Image: Mons, et al. 2017. https://doi.org/10.3233/ISU-170824
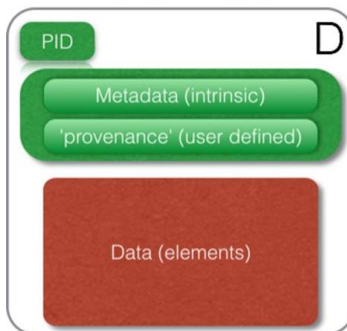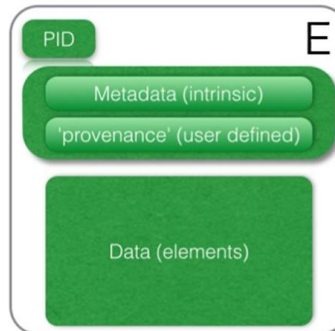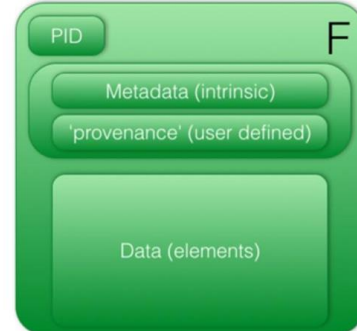
digitized object and its metadata

FAIR data-
Open Access/Functionally Linked

Management differences

FAIR metadata

Physical objects

Rustic Capital Writing: typed drafts and photos

Titre	Rustic Capital Writing: typed drafts and p
Auteur	Robert Marichal
Date de création	Inconnue
Licence	Creative Commons Attribution 4.0 Intern
Type	Autre
Descriptions	vue 17
Http://purl.org /dc/terms /publisher	VP
Http://purl.org /dc/terms/type	text ## image
Http://purl.org /dc/terms /identifier	PLATINUM_4MAR_10_2_5-19.6(532)

source: Marichal, Robert (2015) «Rustic Capital Writing: typed drafts and photos» [text ## image] NAKALA. https://doi.org/11280/1a32894f

A. Paléographie antique et médiévale

1. Évolution des écritures
    Écritures grecques et latines du 1er au 5e siècle
    Alphabet latin
    Nomenclature des écritures livresques
    β "baroque"
    "Onciale" épigraphique
    III ème - XIème siècles
    XI ème - XII ème siècles
    Pecia XII ème - XIV ème siècles
    XV ème siècle, Humanistique
    XVI ème siècle
2. Études et transcriptions, par lieux:
    2.1. Écritures romaines
        2.1.1. Ostie
        2.1.2. Rome
        2.1.3. Palatin
        2.1.4.
        Catacombes
        2.1.5.
        Herculanum
        2.1.6. Pompéi
    2.2. Afrique du Nord
3. Études et transcription, par support d'écriture
    3.1. Graffiti et dipinti
    3.2. Tablettes
    3.3. Amphores
    Autres inscriptions
    Papyri
4. Vocabulaire militaire
    Généralités
    Vocabulaire par ordre alphabétique.
    Écritures:
    Suisse
        Kaiseraugst
        Vindonissa

Source: Scappaticcio, *Per i testi latini.*

research data produced during project

Re-useless data (80%)

| | Copie de Marichal_20... | | Marichal_20160302.xl... | | Marichal_num_classm... | | plan-classement_Mari... |

| | PeriTestiLatiniMaricha... | | Marichal_num_classm... | | Marichal_num_classm... | | Marichal_20160220.xl... |

4eu+
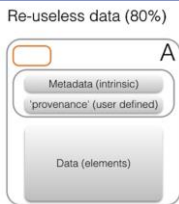
Evaluating FAIRness

assessment criteria for FAIRness:

- indicators and maturity levels
- set of guidelines and a checklist

RESEARCH DATA ALLIANCE

4.2 Indicators for Findable

RDA-F1-01M Metadata identified by a persistent identifier ●●● Essential

Principle to which the indicator relates	This indicator is linked to the following principle: *F1 (meta)data are assigned a globally unique and eternally persistent identifier*.
Description of the indicator RDA1-F1-01M	This indicator evaluates whether or not the metadata is identified by a persistent identifier. A persistent identifier ensures that the metadata will remain findable over time and reduces the risk of broken links.
Assessment details	The persistence of an identifier is determined by the commitment of the organisation that assigns and manages the identifier, so the evaluation of this indicator needs to take into account the persistence policy of that organisation. Such a commitment could be expressed by a university or research institute, by a research infrastructure or by an organisation that issues formal identifiers, such as the International DOI Foundation. A possible way to evaluate this indicator is to verify that the identifier used for the metadata is listed in a registry service like the RDA-endorsed FAIRsharing.[15]

RDA-F1-01D Data identified by a persistent identifier ●●● Essential

Principle to which the indicator relates	This indicator is linked to the following principle: *F1 (meta)data are assigned a globally unique and eternally persistent identifier*.
Description of the indicator RDA-F1-01D	This indicator evaluates whether or not the data is identified by a persistent identifier. A persistent identifier ensures that the data will remain findable over time and reduces the risk of broken links.
Assessment details	The persistence of an identifier is determined by the commitment of the organisation that assigns and manages the identifier, so the evaluation of this indicator needs to take into account the persistence policy of that organisation. Such a commitment could be expressed by a university or research institute, by a research infrastructure or by an organisation that issues formal identifiers, such as the International DOI Foundation. A possible way to evaluate this indicator is to verify that the identifier used for the data is listed in a registry service like the RDA-endorsed FAIRsharing.

How to make your own data FAIR

Before you begin to collect data:

- ❏ Identify/Contact a FAIR repository that will publish your data
    - ❏ Use **sustainable** file formats
    - ❏ Adopt to their **metadata** standards
   - ❏ Use controlled **vocabularies** wherever possible

While you collect data:

- ❏ Make sure all records fulfill "minimal requirements"
- ❏ Clarify/negotiate copyright/licensing of your data
- ❏ Re-evaluate your records over time

Before you publish the data:

- ❏ Describe your data set and provide metadata
- ❏ Double-check the **rights** to the data used
- ❏ Choose a **license** for reuse

Self assessment: FAIR Aware tool https://fairaware.dans.knaw.nl/

Collect

Process

Preserve

Publish

Reuse
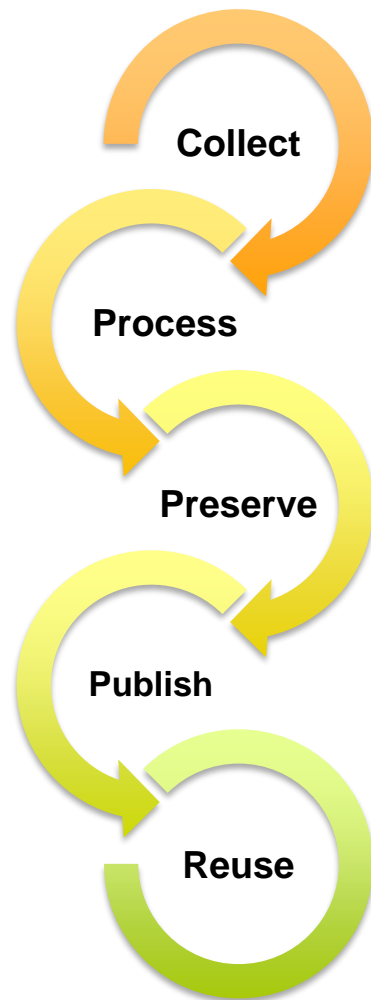
Implementation status of FAIR principles depends

- on the content
  - e.g. data privacy, copyright, ethical restrictions (CARE)
- on research subjects
  - sciences and life sciences may be more advanced
  - humanities can still improve
- on geographical regions
  - Europe and Northern America at different state compared to other world regions, e.g. Southern America or Asia
- on the activity of the researcher communities
  - nothing will change if nobody is interested

- improvement towards more FAIR data requires constant engagement by the researchers and the communities - YOU! (all of us!)

Study on FAIR data in Chinese studies

- FAIR data is still a rare exception
- requires a (paid) license to national infrastructure providers (e.g. CNKI) or institutional data providers
- even with paid access usually no API access possible
- publication of data for re-evaluation or re-use still deep in its infancy
- commercialisation and still small number of OA data repositories

Study by Arnold, Paterson and Xie, under review by IJDH
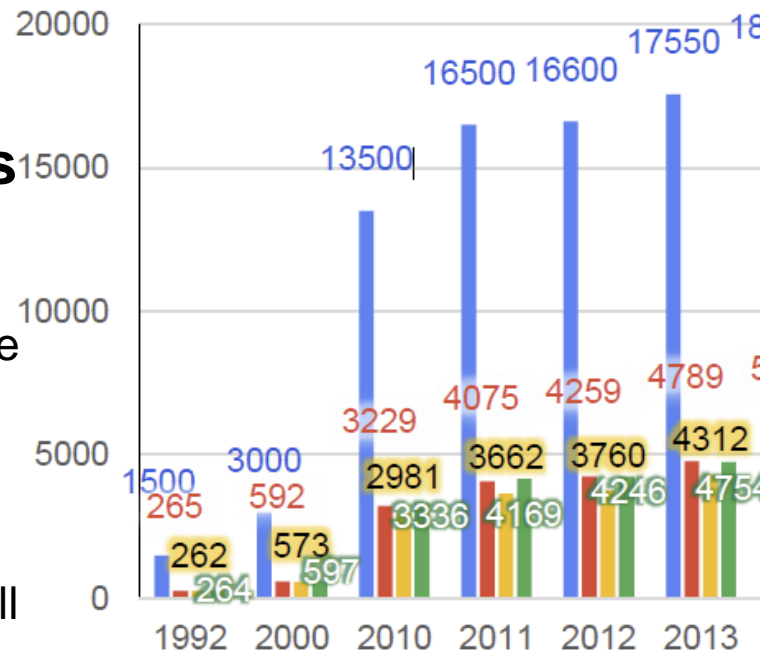
Chart legend:
- Direct China Non-overseas CN (2019)
- CrossAsia Overseas CN (2021)

Example: FAIR research data at Heidelberg University

- University "Research Data Policy"
    - addendum to Memorandum "Guidelines for Safeguarding Good Research Practice. Code of Conduct" (DFG 2019/22)

- Competence Centre for Research Data
    - a joint facility of the University Computing Centre and the University Library

- Services include
    - **consultation and advice** (tech and organisational, Data management plans)
    - **data management services**: share data, database platform, data storage, high performance computing
    - **publication platforms**: multimedia objects, research data, publication catalog

FAIR research data at Heidelberg University

heiDATA - research data publication

- for members of Heidelberg University: Institutes, research groups, individuals; lecture series, etc.
- for Specialised Information Services (Fachinformationsdienste, DFG)
  - arthistoricum.net (Art / Art History)
  - Propylaeum (Classics)
  - FID4SA (South Asia)

FAIR research data at Heidelberg University

Services and platforms embedded into heiRIS, the [Heidelberg Research Infrastructure](#)

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Linked open data?

Tim Berners-Lee has suggested a 5-star scheme for grading the quality of open data on the web, for which the highest ranking is Linked Open Data:

1 star: data is openly available in some format.

2 stars: data is available in a structured format, such as Microsoft Excel file format (.xls).

3 stars: data is available in a non-proprietary structured format, such as Comma-separated values (.csv).

4 stars: data follows W3C standards, like using RDF and employing URIs.

5 stars: all of the other, plus links to other Linked Open Data sources.

Linked Open Data - What is it? from Europeana on Vimeo (also en Français, auf Deutsch, in Italiano and en Español)

European infrastructures:
DARIAH

- A network to enhance and support digitally enabled research and teaching across the Arts and Humanities
- Transnational and transdisciplinary approaches
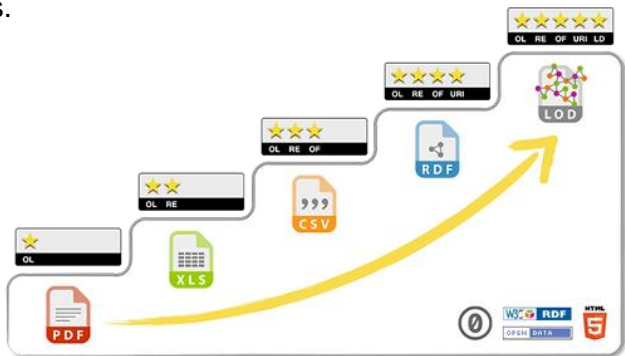
DARIAH-DE Repository

DARIAH-DE Repository

Vocabs

Vocabs Services

SSK/>

Standardization Survival Kit

DARIAHdocs

DARIAH docs

isidore

Isidore

ColReg
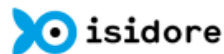
Collection Registry

DARIAH WIKI

CodiMD

Generic Search

Generic Search

TaDiRAH – Taxonomy of Digital Research Activities in the Humanities

DARIAH AAI

DARIAH AAI

CLARIN

European infrastructures:
CLARIN

- Create and maintain an **infrastructure to support the sharing, use and sustainability of language data and tools** for research in the humanities and social sciences
- Tools to discover, explore, exploit, annotate, analyse or combine datasets:
  - **Language Resource Switchboard**
- Access to digital language data:
  - **Virtual Language Observatory**

Services

CLARIN Portal
Get an example-based impression of what is currently available

Depositing Services
Store language resources in a sustainable repository at a CLARIN centre

Virtual Language Observatory
Discover language resources using a faceted browser or a map

Easy Access to Protected Resources
Get easy access to protected resources, with your institutional username and password

Language Resource Switchboard
Explore and analyse language data with a wide variety of tools

Virtual Collections
Create your own digital bookmarks, ideal for citing data sets

Language Resource Inventory
Submit and access information about language resources relevant to your research

Content Search
Search different corpora with a single search engine

Questions & Answers
Searching for a specific data set or application? Wondering how CLARIN can assist your research? Feel free to contact us!

European infrastructures:
OPERAS

- **Make Open Science a reality** for research in the SSH

    - Provide **joint services**;
    - **Mutualize activities of strategic scholarly communication** actors and stakeholders in their transition to open science;
    - **Develop common good practice standards** for digital open access publishing, infrastructures, services, editorial qualities, business models and funding streams;
    - **Explore alternative measurements of impact** in the SSH;
    - **Offer sustained training along common standards** to researchers and other stakeholders on all of the above

Zenodo

- **a general-purpose open repository**
- developed within European OpenAIRE program, operated by CERN
- each submission is assigned a persistent _digital object identifier_ (DOI) for easy citation

- to make sure, your uploads are associated with YOU, get your own _Open Researcher and Contributor ID_ (ORCID)

  find us:
  - https://orcid.org/0000-0002-1839-3530
  - https://orcid.org/0000-0003-0876-6177
  - https://orcid.org/0000-0003-4864-3358

French infrastructure: Huma-Num

Gérer mes services Huma-Num

French infrastructure: Huma-Num
A set of services

- Search engine for humanities
- Cloud
- Data repository
- Markdown editor
- Version control tool
- Chat service
- Project management tool
- …

isidore

Votre assistant de recherche en Sciences Humaines et Sociales

accéder

ShareDocs

Plateforme de stockage et de partage de fichiers (Web et clients WebDAV)

accéder

nakala

Partager, publier et valoriser vos données scientifiques

accéder

Stylo

Un éditeur de texte simplifiant la rédaction et l'édition d'articles scientifiques en SHS

accéder

GitLab

Plateforme de forge basé sur git

accéder

Mattermost

Service de discussion d'équipes

Demander l'accès

matomo

Analyse d'audience de sites Webs

Demander l'accès

URL

Réduire et pérenniser vos URL

accéder

KB

Kanboard, Outil de gestion de projet

Demander l'accès

French infrastructure: Huma-Num
Storage and sharing [Nakala repository](#)

- Data repository for humanities
- Assignation of a PID
- Permanent data access
- Metadata standards for humanities
- Dedicated search engine

The German National Research Data Infrastructure (NFDI)

Aims: to systematically manage scientific and research data, provide long-term data storage, backup and accessibility (FAIR), and network the data both nationally and internationally

- Will implement a distributed, networked infrastructure for data producers and users
- Service portfolios organized along technical-thematic domains
- Provides advice, consultation and guidance for RDM
- Currently 19 (of up to 30) national consortia funded
  - comprising all science, life sciences, and humanities
  - 2 humanities consortia (so far):
    - NFDI4Culture
    - Text+
- 3rd round ongoing, decision by the Joint Science Conference (GWK) in November 2022
  - applications include 2 humanities consortia

COMMUNITIES
Archaeology, Archaeometry, Archaeological Sciences, Anthropology, Ancient Architecture, Cultural Heritage Studies, Conservation Science

COMMUNITIES
History, Economic and Social History, Area Studies, Religious Studies, Historical Philosophy, Memory Institutions

COMMUNITIES
Language- and text-based disciplines, esp. General Linguistics, Modern Languages, Literary Studies, Philosophy, Classical Philology, Anthropology, non-European Cultures and Languages

COMMUNITIES
Architecture, Art History, Musicology, Theater, Dance and Media Studies

NFDI4Culture

Consortium for Research Data on
Material and Immaterial Cultural Heritage

- tangible and intangible cultural assets
- community of interest:
  from architecture, art history and
  musicology to theatre, dance, film and
  media studies
- 9 Co-Applicants* - 56 Participants
- Task Areas cover whole research data
  lifecycle

https://nfdi4culture.de/

CnFdI
nationale
Forschungsdaten
Infrastruktur
for CULTURE
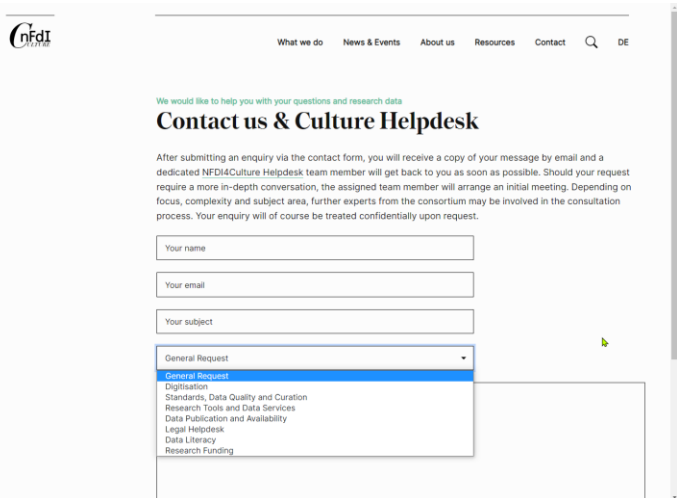
NFDI4Culture

Orchestrated Infrastructure

Culture Information Portal
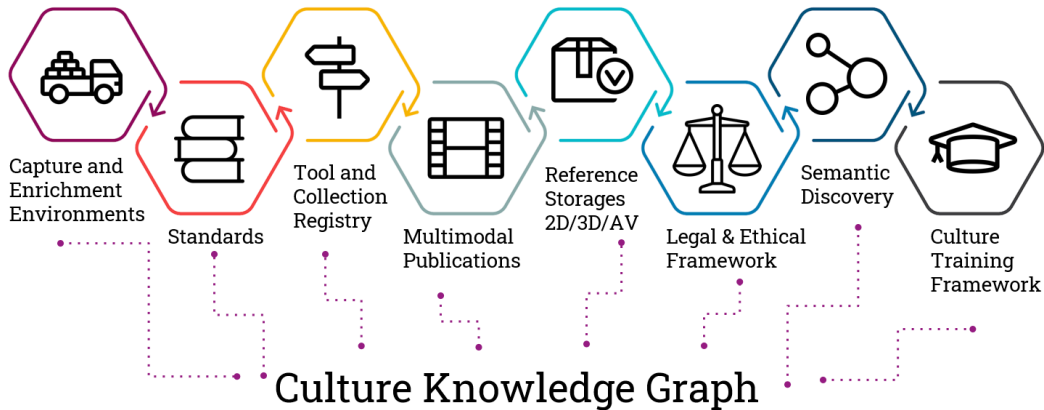
Capture and Enrichment Environments

Standards

Tool and Collection Registry

Multimodal Publications

Reference Storages 2D/3D/AV

Legal & Ethical Framework

Semantic Discovery

Culture Training Framework

Culture Knowledge Graph

https://nfdi4culture.de/

nFdI nationale Forschungsdaten Infrastruktur for CULTURE

NFDI4Culture

Contact us & Culture Helpdesk

After submitting an enquiry via the contact form, you will receive a copy of your message by email and a dedicated NFDI4Culture Helpdesk team member will get back to you as soon as possible. Should your request require a more in-depth conversation, the assigned team member will arrange an initial meeting. Depending on focus, complexity and subject area, further experts from the consortium may be involved in the consultation process. Your enquiry will of course be treated confidentially upon request.

Your name

Your email

Your subject

General Request ▾

General Request
Digitisation
Standards, Data Quality and Curation
Research Tools and Data Services
Data Publication and Availability
Legal Helpdesk
Data Literacy
Research Funding
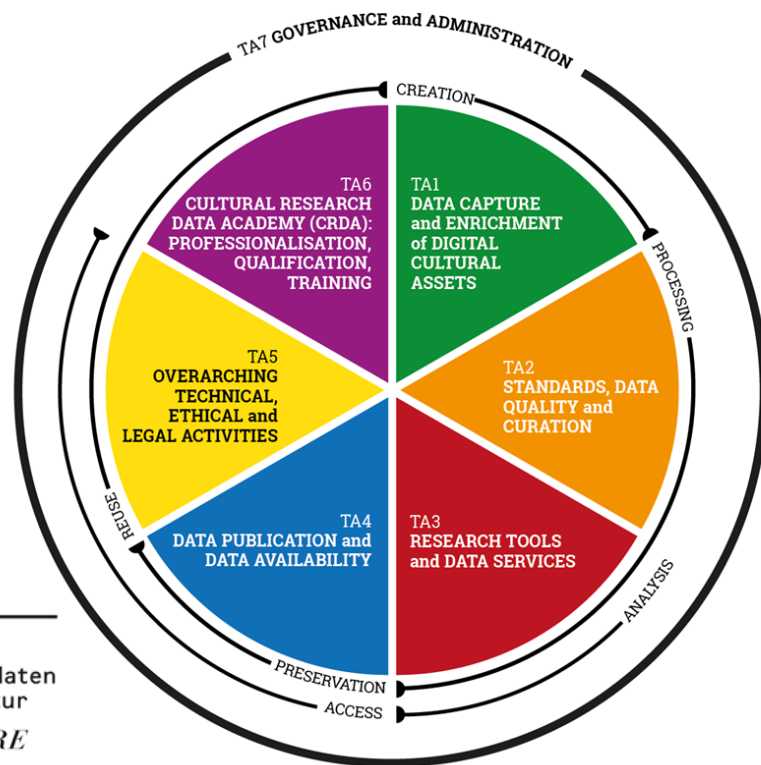
A controlled language: CIDOC Conceptual Reference Model (CRM)

- The "CIDOC object-oriented Conceptual Reference Model" (CRM), was developed by the ICOM/CIDOC Documentation Standards Group.
- Since September 2000, the CIDOC CRM is being developed into an ISO standard in a joined effort of the CIDOC CRM SIG and ISO/TC46/SC4/WG9. Since September 2006 it has been accepted as ISO 21127.

FRBR$_{oo}$
Functional Requirements for Bibliographic Records

PRESS$_{oo}$
Modeling of bibliographic information

CRM$_{inf}$
Argumentation model

CRM$_{archaeo}$
Excavation model

CRM$_{sci}$
Scientific observation model

CRM$_{geo}$
Spatiotemporal model

CRM$_{dig}$
Model for provenance metadata

CRM$_{ba}$
Model for Archaeological Buildings

CRM$_{tex}$
Model for the study of ancient texts

CRM$_{soc}$
Model for Social Phenomena

CRM$_{act}$
Model for Activity Plan

WissKI – A Scientific Communication Infrastructure

- Semantic virtual research environment
  - Based on open source CMS Drupal, compatible to **CIDOC CRM**
  - Implements the FAIR-principles
  - modular system, form-based online editing, authority support
  - ideal for Linked Open Data; REST API, SPARQL endpoint
  - **Pathbuilder** – graphical interface for RDF structures
  - Strong community, supported by NFDI4Culture
    - core development GNM Nürnberg
    - arthistoricum.net and Heidelberg University Library and many more

https://wiss-ki.eu/   WissKI Community

WissKI Semantic data modelling

Object

Inventory number: *

Collection:

Title:

Creation

Artist:
Albrecht Dürer

Date:

Place:
Nürnberg

Mat./Tech,:

Inscription:

Iconography:

Literature:

Images:

„Albrecht Dürer"
→ P3 has note →
E82 Actor Appellation
→ P131 is identified by →
E21 Person
→ P14 carried out by →

E84 Information Carrier → P108i was produced by → E12 Production

→ P7 took place at →
E53 Place
→ P87 is identified by →
E48 Place Name
→ P3 has note →

„Nürnberg"

⊹ Object	Group [ecrm:E84_Information_Carrier]	☑	edit delete
⊹ Inventory number	ecrm:E84_Information_Carrier -> ecrm:P1_is_identified_by -> ecrm:E42_Identifier	☑	edit delete
⊹ Collection	ecrm:E84_Information_Carrier -> ecrm:P50_has_current_keeper -> ecrm:E40_Legal_Body -> ecrm:P1_is_identified_by -> ecrm:E82_Actor_Appellation	☑	edit delete
⊹ Label	ecrm:E84_Information_Carrier -> ecrm:P1_is_identified_by -> ecrm:E41_Appellation	☐	edit delete
⊹ Title	ecrm:E84_Information_Carrier -> ecrm:P1_is_identified_by -> ecrm:E35_Title	☑	edit delete
⊹ Dimensions	ecrm:E84_Information_Carrier -> ecrm:P39i_was_measured_by -> ecrm:E16_Measurement -> ecrm:P40_observed_dimension -> ecrm:E54_Dimension	☑	edit delete
⊹ Creation	Group [ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production]	☑	edit delete
⊹ Artist	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P14_carried_out_by -> ecrm:E21_Person -> ecrm:P131_is_identified_by -> ecrm:E82_Actor_Appellation	☑	edit delete
⊹ Date	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P4_has_time-span -> ecrm:E52_Time-Span	☑	edit delete
⊹ Place	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P7_took_place_at -> ecrm:E53_Place -> ecrm:P1_is_identified_by -> ecrm:E48_Place_Name	☑	edit delete
⊹ Material	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P32_used_general_technique -> ecrm:E57_Material -> ecrm:P1_is_identified_by -> ecrm:E75_Conceptual_Object_Appellation	☐	edit delete
⊹ Mat./Tech,	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P33_used_specific_technique -> ecrm:E29_Design_or_Procedure -> ecrm:P1_is_identified_by -> ecrm:E75_Conceptual_Object_Appellation	☑	edit delete
⊹ Inscription	ecrm:E84_Information_Carrier -> ecrm:P128_carries -> ecrm:E34_Inscription	☑	edit delete

WissKI Pathbuilder

Object	Group [ecrm:E84_Information_Carrier]	☑	edit delete
Inventory number	ecrm:E84_Information_Carrier -> ecrm:P1_is_identified_by -> ecrm:E42_Identifier	☑	edit delete
Collection	ecrm:E84_Information_Carrier -> ecrm:P50_has_current_keeper -> ecrm:E40_Legal_Body -> ecrm:P1_is_identified_by -> ecrm:E82_Actor_Appellation	☑	edit delete
Label	ecrm:E84_Information_Carrier -> ecrm:P1_is_identified_by -> ecrm:E41_Appellation	☐	edit delete
Title	ecrm:E84_Information_Carrier -> ecrm:P1_is_identified_by -> ecrm:E35_Title	☑	edit delete
Dimensions	ecrm:E84_Information_Carrier -> ecrm:P39i_was_measured_by -> ecrm:E16_Measurement -> ecrm:P40_observed_dimension -> ecrm:E54_Dimension	☑	edit delete
Creation	Group [ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production]	☑	edit delete
Artist	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P14_carried_out_by -> ecrm:E21_Person -> ecrm:P131_is_identified_by -> ecrm:E82_Actor_Appellation	☑	edit delete
Date	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P4_has_time-span -> ecrm:E52_Time-Span	☑	edit delete
Place	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P7_took_place_at -> ecrm:E53_Place -> ecrm:P1_is_identified_by -> ecrm:E48_Place_Name	☑	edit delete
Material	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P32_used_general_technique -> ecrm:E57_Material -> ecrm:P1_is_identified_by -> ecrm:E75_Conceptual_Object_Appellation	☐	edit delete
Mat./Tech,	ecrm:E84_Information_Carrier -> ecrm:P108i_was_produced_by -> ecrm:E12_Production -> ecrm:P33_used_specific_technique -> ecrm:E29_Design_or_Procedure -> ecrm:P1_is_identified_by -> ecrm:E75_Conceptual_Object_Appellation	☑	edit delete
Inscription	ecrm:E84_Information_Carrier -> ecrm:P128_carries -> ecrm:E34_Inscription	☑	edit delete

die Aebtissin Kniphof, 1759

Distorsio anus (Linnaeus, 1758)

Previous Object
Schlundkopf Kniphof, 1759; Pharynx Kniphof, 1759

Following Object
der kleine gelbe Mund Kniphof, 1759

Akzeptierte Speciesdefinition
Distorsio anus (Linnaeus, 1758)

Bezeichnung(en) in der Sammlung
die Aebtissin Kniphof, 1759
Cassis muricata gibbosa Klein, 1753
die bucklichte Purpur=Schnecke Lesser, 1744
Murex Anus Linnaeus, 1758
Purpura curvirostra, gibbosa, rictu auriculato, ore utrinque dentato, striis
raris, papillosis cancellata, albida, colore rufo maculata Gualtieri, 1742
Buccinum distorsio, columella, et labro striatis Dezallier d'Argenville, 1757
Buccin la grimace, dont la bouche et le fût sont garnie de dents Dezallier
d'Argenville, 1757

Besitzende Institution
Bibliothek Leopoldina

Seitennummer
370

Layout ändern   Vollbild

die Aebtissin Kniphof, 1759

Zuweisung des akzeptierten Speziestaxons
Distorsio anus (Linnaeus, 1758)
AphiaID
217011
Marine Species URL
http://www.marinespecies.org/aphia.php?p=taxdetails&id=217011
PaleoID
107060
PaleobioDB URL
https://paleobiodb.org/classic/basicTaxonInfo?taxon_no=107060
Lebensraum
marine
Ausgestorben
extinct
Taxonomy
Kingdom: Phylum: Class: Order: Family: Genus:
Animalia → Mollusca → Gastropoda → Littorinimorpha → Personidae → Distorsio →
Species:
Distorsio anus
Frühestes erdgeschichtliches Vorkommen
Pliocene
Spätestes erdgeschichtliches Vorkommen
Pliocene
Mobility
actively mobile
Composition
aragonite
Life Habit
epifaunal
Diet
carnivore
Vision
limited
Connected Object(s)
die Aebtissin Kniphof, 1759
Murex anus Linnaeus, 1758

Vorkommen
New Caledonian Exclusive Economic Zone, Chagos, Mascarene Basin, Tanzania, Aldabra,
Natal, Mauritius, Mozambican Exclusive Economic Zone, Red Sea
Karte des weltweiten Vorkommens

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Project example: archaeology

OpenArchaeo: Semantic web platform for archaeological data

- Implementation of an archaeological data model
- Interoperable datasets by following the precepts of the Five Stars Linked Open Data and the FAIR principles
- Paper: Marlet Olivier, Francart Thomas, Markhoff Béatrice et Rodier Xavier - OpenArchaeo for Usable Semantic Interoperability, in : Poggi Antonella - Proceedings of First International Workshop on Open Data and Ontologies for Cultural Heritage (ODOCH) co-located with the 31st International Conference on Advanced Information Systems Engineering (CAiSE 2019), Rome, Italy, June 3, 2019, Sapienza University of Rome, Rome, 2019. Online : http://ceur-ws.org/Vol-2375/paper1.pdf

Project example: linguistic resources

LiLa: Linking Latin

Knowledge Base of Linguistic Resources for Latin

FAIR principles

- **Findable**: resources and metadata have an URI
- **Accessible**: HTTP communication protocol, SPARQL and RDF query language
- **Interoperable**: standard ontologies and vocabularies, for example Linguistic Linked Open Data
- **Reusable**: CC BY-SA License for metadata ; GNU Licence for software

A challenge for research: preserving data

- « For papers where the authors gave the status of their data, the odds of a data set being extant fell by 17% per year. In addition, the odds that we could find a working e-mail address for the first, last, or corresponding author fell by 7% per year. »

  - Vines TH, Albert AYK, Andrew RL, Débarre F, Bock DG, Franklin MT, et al. The Availability of Research Data Declines Rapidly with Article Age. Current Biology. 6 janv 2014;24(1):94-7.

F**indable** A**ccessible** I**nteroperable** R**eusable**
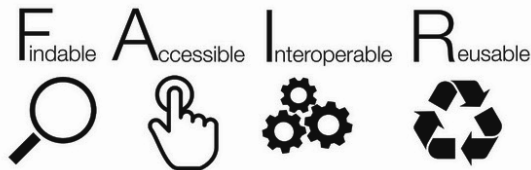
Wrap up

FAIR data does not come naturally - not only in the humanities

- provide your research outcome as FAIR (and open) as possible
  - not "just" as papers/theses/books
  - publish *interpreted* and *raw* data in open research data repositories
  - assign free licenses (e.g. CC-BY)
  - use international meta/data standards (e.g. TEI or CIDOC) to encode your data
- link your (meta)data to authorities
  - e.g. VIAF or Wikidata or LOC SH, or national/community specific authorities
  - this will help others to understand your data (better)
  - this will make your data re-usable and sustainable
  - this will increase the visibility of your research output
- engage in your communities, collaborate -
  and be FAIR

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Thank you!

Cécile Arènes
Océane Valencia
Matthias Arnold

Open for you! An introduction series to open science - May 9, 2022