Metadata as Semantic Palimpsests
The case of PHAIDRA@unipd

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Table of Contents

PHAIDRA@unipd, its identity card and cultural heritage objects

The foundational data model of Phaidra and the urge for a critical analysis

The PHAIDRA_Dublin Core Profile (and the PHAIDRA_MODS Profile)

Interoperability and interlinking in evolutionary terms: ongoing activities

Towards an open ending: from a proto-formal ontology to a formal ontology for Phaidra
Originally the term referred to a type of medieval manuscript in which new text was written over previous text that had been partly erased.

Latin *palimpsēstu(m)*, from Greek *palímpsēstos* scraped again, from *pálin* + *psân* to rub, scrape.
In the context of this presentation, palimpsest is the metaphorical key to a conceptual model of a data schema (place) meant as a multilayered structure which emphasizes the coexistence of multiple data models (and visions)
PHAIDRA@unipd, Identity card

PHAIDRA stands for Permanent Hosting, Archiving and Indexing of Digital Resources and Assets

It is the platform of the University Library System of Padova for the long-term archiving of digital objects and collections

Designed and developed by the University of Vienna beginning in 2008 based on the digital architecture of the Fedora open source system, Phaidra was adopted by the University of Padova in 2010

https://phaidra.cab.unipd.it/
Phaidra currently hosts a vast range of over 390,000 digital objects including antiquarian books, manuscripts, photographs, wall charts, maps, learning objects, films, archival material and museum objects, informing the heterogeneous richness of the University’s digital collections of cultural heritage.
Birth of Phaidra in Vienna

2008

Partnership Padova-Vienna

2010

Collections in Europeana

2012-2013

Ca' Foscari joins Phaidra

2014

IUAV joins Phaidra

2016

Phaidra joins COAR
PHAIDRA@unipd,
Discrete features

data heterogeneity in terms of kind of data content as well as of data provenance coming from departments and research centres, archives and museums as well as from libraries’ digitisation projects

data aggregation by acting as an attraction for other cultural heritage institutions of the region, PHAIDRA@unipd has a function of institutional

data aggregator, that is an organisation that collects and aggregates, creates and administers metadata from multiple content providers, serving as

data service through its Portal and Web-API, as well as data provider by exposing data through the OAI-PMH Protocol
The expansion of this aggregative and meta-aggregative function of heterogeneous metadata from similarly heterogeneous origins has raised the urgent need for a critical analysis of the foundational data model of Phaidra, both from the point of view of its mapping and conversion into the Dublin Core metadata scheme (Dublin Core Metadata Element Set 1.1) aimed at its publication in the OAI-PMH Phaidra data provider, as well as the visualisation and presentation of data in the Phaidra web interface.
The crucial issue was how to model, expose, and visualise data heterogeneity without losing the intrinsic richness of data sources making heterogeneity interoperable preserving and exploiting metadata quality and display
PHAIDRA@unipd,
**UWmetadata data model**

Universität Wien metadata, abridged to UWmetadata, is the foundational data model of Phaidra.

It informs the design of Phaidra metadata, both in terms of representation of the values as well as the description of the contents.

It is an example of application profile being the result of the expansion of the IEEE Learning Object Metadata (LOM) standard (IEEE 1484.12.1 – 2002) and the combination of elements of different metadata namespaces.

LOM schema is a data model used to describe learning objects or digital resources for educational purposes such as learning supports.
Overview of LOM draft 6.4
The numbers in parenthesis show the multiplicity of the element.
Numbers greater than 1 indicate the smallest permitted maximum of entries an implementation must allow. This mind map was prepared by Thomas Herrmann, Telebach GmbH, Germany. Please send any comments to telebach.de
UWmetadata extends the LOM schema with further additional top level categories aiming to represent primary data stored in Phaidra (Contextual allegation and Provenience respectively), digital books (Digital book), and electronic thesis (eThesis, not implemented at PHAIDRA@unipd.it)

| UWmetadata       | Explanation                                                                 |
|------------------|-----------------------------------------------------------------------------|
| Contextual allegation | This category defines the physical description of primary data             |
| Provenience      | This category defines the provenance of primary data                        |
| Digital Book     | This category describes the bibliographic information of digital books     |
UWmetadata structures the metadata in accordance with a hierarchy of elements defined in nine top-level categories, containing groups of attributes in a tree structure.
Aimed to establish an inter-schema correspondence of elements, the syntax and semantics of the two schemas involved, adopting a relative translation mode, namely trying to map each source element into at least one of the target elements, in order to avoid as much as possible any loss of information recorded in the source schema.

Es.: Title → many-to-one:
Title → many-to-one:

```xml
<ns1:general>
  <ns1:title language="en">Title</ns1:title>
  <ns2:subtitle language="en">Subtitle</ns2:subtitle>
  <ns2:alt_title language="fre">Alternative title</ns2:alt_title>
</ns1:general>

<dc:title xml:lang="en">ns1:title. ns2:subtitle</dc:title>

Alternative title
<dcterms:alternative>ns2:alt_title</dcterms:alternative>

<mods:titleInfo type="alternative" displayLabel="">
  <mods:title>ns2:alt_title</mods:title>
</mods:titleInfo>
```
La fauna liasica di Vedana (Belluno). Pt. 1, Brachiopodi

Description
Description of the liassic fauna with brachiopods, lamellibranchs and crinoids (limestone with Entrochus), with determination of the various genera, in a limestone of the Cima di Vedana (Sospirolo).
UWmetadata2Dublin Core,
Working with entities: Actors

The authorial entity → *Person, Institution* has been defined from the point of view of the intellectual level of contribution in the creation of Phaidra CHO → *Creator, Contributor*, and role → *Phaidra Roles Vocabulary*, as well as from that of the mode and form of data value recorded in the source elements.

In the context of PHAIDRA_DC profile, the elements *Creator, Contributor* define entities who are responsible for making or for making contributions to the resource, both born-digital and digitised.

By the updated version 1.1 2018, the UWmetadata actor elements embedded also specific subelements to host the international standards codes for author identification such as from ORCID, VIAF, ISNI, LCNAF... etc.
UWmetadata2Dublin Core,
Working with entities: Actors

<ns1:lifecycle>
  <ns1:contribute seq="0">
    <ns1:role>1552095</ns1:role>
    <ns1:entity seq="0">
      <ns3:firstname>Otto</ns3:firstname>
      <ns3:lastname>van Veen</ns3:lastname>
      <ns3:type>person</ns3:type>
    </ns1:entity>
  </ns1:contribute>
</ns1:lifecycle>

Phaidra Roles
Vocabulary → Author

Phaidra entity
Type → Person

<dc:creator>van Veen, Otto</dc:creator>

People
van Veen, Otto (Author)
People
Lastname, Firstname (Role)
van Veen, Otto (Author)
Bol, Cornelis (Engraver)
People
Institution (Role)
Germania : Wehrmacht : Propaganda Staffel (Author)
Biblioteca dell’Orto Botanico di Padova (Former owner)
# UWmetadata2Dublin Core, Working with entities: Actors

| UWmetadata | Dublin Core | Label | Visualised as | Comments |
|------------|-------------|-------|---------------|----------|
| LifeCycle  |             |       |               |          |
| Role       | dc:creator  | People| Surname, Name (Role) | dc:creator IF role ISA Author dc:publisher IF role ISA Publisher dc:contributor IF role ISA role different from Author or Publisher |
| Person, Institution | dc:contributor | Publisher | Institution (Role) | dc:contributor IF role ISA Author |
| Provenience \*discouraged\* |             |       |               |          |
| Role       | dc:creator  | People| Surname, Name (Role) | dc:creator IF role ISA Author dc:publisher IF role ISA Publisher dc:contributor IF role ISA role different from Author or Publisher |
| Person, Institution | dc:contributor | Publisher | Institution (Role) | dc:contributor IF role ISA Author |

**Digital Book → Bibliographic Data in PHAIDRA@unipd.it**

| Publisher | dc:publisher | Publisher | |
|-----------|--------------|-----------|---|
In the context of PHAIDRA_DC profile, the Date element `<dc:date>` translates a temporal event related to the lifecycle of the resource, certain or inferred, in terms of the date of publication (dateIssued) or creation (Created), which can be expressed either in exact form or as a time interval, open or closed, according to the formats that conform to the ISO 8601 Date and time format standard.
UWmetadata2Dublin Core,
Working with entities: Date

UWmetadata sources

1. sub-element `<ns1:date>` of Contribute `<ns1:contribute>` in Lifecycle `<ns1:lifecycle>`
2. sub-elements `<ns10:date_from>` `<ns10:date_to>` of Contribute `<ns10:contribute>` in Provenience `<ns10:provenience>`
3. the element `<ns12:releaseyear>` in Digitalbook `<ns12:digitalbook>`

Encoding of the Date element `<dc:date>` not only translates the values of heterogeneous source elements, but also if, and only if, there are the predetermined conditions as follows:
UWmetadata2Dublin Core,
Working with entities: Date

1. `<ns12:releaseyear>` of `<ns12:digitalbook>`. IF `<ns12:releaseyear>` is not filled, then:

2. `<ns1:author>` of `<ns1:contribute>` in `<ns1:lifecycle>` with role equal to Publisher OR with Printer. If these elements are not populated, then:

3. the first occurrence `<ns1:date>` of `<ns1:contribute>` in `<ns1:lifecycle>` with role Author, whether the entity is a person or an institution. If these elements are not populated, then:

4. the first occurrence of `<ns1:date>` of `<ns1:contribute>` of `<ns1:lifecycle>` if the value of `<ns1:role>` has different code than Publisher, and from Printer to code Author of the digitisation, whether the entity is a person or an institution.
If the conditions 1-4 are not met, then they take the values of the sub-elements Date of Con tribute in Provenience, which can represent an uncertain or inferred date of the resource, according to the following modes and forms:

5a) `<ns10: date_from>` and `<ns10: date_to>` in `<ns10:provenience>`, where the two dates are equivalent if precise dates are being attributed (eg.: 1950)
5b) `<ns10: date_from>` and `<ns10: date_to>` in `<ns10:provenience>`, where the two dates differ if it intends to assign a set interval of dates (eg.: 1950-1960)
5c) `<ns10: date_from>` in `<ns10:provenience>` if an open date interval (eg.: 1950-) are being attributed.

If the conditions set out in paragraphs 1-5 are not met, the element `<dc:date>` is omitted
### UWmetadata2Dublin Core,
### Working with entities: Date

| DC_Target                                                                 |   |
|---------------------------------------------------------------------------|---|
| `<dc:date>ns12:releaseyear</dc:date>`                                    |   |
| If not then:                                                               |   |
| `<dc:date>ns1:date</dc:date>` → *as expressed by conditions 2) and 3)*  |   |
| If not then:                                                               |   |
| `<dc:date>ns10:date_from=ns10:date_to</dc:date>` → *as expressed by conditions 5a)* |   |
| If not then:                                                               |   |
| `<dc:date>ns10:date_from-ns10:date_to</dc:date>` → *as expressed by conditions 5b)* |   |
| If not then:                                                               |   |
| `<dc:date>ns10:date_from-</dc:date>` → *as expressed by conditions 5c)*  |   |

| Example                                                                 |   |
|-------------------------------------------------------------------------|---|
| Date                                                                    |   |
| 1822                                                                    |   |
| 1820-1830                                                               |   |
| 1822-                                                                   |   |
The conversion to `<dc:date>` of sub-elements `<ns10:date_from><ns10:date_to>` from Contribute in Provenience was introduced in version 1.1 2018 of PHAIDRA_DC profile, on the basis of the encoding example of Metadata Object Description Schema (MODS) temporal sub-elements, in order to permit the allocation of uncertain or inferred dating to the described resource.

MODS provides granular and distinctive representation about the temporalisation of the resource by hosting in the upper element `<originInfo>` the sub-elements specific to each type of dating: `<dateIssued>`, `<dateCreated>`, `<dateValid>`, `<dateModified>`, `<copyrightDate>`, `<dateOther>`, partially also represented by qualified terms of the Dublin Core vocabulary.
The inter-schema translation of temporal elements is a luminous example of the attempt to represent the heterochronies – this kind of “heterotopias of indefinitely accumulating time” echoing the words of Michel Foucault referring to museums and libraries, which, in a certain sense, can also be informed by Phaidra cultural heritage objects.
The work that has been done provided evidence of the identified solutions and their outcomes, aimed on the one hand at the distinctive valorisation of the dual analogue-digital identity of the Phaidra cultural heritage object, highlighting its profile from the authorial point of view (people → Who)

the physical-digital materiality of the work being described (works → What)

the space-time dimension (Where and When)

the traceability of the provenance
Aiming, on the other hand, at metadata reuse as a visual function and for accessibility to content, used in the conception of the new graphic design of the web interface, which is being done in order to encourage discovery, even serendipitously, of the content found in Phaidra by digital researchers and browsers:

http://phaidra.cab.unipd/static/campi-di-phaidra.pdf
Discovering PHAIDRA@unipd, *post data model revision*

**Description**
Tavola 24
La tavola parietale contiene 10 figure con didascalìa

**People**
Zittel, Karl Alfred (Author)
Castelli, Stefano (Digitiser)
Michelon, Nicola (Digitiser)

**Location/Time**
Cassel, [1879-1901]

**Format**
image/jpeg (1.29 MB)
wallchart (height: 142 cm, width: 111 cm)

**Subject**
* Palaeontologia, Molluschi, Cefalopodi, Tavola didattica

**Object languages:** Latin

**Sources**
* Biblioteca di Geoscienze. Cassetteria TVP

**Rights:** © All rights reserved
Per il file master dell’immagine (file TIFF), rivolgersi a biblio.geoscienze@unipd.it

**Contact institution or person:** Università di Padova - Biblioteca di Geoscienze

**Permanent Link:** http://phaidra.cab.unipd.it/o:12566
**Handle:** 11168/11.12566
The mapping and conversion of UWmetadata to Dublin Core has enhanced precision in the representation of data and information content of Phaidra by disclosing and formalising its core elements.

It also encouraged reflection in evolutionary terms of its ontological structure, outlining where possible the classes of Persons, Works, Space, and Time.

It has clarified and characterized the different levels and the interdependence of the dimensional combination of physically and digitally of the information content conveyed by the Phaidra CH object.
Phaidra@unipd.it,
Some remarks in the margins

It has, in particular, made it possible to experience and evaluate the vital importance of standards, the adoption of which creates interoperability, leading to the decontextualisation of data from the scope of their original creation, accelerating their exposure and potential for reuse in different contexts and by different services, with the valorisation and development of the informative and cognitive value of which they are a memorial device.
It has helped to strengthen the methodological attitude for a correct reading of the data, or of reading of the data as “semantic palimpsests” given the stratified and permanent coexistence of heterogeneous data models, and their evolutionary and generative function in terms of schema, structure, profile, model, in aggregate form and as corpora of data, stressing the knowledge that each mapping activity is an inter-data conceptual negotiation which implies, more than anything else, a mutual understanding and compromise.
"In libraries, metadata is a first-class object. Metadata doesn’t just describe a library resource, it also connects that resource to entities such as people, places, events, and to other resources."

Powell, J., Hopkins, M.: A Librarian’s Guide to Graphs, Data and the Semantic Web, p. 130. Chandos Publishing, Waltham (2015)
Interoperability and interlinking,
The Classification Server

Welcome to the Classification Server of PHAIDRA

PHAIDRA is the comprehensive Digital Asset Management System of the University of Vienna with long-term archiving functions.

universität
wien

Classification Categories

GENERAL ONLINE CLASSIFICATIONS

- AGROVOC - Multilingual agricultural thesaurus
- Eurovoc - EU's multilingual thesaurus
- STW Thesaurus for Economics
- UNESCO Thesaurus

GENERAL LOCAL CLASSIFICATIONS

- COAR Resource Type Vocabulary v1.1
- GND Subject Categories
- ÖFOS 2012 (Juli 2015)
- STW Thesaurus for Economics
- UNESCO Thesaurus

GENERAL LOCAL CLASSIFICATIONS FROM PHAIDRA

- ACM 1998 - The ACM Computing Classification System [1998 Version]
- Basisklassifikation
- BIC Standard Subject Categories
- BIC Standard Subject Qualifiers
- Dewey Decimal Classification
- ÖFOS 2002
- Physics and Astronomy Classification Scheme

PHAIDRA’S LOCAL CLASSIFICATIONS

- Phaidra's controlled vocabularies
- Phaidra's custom classifications
Interoperability and interlinking,
Enhanced usability
Interoperability and interlinking,
SKOS data model

prefix skos: <http://www.w3.org/2004/02/skos/core#>

SKOS W3C Recommendation:
https://www.w3.org/TR/skos-reference/

SKOS W3C Working Group Note:
https://www.w3.org/TR/skos-primer/
SKOS allows to:

- render concepts machine-readable and publishable in the Web
- link and integrate different KOS and their inherent concepts (also in multiple languages)
- easily reference and reuse concepts in resource descriptions in a Semantic Web context

Interoperability and interlinking,
From data silos to a global network
Phaidra archival system currently hosts two locally-implemented list of descriptors:

1) **Phaidra Type of Material Vocabulary**
   which relates to the **material** of the resource
   *e.g.* Drawing, Letter, Manuscript, Painting, Periodical

2) **Phaidra Roles Vocabulary**
   which relates to the **role of the entities** contributing to
   the creation of the resource
   *e.g.* Architect, Calligrapher, Cartographer, Illustrator, Musician
Data interoperability:

"term" vs "concept"

- calligrapher, scribe, copista, Schreiber
- The concept of "calligrapher"
Interoperability and interlinking,
Experimenting with SKOS data model

Concept "**calligrapher**" in Phaidra Roles Vocabulary:

```xml
<skos:Concept rdf:about="http://phaidra.org/vocabularies/roles/calligrapher">
  <skos:inScheme rdf:resource="http://phaidra.org/vocabularies/roles"/>
  <skos:topConceptOf rdf:resource="http://phaidra.org/vocabularies/roles"/>
  <skos:prefLabel xml:lang="en">calligrapher</skos:prefLabel>
  <skos:prefLabel xml:lang="it">copista</skos:prefLabel>
  <skos:altLabel xml:lang="en">scribe</skos:altLabel>
  <skos:altLabel xml:lang="it">scriba</skos:altLabel>
  <skos:definition xml:lang="en">A person who inscribe or copy texts, especially those who transcribed, copied, and edited manuscripts before mechanical printing technology was developed. </skos:definition>
  <skos:definition xml:lang="it">Una persona che copia testi; si riferisce in particolare a chi ha trascritto, copiato e curato un manoscritto prima dell'invenzione della stampa. </skos:definition>
</skos:Concept>
```
Interoperability and interlinking,
Experimenting with SKOS data model

<skos:Concept rdf:about="http://phaidra.org/vocabularies/roles/calligrapher">
  <skos:inScheme rdf:resource="http://phaidra.org/vocabularies/roles"/>
  <skos:topConceptOf rdf:resource="http://phaidra.org/vocabularies/roles"/>
  <skos:prefLabel xml:lang="en">calligrapher</skos:prefLabel>
  <skos:prefLabel xml:lang="it">copista</skos:prefLabel>
  <skos:altLabel xml:lang="en">scribe</skos:altLabel>
  <skos:altLabel xml:lang="it">scriba</skos:altLabel>
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</skos:Concept>
Interoperability and interlinking,
Experimenting with SKOS data model

<skos:Concept rdf:about="http://phaidra.org/vocabularies/roles/calligrapher"
               rdf:resource="http://phaidra.org/vocabularies/roles"/>
<skos:topConceptOf rdf:resource="http://phaidra.org/vocabularies/roles"/>
<skos:prefLabel xml:lang="en">calligrapher</skos:prefLabel>
<skos:prefLabel xml:lang="it">copista</skos:prefLabel>
<skos:altLabel xml:lang="en">scribe</skos:altLabel>
<skos:altLabel xml:lang="it">scritto</skos:altLabel>
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</skos:Concept>
Interoperability and interlinking,
Experimenting with SKOS data model

```xml
<skos:Concept rdf:about="http://phaidra.org/vocabularies/roles/calligrapher">
  <skos:inScheme rdf:resource="http://phaidra.org/vocabularies/roles"/>
  <skos:topConceptOf rdf:resource="http://phaidra.org/vocabularies/roles"/>
  <skos:prefLabel xml:lang="en">calligrapher</skos:prefLabel>
  <skos:prefLabel xml:lang="it">copista</skos:prefLabel>
  <skos:altLabel xml:lang="en">scribe</skos:altLabel>
  <skos:altLabel xml:lang="it">scriba</skos:altLabel>
  <skos:definition xml:lang="en">A person who inscribe or copy texts, especially those who transcribed, copied, and edited manuscripts before mechanical printing technology was developed. </skos:definition>
  <skos:definition xml:lang="it">Una persona che copia testi; si riferisce in particolare a chi ha trascritto, copiato e curato un manoscritto prima dell'invenzione della stampa. </skos:definition>
</skos:Concept>
```
Interoperability and interlinking,
Experimenting with SKOS data model

Data association and interlinking:

**semantic relations**
in a single KOS and between different KOS

- Phaidra Vocabulary
  - Photograph
  - Broader than
  - Microfilm
  - Broader than
  - Negative
  - Photograph
- Getty AAT
  - Photographs
- BNCF Nuovo Soggettario
  - Fotografie

- Exactly the same as
- Closely the same as
Interoperability and interlinking,
Experimenting with SKOS data model

Concept "photograph" in Phaidra Type of Material Vocabulary:

```
<skos:Concept rdf:about="http://phaidra.org/vocabularies/typeofmaterial/photograph">
  <skos:inScheme rdf:resource="http://phaidra.org/vocabularies/typeofmaterial"/>
  <skos:topConceptOf rdf:resource="http://phaidra.org/vocabularies/typeofmaterial"/>
  <skos:prefLabel xml:lang="en">photograph</skos:prefLabel>
  <skos:prefLabel xml:lang="it">fotografia</skos:prefLabel>
  <skos:definition xml:lang="en">Still image produced from radiation-sensitive materials (sensitive to light, electron beams, or nuclear radiation), generally by means of the chemical action of light on a sensitive film, paper, glass, or metal. A photograph may be positive or negative, opaque or transparent. The concept includes photographs made by digital means. </skos:definition>
  <skos:definition xml:lang="it">Immagine prodotta da materiale sensibile alla radiazione (sensibile alla luce, fasci di elettroni, o radiazione nucleare), generalmente attraverso l'azione chimica della luce su una pellicola sensibile, carta, vetro, o metallo. Una fotografia potrebbe essere positiva o negativa, opaca o trasparente. Questo concetto include anche fotografie realizzate in modo digitale. </skos:definition>
  <skos:narrower rdf:resource="http://phaidra.org/vocabularies/typeofmaterial/microfilm"/>
  <skos:narrower rdf:resource="http://phaidra.org/vocabularies/typeofmaterial/negative"/>
  <skos:exactMatch rdf:resource="http://vocab.getty.edu/aat/300046300"/>
  <skos:exactMatch rdf:resource="http://rdaregistry.info/termList/RDACarrierEU/1025"/>
  <skos:exactMatch rdf:resource="http://purl.org/bncf/tid/1578"/>
</skos:Concept>
```
P. A. Micheli - recto

Description
Botanico: Micheli, Pietro Antonio (1679-1737).
Prefetto dell'Orto botanico di Firenze, fondatore della Società botanica fiorentina.
Titolo ed estremi cronologici (1679; 1737) manoscritti sul recto, dove compaiono anche le note: Foto Squinabol 1899; Racc. Benv. [Raccolta Benvenisti].
Montata su cartoncino 105 x 63 mm.
1 fotografia : arsophilico ; 86 x 56 mm.
Vai alla scheda bibliografica: http://catalogo.unipd.it/F?func=find-c&ccl_term=IDN=PUV1101258

People
Squinabol, Senofonte (Author)
Stabilimento fotografico L. Caporelli (Author)

Pier Antonio Micheli

Description
Botanico: Micheli, Pier Antonio (1679-1737).
Prefetto dell'Orto botanico di Firenze, fondatore della Società botanica fiorentina.
Titolo riportato sul negativo su vetro.
1 negativo su vetro : negativo ; 119 x 89 mm.
Vai alla scheda bibliografica: http://catalogo.unipd.it/F?func=find-c&ccl_term=IDN=PUV1096996

People
Non identificato (Author)

Location/Time
[dopo il 1871]

Format
image/jpg (678.63 KB)
Concept "photograph" in Phaidra Type of Material Vocabulary:

<skos:Concept rdf:about="http://phaidra.org/vocabularies/typeofmaterial/photograph">
    <skos:inScheme rdf:resource="http://phaidra.org/vocabularies/typeofmaterial"/>
    <skos:topConceptOf rdf:resource="http://phaidra.org/vocabularies/typeofmaterial"/>
    <skos:prefLabel xml:lang="en">photograph</skos:prefLabel>
    <skos:prefLabel xml:lang="it">fotografia</skos:prefLabel>
    <skos:definition xml:lang="en">Still image produced from radiation-sensitive materials (sensitive to light, electron beams, or nuclear radiation), generally by means of the chemical action of light on a sensitive film, paper, glass, or metal. A photograph may be positive or negative, opaque or transparent. The concept includes photographs made by digital means. </skos:definition>
    <skos:definition xml:lang="it">Immagine prodotta da materiale sensibile alla radiazione (sensibile alla luce, fasci di elettroni, o radiazione nucleare), generalmente attraverso l'azione chimica della luce su una pellicola sensibile, carta, vetro, o metallo. Una fotografia potrebbe essere positiva o negativa, opaca o trasparente. Questo concetto include anche fotografie realizzate in modo digitale. </skos:definition>
    <skos:narrower rdf:resource="http://phaidra.org/vocabularies/typeofmaterial/microfilm"/>
    <skos:narrower rdf:resource="http://phaidra.org/vocabularies/typeofmaterial/negative"/>
    <skos:exactMatch rdf:resource="http://vocab.getty.edu/aat/300046300"/>
    <skos:exactMatch rdf:resource="http://rdaregistry.info/termList/RDACarrierEU/1025"/>
    <skos:closeMatch rdf:resource="http://purl.org/bncf/tid/1578"/>
</skos:Concept>
Photographs, Dr. Henry R. Butler Jr., undated

Collection: Auburn Avenue Research Library Historic African American Education Collections
Title: Photographs, Dr. Henry R. Butler Jr., undated
Publisher: Box 7, Folder 13, Selena Sloan Butler papers, Archives Division, Auburn Avenue Research Library on African-American Culture and History, Atlanta-Fulton Public Library System.
Date of Original: 1888/1893
Subject: African American physicians
Portraits
Butler, Henry Rutherford, 1899-1988
Location: United States, Georgia, Fulton County, Atlanta, 33.7489954, -84.3879824
Medium: Photographs
Type: Still image

Digital Library of Georgia

Amherst College Digital Collections

Edward Hitchcock, portrait, facing left, circa 1860
Amherst College Digital Collections > Archives & Special Collections

Title: Edward Hitchcock, portrait, facing left, circa 1860
Dates: 1860
Abstract: A half-length portrait photograph of Edward Hitchcock, facing left, signed by Hitchcock. The photograph was used in the Amherst College 1860 and 1861 Class Albums.
People: Squadrab, Stenotome (Author)
Stabilimento fotografico L. Caporelli (Author)
Dates: 1860

PHAIIDRA@unipd
Both the working groups of Phaidra are currently involved in outlining a new foundational data model represented in RDF triples.

By the potential use of an arbitrary number of external vocabularies and ontologies, along with the possibility of RDF graphs to be extended with new nodes and new relationship types effortlessly, this new semantics-embedding model would be much more flexible, extendable to every future needs as well as highly interoperable.

In these terms, the forthcoming achievement of such a framework might thus exactly represent the most effective means to disclose the associative potential of metadata that was quoted at the opening slide of the second part of this presentation.
Resource URI: La Resistenza italiana (time period)

Objects created in this period

Related persons

Objects which have it as their subject

Related places (geolocations)

Historical events temporally located in this period
Thank you!
s.3: St. Gallen, Stiftsbibliothek, Cod. Sang. 213: Palimpsest Manuscript: Divinae institutiones by Lucius Caelius Firmianus Lactantius; the Dialogs of Gregory the Great etc.
https://www.e-codices.ch/en/list/one/csg/0213

s.4: Castellani, E.: Spartito 1969 162x21x241 cm. In: Alfabeta2 (April 2011) © Archivio Enrico Castellani.
https://www.alfabeta2.it/2011/04/10/enrico-castellani-galleria-fotografica/

s.7: Phaidra timeline at the University of Padova
https://phaidra.cab.unipd.it/info/impressum

s.9: The Phaidra digital environment (Source: I dati della ricerca in ambito umanistico, symposium held in Padua, 24 November 2016)
https://phaidra.cab.unipd.it/info/impressum

s.11: JR [@jr]: ... today In Paris (22nd, May 2016)
https://www.instagram.com/p/BFtrTw-RBNy/?utm_source=ig_embed

s.17: Hermann, T.: Overview of LOM. In: Budin, G, Mayer, W., Oberhuemer, P., Prillinger, H., Schinagl, K., Sestits, E., Winkler, J.: LOM Univie Schema, April 2006 (2006)
Image sources

s.37: From the Metadata editor to the web visualisation
http://phaidra.cab.unipd.it/static/campi-di-phaidra.pdf

s.41: Bettella, C., JR’s Au Panthéon ! (2014)

s.42: PARTHENOS Portal, the Hub.
http://www.parthenos-project.eu/wp-content/uploads/2018/05/Sm-system-2660914-1024x683.jpeg

s.43: Skosmos Homepage.
http://vocab.phaidra.org/skosmos/en/?clang=en

s.45: Roussey, C.,: Graphe RDF utilisant le vocabulaire SKOS présentant les différents termes liés à "Economic Coopération". In: Roussey, C., Bernard, S. Annotation des Bulletins de Santé du Végétal. 7ème Atelier Recherche d’Information SEMantique, Jun 2015, Rennes, France (2015).
https://www.researchgate.net/figure/graphe-RDF-utilisant-le-vocabulaire-SKOS-presentant-les-differents-termes-lies-a_fig2_282066521

s.55: P. A. Micheli – recto.
http://phaidra.cab.unipd.it/o:2329
Image sources

s.55: Pier Antonio Micheli.
http://phaidra.cab.unipd.it/o:1210

s.57: P. A. Micheli – recto.
http://phaidra.cab.unipd.it/o:2329

s.57: Photographs, Dr. Henry R. Butler Jr., undated.
http://dlg.galileo.usg.edu/aaed/do:aarl09.002-007-013.

s.57: Edward Hitchcock, portrait, facing left, circa 1860.
https://acdc.amherst.edu/view/asc:642961