Learning Module 6. Metadata Quality and Interoperability

Week 6 Presentation

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Metadata quality is generally defined by metadata’s fitness for the purpose of supporting user tasks:

– find
– identify
– select
– obtain
Metadata quality criteria suggested by the literature

1. Access
2. Accuracy
3. Availability
4. Compactness
5. Compatibility
6. Completeness
7. Comprehensiveness
8. Content
9. Consistency
10. Cost
11. Data Structure
12. Ease Of Creation

1. Ease Of Use
2. Economy
3. Flexibility
4. Fitness For Use
5. Informativeness
6. Protocols
7. Quantity
8. Reliability
9. Standard
10. Timeliness
11. Transfer
12. Usability

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Sources of information to assess metadata quality:

– Internal and external metadata documentation
  • Semantics, syntax

– Test against known changes in relevant controlled vocabularies
  • e.g., LCSH “Vietnamese Conflict” → “Vietnam War”

– Visual view; sample

– Known-item search tests

– User assessment studies
Most important metadata quality criteria

1. **ACCURACY**
   - Accuracy
   - Availability
   - Compactness
   - Compatibility

2. **CONSISTENCY**
   - Cost
   - Data Structure
   - Ease Of Creation

3. **COMPLETENESS**
   - Comprehensiveness
   - Content

Most important from the point of view of metadata creators (Park & Tosaka, 2009)

- Ease Of Use
- Economy
- Flexibility
- Fitness For Use
- Informativeness
- Protocols
- Quantity
- Reliability
- Standard
- Timeliness
- Transfer
- Usability

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Consistency: 2 levels

• **Semantic**
  – Does the name of the journal in which the article was published appear consistently in **Relation** Dublin Core metadata element, or do some records use **Source** element for this same information?

• **Content**
  – Does the Language metadata element in the same digital library contain the value “**Deutsch**” in some records and the value “**German**” in others?
# Accuracy, Completeness, Consistency

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Measures (adopted from Bruce &amp; Hillman, 2004; Moen et al., 1998)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Completeness</strong></td>
<td>• <em>Number of elements &amp; element instances per record</em>&lt;br&gt;• <em>Are all relevant elements used for each object?</em>&lt;br&gt;• <em>Practice of presenting “blank” elements</em>&lt;br&gt;• Utilization and selected characteristics of “mandatory” and “optional” elements&lt;br&gt;• <em>Does the element set completely describe the objects?</em></td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>• <em>Format and formatting errors</em>&lt;br&gt;• <em>Spelling and typographical errors</em>&lt;br&gt;• Have accepted methods been used for creation or extraction of metadata?&lt;br&gt;• What has been done to ensure <strong>valid values</strong> and <strong>structure</strong>?&lt;br&gt;• Are default values appropriate, and have they been appropriately used?</td>
</tr>
<tr>
<td><strong>Logical Consistency/Coherence</strong></td>
<td><strong>Content</strong>&lt;br&gt;• <em>Are values in metadata elements consistent throughout?</em>&lt;br&gt;• How does it compare with other data within the community?** Semantic**&lt;br&gt;• Are the same elements used for the same type of data throughout?</td>
</tr>
</tbody>
</table>
Metadata quality problems in this record excerpt

<subject>Manzanar War Relocation Center--1940-1950
<subject>World War, 1937-1945--Japanese Americans--California--Manzanar</subject>
<subject>Japanese Americans--Texas--Manzanar--1940-1950</subject>
<subject>Concentration camps--California--Manzanar--1940-1950</subject>
<description>Photographs document the lives of Japanese Americans interned during World War II at the Manzanar Relocation Center in Independence, California. There are numerous close-up and occupational portraits of individuals, including Roy Takeno, editor of the Manzanar Free Press, and photographer Tōyō Miyatake. [...] 1943</description>
<type>Portrait photographs</type>
<type>Group portraits</type>

Accuracy (structure/format/syntax)
Accuracy (content) & consistency within Subject
<table>
<thead>
<tr>
<th><strong>Criterion</strong></th>
<th><strong>(adopted from Bruce &amp; Hillman, 2004; Moen et al., 1998)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Completeness</strong></td>
<td></td>
</tr>
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</tr>
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</tr>
<tr>
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<td>• <em>Practice of presenting “blank” elements</em></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Does the element set completely describe the objects?</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <em>Format and formatting errors</em></td>
</tr>
<tr>
<td></td>
<td>• <em>Spelling and typographical errors</em></td>
</tr>
<tr>
<td></td>
<td>• Have accepted methods been used for creation or extraction of metadata?</td>
</tr>
<tr>
<td></td>
<td>• What has been done to ensure <strong>valid values</strong> and <strong>structure</strong>?</td>
</tr>
<tr>
<td></td>
<td>• Are default values appropriate, and have they been appropriately used?</td>
</tr>
<tr>
<td><strong>Logical Consistency/Coherence</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>• How does it compare with other data within the community?</td>
</tr>
<tr>
<td><strong>Semantic</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Are the same elements used for the same type of data throughout?</td>
</tr>
</tbody>
</table>
Importance of interoperability

One should actively be engaged in the ongoing process of ensuring that the systems, procedures and culture of an organisation are managed in such a way as to maximise opportunities for exchange and re-use of information, whether internally or externally.

Miller, 2000

Metadata interoperability has to be the underlying principle of networked information management.

Zeng & Xiao, 2001
### System-oriented

Ability of multiple systems with different hardware and software platforms, data structures, and interfaces to exchange metadata with minimal loss of content & functionality.

### User-oriented

Ability of multiple systems to exchange metadata and use the exchanged metadata in a way that is satisfactory to users of the systems.

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Why does interoperability matter?

- **Interaction** between systems that use metadata
- **Integrating** different types of metadata for local information management
- **Reusing** metadata in local applications

**Technical metadata for digital asset management**
- Searching
- Harvesting
- Linking

E.g., ONIX metadata in library systems

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Complex metadata ecology with diverse life forms *(Dempsey & Heery, 1998)*

Multiple **metadata schemes** and element sets
- Well known & documented (e.g., ISBD)
- Less known & little public documentation

Multiple **content standards**
- Well known & documented (e.g., AACR2)
- Less known &/or emerging (e.g., CCO, RDA)

Multiple **syntaxes** for encoding metadata
- No canonical syntax (e.g., MARC, XML)

Multiple systems, protocols, languages, character sets
Interoperability factors

Multiplicity of:

– Metadata schemes

– Formats of data

– Disciplines, vocabularies, ontologies
How do we achieve interoperability?

• Application profiles
• Mapping and Crosswalks
• ...
Application profiles

• “Consist of data elements drawn from one or more namespace schemas combined together … and optimised for a particular local application” (Heery & Patel, 2000)

• Reuse elements from different sets & define new elements as needed

• Refine standard definitions (semantics)

• Specify permitted controlled vocabularies entry formats (e.g., date/time format) for data values
Application profile
developers address user needs

- Based on **requirements**, select appropriate metadata **elements**
- **Document** the use of metadata for specific application

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Metadata is "interoperable" if you can exchange the metadata between two applications and both applications can interpret it correctly.

(Mikael Nilsson, 2011)
Metadata is "harmonized" if you can take metadata that is based on two different specifications - e.g., DC and MODS combine it, exchange it, and interpret the combined metadata correctly. (Mikael Nilsson, 2011)
Examples of application profiles

• Europeana Data Model
  – http://pro.europeana.eu/page/edm-documentation

• Digital Public Library of America (DPLA)
  – http://dp.la/about/map

• Scholarly works / ePrints
  – http://dublincore.org/scholarwiki/SWAPDSP
  – http://www.ukoln.ac.uk/repositories/digirep/index/Eprints_Application_Profile

• Learning object repository

• Data underlying scientific publications (Dryad)
  – https://www.nescent.org/wg_dryad/Application_Profile_Development

• The AGRIS
  – http://www.fao.org/docrep/008/ae909e/ae909e00.htm

• Dublin Core Collections Application Profile
  – http://dublincore.org/groups/collections/collection-application-profile

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Example: DC Collections Application Profile

**PURPOSE:** to describe collections as integral wholes

- **7 DC Simple elements:**
  - 5 without changes (*Title, Type, Language, Rights, Subject*)
  - 2 with change in name/semantics
    - *Creator* → *Collector*
    - *Identifier* → *Collection Identifier*

- **8 DC Qualified elements:**
  - *Spatial Coverage; Temporal Coverage; Provenance* → *Custodial History; Alternative Title;* etc.

- **7 other DC-TERMS properties** applicable only to collections
  - *Accrual Policy; Sub-Collection;* etc.

- **1** MARC Relator element/property: *Owner*

- **7** new CLD elements defined
  - e.g., *Item Type; Date Items Created*
Correct and efficient mapping of metadata elements ... is the essential condition for ensuring metadata interoperability.

Zeng & Xiao, 2001

Unfortunately, the specification of a crosswalk is a difficult and error-prone task requiring in-depth knowledge and specialized expertise in the associated metadata standards.

St. Pierre & La Plant, 1998
## Mapping & Crosswalks: Definitions

<table>
<thead>
<tr>
<th>Mapping</th>
<th>Crosswalk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intellectual activity</strong> that identifies semantically equivalent elements in different metadata schemes</td>
<td><strong>Documentation</strong> resulting from mapping showing the equivalencies and conversion specifications — often in tabular form</td>
</tr>
</tbody>
</table>
Mapping types

Direct
from one scheme to another
Example:
http://www.loc.gov/marc/marc2dc.html

Cross-Switching
uses a single scheme to map to from several schemes
Example:
http://www.getty.edu/research/publications/electronic_publications/intrometadata/crosswalks.html
Automatic Metadata Transformation

Automatic simultaneous processing of multiple bibliographic or authority records (a.k.a. batch processing) to:

- bring MARC records to compliance to local cataloging quality standards, e.g.:
  - transform AACR-based records into RDA-based records
  - add call numbers
  - add notes
  - ...
- convert non-MARC metadata records received from outside (e.g., vendors) into MARC records
- convert MARC records into records in other metadata schemes – e.g., Dublin Core, MODS, etc. -- for loading into digital repository, etc.
Automatic Crosswalking of Metadata: BIBFRAME Transformation Service Example

MARC to BIBFRAME Transformation Service

This service transforms a file of MARCXML records to BIBFRAME representation. For files smaller than 2MB. See also: Comparison Service

Copy and paste a MARCXML here, then select "Submit MARCXML"

Submit MARCXML

LIMITATION: Files larger than 2 MB will be rejected.

NOTICE: Information entered in this form will be used for the transformation and displayed on this service. It will be stored on the server for a period of time, after which it will be deleted. It will be publicly available, even if not publicly advertised.

BIBFRAME.ORG Technical Site

MARC21 Bib Records as BIBFRAME Resources

sorted by: labels, then by... grouped as sorted

1 Work

1. 

Conditioning

Date

Subject(s)

Drummers (Musicians) – Drama ( )
Music teachers – Drama ( )
Conservatories of music – Drama ( )
Jazz musicians – Drama ( )
Jazz musicians – Drama ( )
Conservatories of music – Drama ( )
Performers of music ( )
Dancers ( )
Feature films ( )
Fiction films ( )
Drama ( )

Publication

Dimensions 4 3/4 in.
Extent 1 videodisc (105 minutes):
Note(s) Blu-ray; all regions, widescreen (2.40:1), 5.1 DTS-HD master audio.
Originally released as a motion picture.
Other Examples of Automatic Metadata Transformation Tools

- **MARC Edit**
  - Transforming records between MARC, MARCXML, Dublin Core, MODS, EAD, and FGDC
  - Converting MARC, MARCXML, EAD, FGDC, MODS, and ONIX records into BIBFRAME
  - Editing records in batches
Other Examples of Automatic Metadata Transformation Tools

- **OCLC Connexion:**
  - Exporting MARC records in MARCXML or as DC records
  - Various macros & batch processing

- **More:** Biblicos, eCataloguer, etc.
Manual transformation from VRA Core 4.0 to Dublin Core in RDF/XML

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<agentSet>
  <agent>
    <name vocab="ULAN" refid="500012491" type="person">
      Jasper Francis Cropsey (American painter, 1823-1900)
    </agent>
  </agentSet>
  <culturalContextSet>
    <culturalContext>American</culturalContext>
  </culturalContextSet>
  <dateSet>
    <date type="creation">
      <earliestDate>1860</earliestDate>
      <latestDate>1860</latestDate>
    </date>
    <display>1860 (creation)</display>
  </dateSet>
  <descriptionSet>
    <description>
      This monumental view of the Hudson River Valley adopted a high vantage point, looking southeast. Mountain. A small stream leads from the forage. All along the meandering tributary there are grazing sheep, children playing on a bridge, and in the distance two men engaged in the act of a dance.
    </description>
  </descriptionSet>
</agentSet>
```

The table compares DC, MODS, VRA 3.0, and VRA 4.0 elements:

<table>
<thead>
<tr>
<th>DC</th>
<th>MODS</th>
<th>VRA 3.0</th>
<th>VRA 4.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>TitleInfo/title</td>
<td>Title</td>
<td>Title</td>
</tr>
<tr>
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<td>&lt;identifier&gt;</td>
<td>ID Number</td>
<td>locationRefid</td>
</tr>
<tr>
<td>Date</td>
<td>&lt;originInfo&gt;</td>
<td>Date</td>
<td>date</td>
</tr>
<tr>
<td>Language</td>
<td>&lt;language&gt;</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Creator</td>
<td>&lt;name&gt;namePart&gt;</td>
<td>Creator</td>
<td>creator</td>
</tr>
<tr>
<td>Contributor</td>
<td>&lt;name&gt;namePart&gt;</td>
<td>Creator</td>
<td>creator</td>
</tr>
<tr>
<td>Publisher</td>
<td>&lt;originInfo&gt;</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Rights</td>
<td>&lt;accessCondition&gt;</td>
<td>Rights</td>
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<td>Type</td>
<td>worktype</td>
</tr>
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<td>&lt;physicalDescription&gt;</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Description</td>
<td>&lt;abstract&gt;</td>
<td>Description</td>
<td>description</td>
</tr>
<tr>
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<td>&lt;subject&gt;</td>
<td>Subject</td>
<td>subject</td>
</tr>
<tr>
<td>Subject or</td>
<td>&lt;subject&gt;</td>
<td>Style/Period</td>
<td>stylePeriod</td>
</tr>
<tr>
<td>Coverage</td>
<td>&lt;temporal&gt;</td>
<td>Date</td>
<td>date</td>
</tr>
</tbody>
</table>

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Manual crosswalking of VRA Core 4.0 to simple DC: example

Vasily Kandinsky’s *Landscape with Two Poplars* painting
(Art Institute of Chicago website: [http://www.artic.edu/aic/collections/artwork/8980](http://www.artic.edu/aic/collections/artwork/8980))

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Manual crosswalking of VRA Core 4.0 to simple DC: example

<work id="w_123" refid="45" source="Metadata Course Example Records">
  <agentSet>
    <display>Vasily Kandinsky (French painter of Russian origin, 1866-1944)</display>
    <agent>
      <name type="personal" vocab="ULAN" refid="500021093">Kandinsky, Vassily</name>
      <dates type="life">
        <earliestDate>1866</earliestDate>
        <latestDate>1944</latestDate>
      </dates>
      <culture>French</culture>
      <culture>Russian</culture>
      <role>painter</role>
    </agent>
  </agentSet>
  <culturalContextSet>
    <display>French and Russian</display>
    <culturalContext>French</culturalContext>
    <culturalContext>Russian</culturalContext>
  </culturalContextSet>
  <dateSet>
    <display>1912 (creation)</display>
    <date type="creation">
      <earliestDate>1912</earliestDate>
      <latestDate>1912</latestDate>
    </date>
  </dateSet>
</work>

<descriptionSet>
  <display>This painting shows a village street with a row of houses and two tall poplar trees growing along the street. The mountains are visible in the background.</display>
  <description>This painting shows a village street with a row of houses and two tall poplar trees growing along the street. The mountains are visible in the background.</description>
</descriptionSet>

<locationSet>
  <display>Chicago Art Institute (Chicago, Illinois, USA)</display>
  <location type="repository">
    <name extent="organization" refid="500304669" vocab="ULAN">Art Institute of Chicago</name>
    <name type="geographic" extent="inhabited place" vocab="TGN" refid="7013596">Chicago</name>
    <name type="geographic" extent="county" vocab="TGN" refid="7013649">Cook</name>
    <name type="geographic" extent="state" vocab="TGN" refid="7007251">Illinois</name>
    <name type="geographic" extent="nation" vocab="TGN" refid="7012149">United States</name>
    <name type="geographic" extent="continent" vocab="TGN" refid="1000001">North and Central America</name>
    <refid>8980</refid>
  </location>
</locationSet>
Manual crosswalking of VRA Core 4.0 to simple DC: example

<materialSet>
  <display>Oil on canvas</display>
  <material type="medium" vocab="AAT" refid="300015050">oil paint</material>
  <material type="support" vocab="AAT" refid="300014078">canvas</material>
</materialSet>

<measurementsSet>
  <display>31 X 39.2 in. (78.8 X 100.4 cm</display>
  <measurements type="height" unit="in">31</measurements>
  <measurements type="width" unit="in">39.2</measurements>
  <measurements type="height" unit="cm">78.8</measurements>
  <measurements type="width" unit="cm">100.4</measurements>
</measurementsSet>

<rightsSet>
  <display>©2015 Artists Rights Society (ARS), New York / ADAGP, Paris</display>
  <rightsHolder>Artists Rights Society (ARS), New York</rightsHolder>
  <rightsHolder>ADAGP, Paris</rightsHolder>
  ©2015
</rightsSet>

<relationSet>
  <display>From Arthur Jerome Eddy Memorial Collection, 1931.508</display>
  <relation type="isPartOf" relids="c_00001">Arthur Jerome Eddy Memorial Collection</relation>
</relationSet>

<materialSet>
  <display>Oil on canvas</display>
  <material type="medium" vocab="AAT" refid="300015050">oil paint</material>
  <material type="support" vocab="AAT" refid="300014078">canvas</material>
</materialSet>

<measurementsSet>
  <display>31 X 39.2 in. (78.8 X 100.4 cm</display>
  <measurements type="height" unit="in">31</measurements>
  <measurements type="width" unit="in">39.2</measurements>
  <measurements type="height" unit="cm">78.8</measurements>
  <measurements type="width" unit="cm">100.4</measurements>
</measurementsSet>

<rightsSet>
  <display>©2015 Artists Rights Society (ARS), New York / ADAGP, Paris</display>
  <rightsHolder>Artists Rights Society (ARS), New York</rightsHolder>
  <rightsHolder>ADAGP, Paris</rightsHolder>
  ©2015
</rightsSet>

<subjectSet>
  <subject><term type="concept" vocab="AAT" refid="300132294">natural landscapes</term></subject>
  <subject><term type="concept" vocab="LCSH" refid="sh85077428">Liriodendron tulipifera</term></subject>
  landscape; poplar trees; village; street; houses; mountains
</subjectSet>

<subjectSet>
  <subject><term type="concept" vocab="AAT" refid="300132294">natural landscapes</term></subject>
  <subject><term type="concept" vocab="LCSH" refid="sh85077428">Liriodendron tulipifera</term></subject>
  landscape; poplar trees; village; street; houses; mountains
</subjectSet>

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<subject>
  <term type="concept" vocab="LCSH" refid="sh85143356">Villages</term>
</subject>

<subject>
  <term type="concept" vocab="LCSH" refid="sh85128633">Streets</term>
</subject>

<subject>
  <term type="concept" vocab="AAT" refid="300005433">houses</term>
</subject>

<subject>
  <term type="concept" vocab="AAT" refid="300008795">mountains</term>
</subject>

<titleSet>
  <display>Landscape with two poplars</display>
  <title pref="true" type="translated" xml:lang="en">Landscape with two poplars</title>
</titleSet>

<worktypeSet>
  <display>landscape painting</display>
  <workType vocab="AAT" refid="300015636">landscapes (representations)</workType>
</worktypeSet>
</work>
Manual crosswalking of VRA Core 4.0 to simple DC: example

<table>
<thead>
<tr>
<th>DC</th>
<th>VRA 4.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>title</td>
</tr>
<tr>
<td>Identifier</td>
<td>location.refid.textref</td>
</tr>
<tr>
<td>Date</td>
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<tr>
<td>Subject</td>
<td>inscription</td>
</tr>
<tr>
<td>Subject or Coverage</td>
<td></td>
</tr>
</tbody>
</table>
Manual crosswalking of VRA Core 4.0 to DC in RDFXML: example (p.1)

<?xml version="1.0"?>
<rdf:RDF
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:dc="http://purl.org/dc/elements/1.1/">
  <rdf:Description rdf:about="w_123">
    <dc:creator>Kandinsky, Vassily, 1866-1944</dc:creator>
    <dc:coverage>France</dc:coverage>
    <dc:coverage>Russia</dc:coverage>
    <dc:date>1912</dc:date>
  </rdf:Description>
</rdf:RDF>
This painting shows a village street with a row of houses and two tall poplar trees growing along the street. The mountains are visible in the background.

This painting shows a village street with a row of houses and two tall poplar trees growing along the street. The mountains are visible in the background.

Chicago Art Institute (Chicago, Illinois, USA)

Art Institute of Chicago

Chicago

Cook

Illinois

United States

North and Central America

Kandinsky, Vassily, 1866-1944

France

Russia

1912

8980
<xml version="1.0"?>
<rdf:RDF
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:dc="http://purl.org/dc/elements/1.1/"
>
  <rdf:Description rdf:about="w_123"
  dc:creator="Kandinsky, Vassily, 1866-1944">
    <dc:coverage>France</dc:coverage>
    <dc:coverage>Russia</dc:coverage>
    <dc:date>1912</dc:date>
    <dc:description>
      This painting shows a village street with a row of houses and two tall poplar trees growing along the street. The mountains are visible in the background.
    </dc:description>
    <dc:contributor>Art Institute of Chicago (Chicago city, Cook county, Illinois state, United States nation)</dc:contributor>
    <dc:identifier>8980</dc:identifier>
    <dc:format>oil on canvas</dc:format>
    <dc:format>31X39.2 in.</dc:format>
    <dc:format>78.8X100.4 cm</dc:format>
  </rdf:Description>
</rdf:RDF>
Manual crosswalking of VRA Core 4.0 to simple DC: example (p.4)

<table>
<thead>
<tr>
<th>DC</th>
<th>VRA 4.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>title</td>
</tr>
<tr>
<td>Identifier</td>
<td>location.refid textref</td>
</tr>
<tr>
<td>Date</td>
<td>date</td>
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<tr>
<td>Language</td>
<td>location stateEdition</td>
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<tr>
<td>Creator</td>
<td>agent</td>
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<tr>
<td>Contributor</td>
<td>agent</td>
</tr>
<tr>
<td>Publisher</td>
<td>location</td>
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<tr>
<td>Rights</td>
<td>rights worktype</td>
</tr>
<tr>
<td>Description</td>
<td>measurement material technique description</td>
</tr>
<tr>
<td>Subject</td>
<td>inscription subject stylePeriod</td>
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<tr>
<td>Subject or Coverage</td>
<td>stylePeriod vocab=&quot;AAT&quot; refid=&quot;300021502&quot;&gt;Expressionist (style)&lt;/stylePeriod</td>
</tr>
<tr>
<td>Coverage</td>
<td>date culturalContext</td>
</tr>
<tr>
<td>Coverage or Subject</td>
<td>stylePeriod vocab=&quot;AAT&quot; refid=&quot;300108127&quot;&gt;Abstract (fine arts style)&lt;/stylePeriod</td>
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</tbody>
</table>

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<?xml version="1.0"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:dc=http://purl.org/dc/elements/1.1/>
<rdf:Description rdf:about="w_123">
  <dc:creator>Kandinsky, Vassily, 1866-1944</dc:creator>
  <dc:coverage>France</dc:coverage>
  <dc:coverage>Russia</dc:coverage>
  <dc:date>1912</dc:date>
  <dc:description>This painting shows a village street with a row of houses and two tall poplar trees growing along the street. The mountains are visible in the background.</dc:description>
  <dc:contributor>Art Institute of Chicago (Chicago city, Cook county, Illinois state, United States nation)</dc:contributor>
  <dc:identifier>8980</dc:identifier>
  <dc:format>oil on canvas</dc:format>
  <dc:format>31X39.2 in.</dc:format>
  <dc:format>78.8X100.4 cm</dc:format>
  <dc:relation>Arthur Jerome Eddy Memorial Collection</dc:relation>
  <dc:subject>Expressionist (style)</dc:subject>
  <dc:subject>Abstract (fine arts style)</dc:subject>
</rdf:Description>
```

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Manual crosswalking of VRA Core 4.0 to simple DC: example (p.4)

<titleSet>
  <display>Landscape with two poplars</display>
  <title pref="true" type="translated" xml:lang="en">Landscape with two poplars</title>
</titleSet>

<worktypeSet>
  <display>landscape painting</display>
  <workType vocab="AAT" refid="300015636">landscapes (representations)</workType>
</worktypeSet>

<subjectSet>
  <display>landscape; poplar trees; village; street; houses; mountains</display>
  <subject term="concept" vocab="AAT" refid="300132294">natural landscapes</subject>
  <subject term="concept" vocab="LCSH" refid="sh85077428">Liriodendron tulipifera</subject>
  <subject term="concept" vocab="LCSH" refid="sh85143356">Villages</subject>
  <subject term="concept" vocab="LCSH" refid="sh85128633">Streets</subject>
  <subject term="concept" vocab="AAT" refid="300005433">houses</subject>
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</subjectSet>

<titleSet>
  <display>Landscape with two poplars</display>
  <title pref="true" type="translated" xml:lang="en">Landscape with two poplars</title>
</titleSet>

<worktypeSet>
  <display>landscape painting</display>
  <workType vocab="AAT" refid="300015636">landscapes (representations)</workType>
</worktypeSet>
Manual crosswalking of VRA Core 4.0 to simple DC: example results

<?xml version="1.0"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
        xmlns:dc="http://purl.org/dc/elements/1.1/"
>
  <rdf:Description rdf:about="#w_123">
    <dc:creator>Kandinsky, Vassily, 1866-1944</dc:creator>
    <dc:coverage>France</dc:coverage>
    <dc:coverage>Russia</dc:coverage>
    <dc:date>1912</dc:date>
    <dc:description>This painting shows a village street with a row of houses and two tall poplar trees growing along
the street. The mountains are visible in the background.</dc:description>
    <dc:contributor>Art Institute of Chicago (Chicago city, Cook county, Illinois state, United States nation)</dc:contributor>
    <dc:identifier>8980</dc:identifier>
    <dc:format>oil on canvas</dc:format>
    <dc:format>31X39.2 in.</dc:format>
    <dc:format>78.8X100.4 cm</dc:format>
    <dc:relation>Arthur Jerome Eddy Memorial Collection</dc:relation>
    <dc:subject>Expressionist (style)</dc:subject>
    <dc:subject>Abstract (fine arts style)</dc:subject>
    <dc:subject>Natural landscapes</dc:subject>
    <dc:subject>Liriodendron tulipifera</dc:subject>
    <dc:subject>Villages</dc:subject>
    <dc:subject>Streets</dc:subject>
    <dc:subject>Houses</dc:subject>
    <dc:subject>Mountains</dc:subject>
    <dc:title>Landscape with two poplars</dc:title>
    <dc:type>Landscapes (representations)</dc:type>
  </rdf:Description>
</rdf:RDF>

12 DC elements used in this RDF/XML record
<?xml version="1.0"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xmlns:dc="http://vocab.getty.edu/ulan/500021093">
  <rdf:Description rdf:about="w_123">
    <dc:coverage>France</dc:coverage>
    <dc:coverage>Russia</dc:coverage>
    <dc:date>1912</dc:date>
    <dc:description>This painting shows a village street with a row of houses and two tall poplar trees growing along the street. The mountains are visible in the background.</dc:description>
    <dc:identifier>8980</dc:identifier>
    <dc:format>oil on canvas</dc:format>
    <dc:format>31X39.2 in.</dc:format>
    <dc:format>78.8X100.4 cm</dc:format>
    <dc:relation>Arthur Jerome Eddy Memorial Collection</dc:relation>
    <dc:subject rdf:resource="http://vocab.getty.edu/aat/300108127">Abstract (fine arts style)</dc:subject>
    <dc:subject rdf:resource="http://vocab.getty.edu/aat/300132294">Natural landscapes</dc:subject>
    <dc:subject rdf:resource="http://id.loc.gov/authorities/subjects/sh85077428">Liriodendron tulipifera</dc:subject>
    <dc:subject rdf:resource="http://id.loc.gov/authorities/subjects/sh85128633">Villages</dc:subject>
    <dc:title>Landscape with two poplars</dc:title>
    <dc:type rdf:resource="http://vocab.getty.edu/aat/300015676">Landscapes (representations)</dc:type>
  </rdf:Description>
</rdf:RDF>
THANK YOU
for taking this course with me!
All the best!

Dr. Oksana L. Zavalina, © 2015-2016


