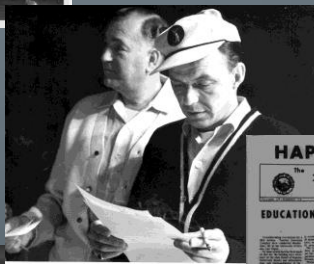
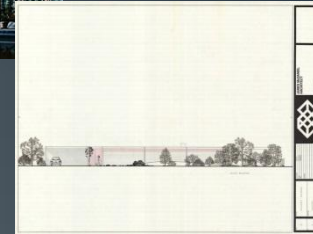
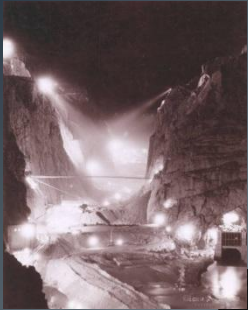


# Linked Open Data: Practical Approaches to Semantic Richness

Cory Lampert, University of Nevada Las Vegas  
ARLIS NA+VRA Conference  
March 10, 2016  
Seattle, WA



How's it all connected?



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# LOD Transformation

“Doing” Linked Data – an experiment

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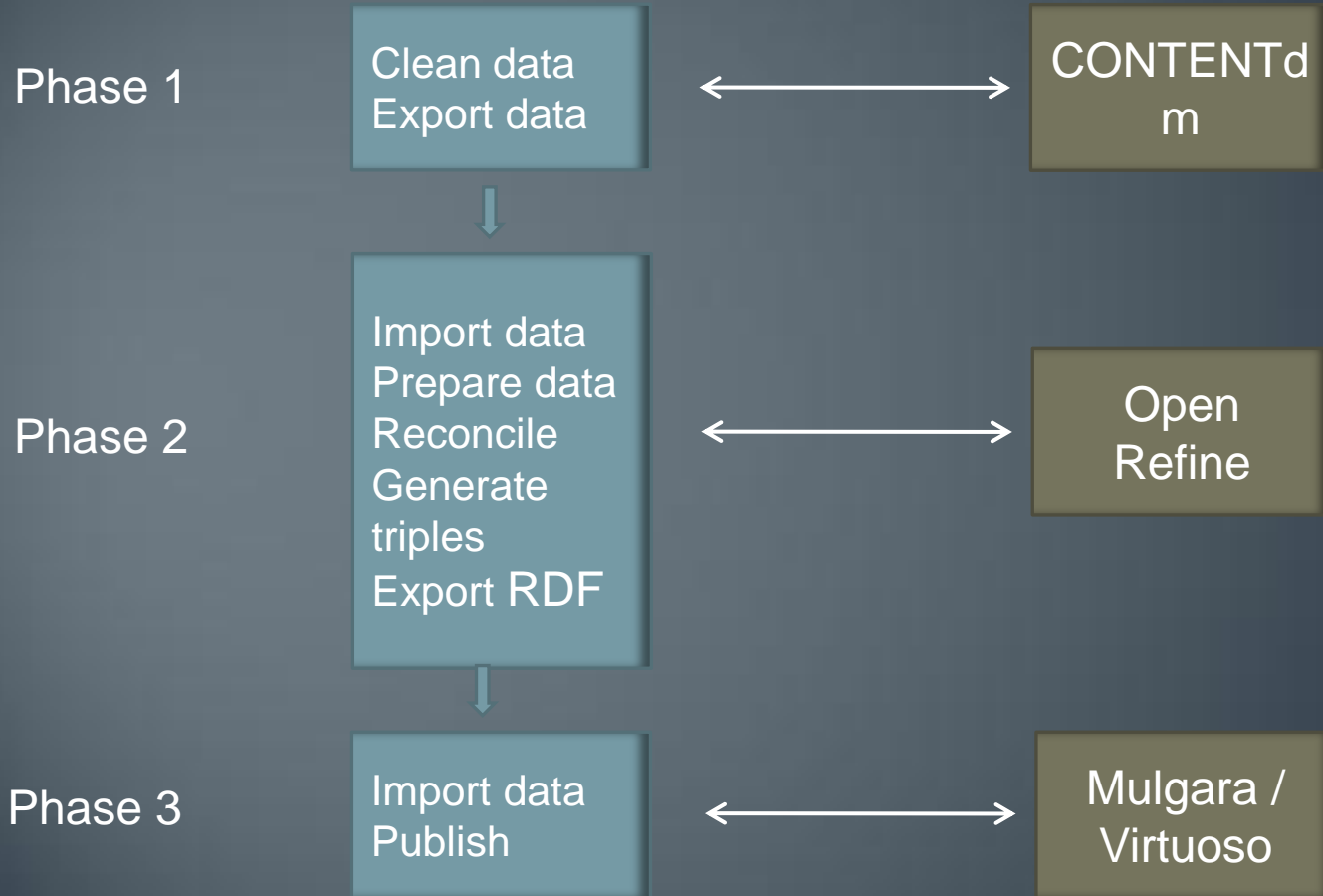
# UNLV LOD Project Goals

Is it feasible?

Yes!

- Study the feasibility of developing a common process that would allow the conversion of our digital collection records into linked data preserving their original expressivity and richness
- Publish data from our collections in the Linked Open Data Cloud to improve discoverability and connections across our collections and with data from other related data sets on the Web

# Actions Technologies



# Resources on “How – To”

Southwick, S. B., Lampert, C. K. & Southwick, R. M. Preparing Controlled Vocabularies for Linked Data: Benefits and Challenges. *Journal of Library Metadata Special Issue on Controlled Vocabularies and the Semantic Web*

<http://www.tandfonline.com/doi/pdf/10.1080/19386389.2015.1099983>

Lampert, C. K., & Southwick, S. B. (May 2015). On the Brink of Linked Open Data: Evolving Workflows and Staff Expertise. In B. L. Eden (Ed.), *Cutting-Edge Research in Developing the Library of the Future: New Path for Building Future Services* (109-124). Rowman & Littlefield

Southwick, S. B. (March 18, 2015). A guide for transforming digital collections metadata into linked data using open source technologies. *Journal of Library Metadata*, 15(1), 1-35. doi:10.1080/19386389.2015.1007009

<http://www.tandfonline.com/doi/full/10.1080/19386389.2015.1007009#.VcKIcPIVhBc>

Lampert, C. K., & Southwick, S. B. (July 01, 2013). Leading to Linking: Introducing Linked Data to Academic Library Digital Collections. *Journal of Library Metadata*, 13, 230-253.

<http://www.tandfonline.com/doi/abs/10.1080/19386389.2013.826095#.VcKHhfIVhBc>

# Optimization of Process

It is important to point out that optimization of “process” for linked data must inevitably be attained collectively rather than by each contributing library.

The background features a series of vertical, slightly wavy lines in shades of light blue and grey, creating a textured effect. A solid teal horizontal bar spans the width of the image, serving as a backdrop for the text.

# Beyond the Transformation

Embracing Data Management



## Metadata Creation

We may *want* to try  
to link our current  
data...

- Focus is on each collection being created in each library
  - Usually metadata consistency is managed within collections
- Not much rigor is used to enter controlled vocabulary terms
  - Exs.: Misspellings, use of terms that do not match the preferred terms, etc.
- Limited control of local terms
- **Implications:**
  - Ability to identify relationships **within** and **across** collections is decreased

# Implications of “bad data”

## Automatic Reconciliation:

- No match (true, local terms)
- No match (false, controlled but ambiguous terms)
- Partial match (human intervention: true)
- Partial match (human intervention: false)
- Full match (true) = LINK

# Redman's Data Flow

The terms *data lake* and *data stream* are used to represent the processes for achieving data quality.

Our local opportunity: Cleaning our data “lakes”

Our global opportunity: Working toward “upstream and downstream” data processes contributing to overall quality of data streams

Redman, Thomas C. (2008). *Data Driven: Profiting from Your Most Important Business Asset*. Boston, Mass: Harvard Business Review Press.

# Principles Guiding LOD at UNLV

## Is it worth it?

If semantic richness is preserved, the chance of linking increases.

- Consistency
- Interoperability
- Transformational Integrity
- Identification of all things with URIs
- Sustainability
- Sharing



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# In Practice

“Doing” Linked Data – in practice

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You can prepare for LOD by:

**From  
experiment  
to  
implementati  
on**

Focus on data at  
hand

- Cleaning and sharing controlled vocabularies from legacy collections
- Re-training metadata creators
- Re-designing workflows
- Delegating additional data management responsibilities

# Key Tools

## APPLICATION PROFILE

Used to:

- Specify terms, source of terms, expression, labels
- Bring metadata into compliance across collections

## CONTROLLED VOCAB

Used to:

- Allow reuse of CV URIs for linking
- Facilitate reconciliation
- Link local names within AND across collections

## Key Tools

TemaTres  
Vocabulary  
Management  
Software

<http://www.vocabularyserver.com/>

# UNLV Person & Group Authority Data

Home My account

## <Local Person Name>

Is a meta-term.

Home / PERSON / Local Person Name

Term Metadata

### Local Person Name

#### Broader Terms

BT <PERSON>

#### More specific terms

NT2 A-wan, A. K.  
NT2 Abbey, Joshua, 1956-  
NT2 Abbott, James Smith  
NT2 Abbott, Jerry  
NT2 Abell, S.  
NT2 Abington, Edith  
NT2 Absera, M.  
NT2 Acheampong, Steve Y.  
NT2 Adams, "Flash"  
NT2 Adams, Charles  
NT2 Adams, E. C.  
NT2 Adams, Jimmy



# Metadata Creator: Redefined

Metadata creator = Data contributor

## Roles:

Seek efficient processes based on LOD principles

Preserve semantic richness in metadata/LOD work at local level

Think beyond local to global data stream

Embrace the collaborative nature of linking data

Advocate for linked open data

\*Prepping for LOD = Better quality metadata

# Closing the LOD Loop

Next steps

# Interface Explorations

Videos at: <http://bit.ly/1pvZURU>

## PivotViewer

- Rich display of images
- Looks familiar; but more robust with LOD
- Out of the box with Virtuoso; no development
- Link: <https://www.microsoft.com/silverlight/pivotviewer/>

## Relfinder

- Images and Oral History collections
- Graph layout shows relationships
- Requires development
- Link: <http://www.visualdataweb.org/relfinder.php>

## New Projects

See it

Assess it

Collaborate

- Experimental Interface for Jewish Heritage Collection
- Assess LOD for digital collections
- Regional Authority Data: CRADL

# Questions?

Contact Us:

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