

**Without standards,
nothing else will work:**

**Metadata, identifiers and
linking together content**

**Todd Carpenter
Executive Director, NISO
Fiesole Conference
April 7, 2016**

Don't fear the angle brackets

`<dc:title>` Without standards,
nothing else will work:
Metadata, identifiers and
linking together
`content</dc:title>`

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`<dc:date>April 7, 2016</dc:date>`

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<dc:format>vnd.ms-powerpoint</dc:format>
<dc:language>en</dc:language>
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**OK, I'll stop talking in
angle brackets, I promise!**

About



- Non-profit industry trade association accredited by the American National Standards Institute
- Mission of developing and maintaining technical standards related to information, documentation, discovery and distribution of published materials and media
- Volunteer driven organization: 220+ members and 400+ contributors spread out across the world
- Responsible for standards like ISSN, DOI, Dublin Core metadata, DAISY digital talking books, OpenURL, MARC records, and ISBN

**“Why should we care,
it’s only metadata?”**

“Why should we care,
it’s only metadata?”

Because on the Internet,
metadata can be

more important

than the actual thing it describes.

Vogt, Evon Z., 1918-

joint ed.

BL

80.2.

R44

1979

~~Lessa, William Armand, ed.~~

Reader in comparative religion : an anthropological approach / [edited by] William A. Lessa, Evon Z. Vogt ; with the assistance of John M. Watanabe. — 4th ed. — New York : Harper & Row, c1979.

viii, 488 p. : ill. ; 26 cm.

Bibliography: p. 473-485.

Includes index.

ISBN 0-06-043991-2

1. Religions—Addresses, essays, lectures.
joint ed. II. Title.

I. Vogt, Evon Zartman, 1918-

BL80.2.L44 1979

200'.8

78-13409

MARC

Library of Congress

78

*Photo: Minneapolis
College
of Art and Design [Library](#)*



Photo: [OSU Thompson Library Stacks](#) by Kristin Six

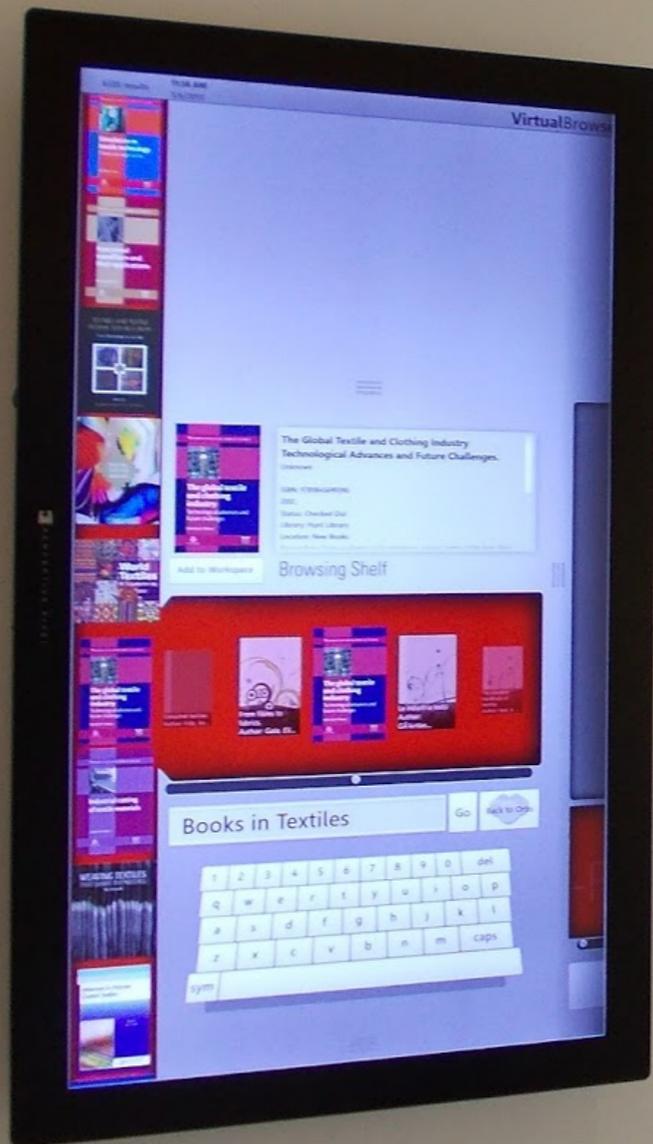
The main problem today is this:

**The main problem today is this:
You can't walk the stacks
in a digital library
or browse the shelves
in an online bookstore**

Does anyone know what this is?



This is how you browse bookBot "stacks"



**Digitally,
all you can
browse or search
is metadata**

And for most books, this is the best we can give you?

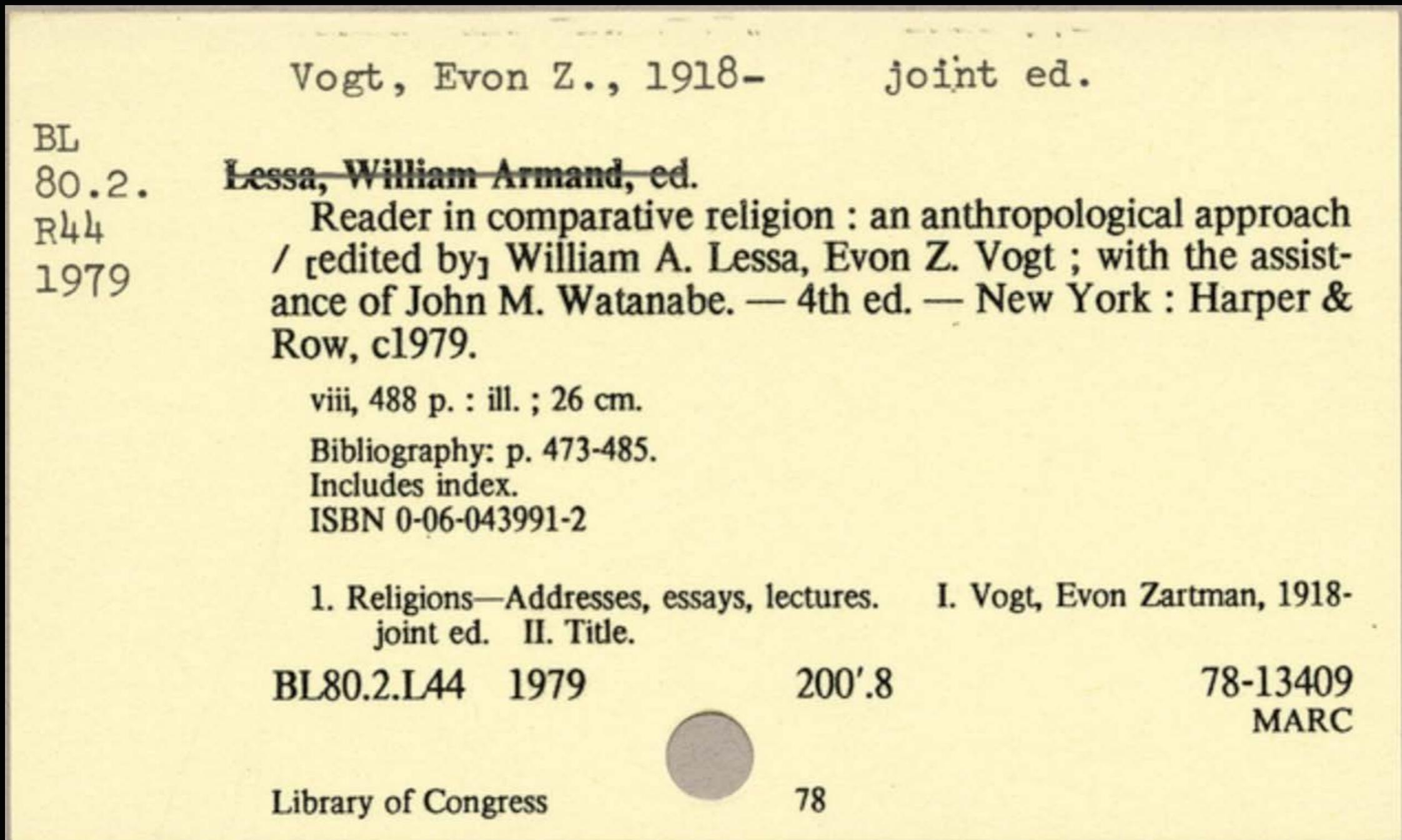


Photo: Minneapolis
College
of Art and Design [Library](#)

Lesson #1:
If your metadata is
inaccurate, incomplete,
or poorly formatted,
it is negatively affecting
discovery, usage
and sales

Metadata, metadata
everywhere

Seeing Standards: A Visualization of the Metadata Universe

Content: Jenn Riley
Design: Devin Becker

Work funded by the Indiana University Libraries'
White Professional Development Award

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Seeing Standards: A Visualization of the Metadata Universe

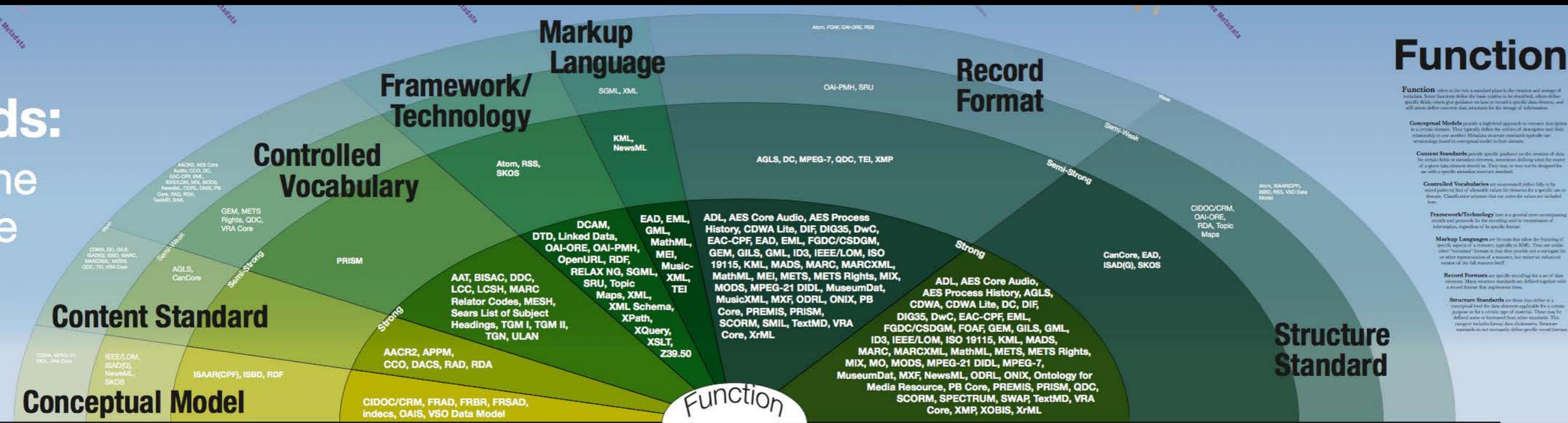
Content: Jenn Riley
Design: Devin Becker

Work funded by the Indiana University Libraries'
White Professional Development Award

LEGEND

Summary and Purpose
The data consists of metadata standards in the metadata universe. Each standard is represented by a node in the graph. The size of the node is proportional to the number of standards that are related to it. The color of the node is proportional to the number of standards that are related to it. The color of the node is proportional to the number of standards that are related to it.

Function



Function

Function refers to the role a standard plays in the creation and/or management of metadata. Some functions define the basic entities to be described, others define specific fields, others give guidance on how to record a specific data element, and still others define concrete data structures for the storage of information.

Conceptual Models provide a high-level approach to resource description in a certain domain. They typically define the entities of description and their relationship to one another. Metadata structure standards typically use terminology found in conceptual models in their domains.

Content Standards provide specific guidance on the creation of data. In certain fields or contexts, sometimes defining what the content of a given data element should be. They may or may not be designed for use with a specific metadata structure standard.

Controlled Vocabularies are uncontrolled pattern lists to be stored pattern lists of allowable values for elements in a specific use or domain. Classification schemes that use codes for values are included here.

Framework/Technology serve as a general form encompassing models and protocols for the recording and/or maintenance of information, regardless of its specific format.

Markup Languages are formats that allow the encoding of specific aspects of a resource, typically in XML. They are unlike other "structural" formats in that they provide not a nomenclature or other representation of a resource, but rather an enhanced version of the full resource itself.

Record Formats are specific encodings for a set of data elements. Many structure standards are defined together with a record format that implements them.

Structure Standards are those that define at a conceptual level the data elements applicable for a certain purpose or for a certain type of material. They may be defined alone or in concert with other standards. This category includes formal data dictionaries. Structure standards do not necessarily define specific record formats.

This landscape in full size



We all want our own



**Do we really need
all this complexity?**

YES!

**Metadata and vocabulary use
is specific for a
particular purpose
and a particular community**

**Granularity and specificity
are critical at some levels
and not others**

(& there are costs associated with each)

Lesson # 2:

Embrace the complexity;
digitally, we can handle it
(if the costs/benefits align)

Some examples

Content form metadata

Metadata elements embedded
in the content file

Such as PDF, JATS, Docbook,
TEI, EPUB

Business exchange metadata

ONIX

v2.1 and v3.0 are not completely different

Upgrade if you haven't!

Taxonomies/Subject Headings

LCSH, BISAC/BIC, Thema
Domain specific taxonomies

Should you be mapping taxonomies to
your books, titles, chapters, within text?

Author identification

PLEASE, PLEASE ADOPT ORCID!

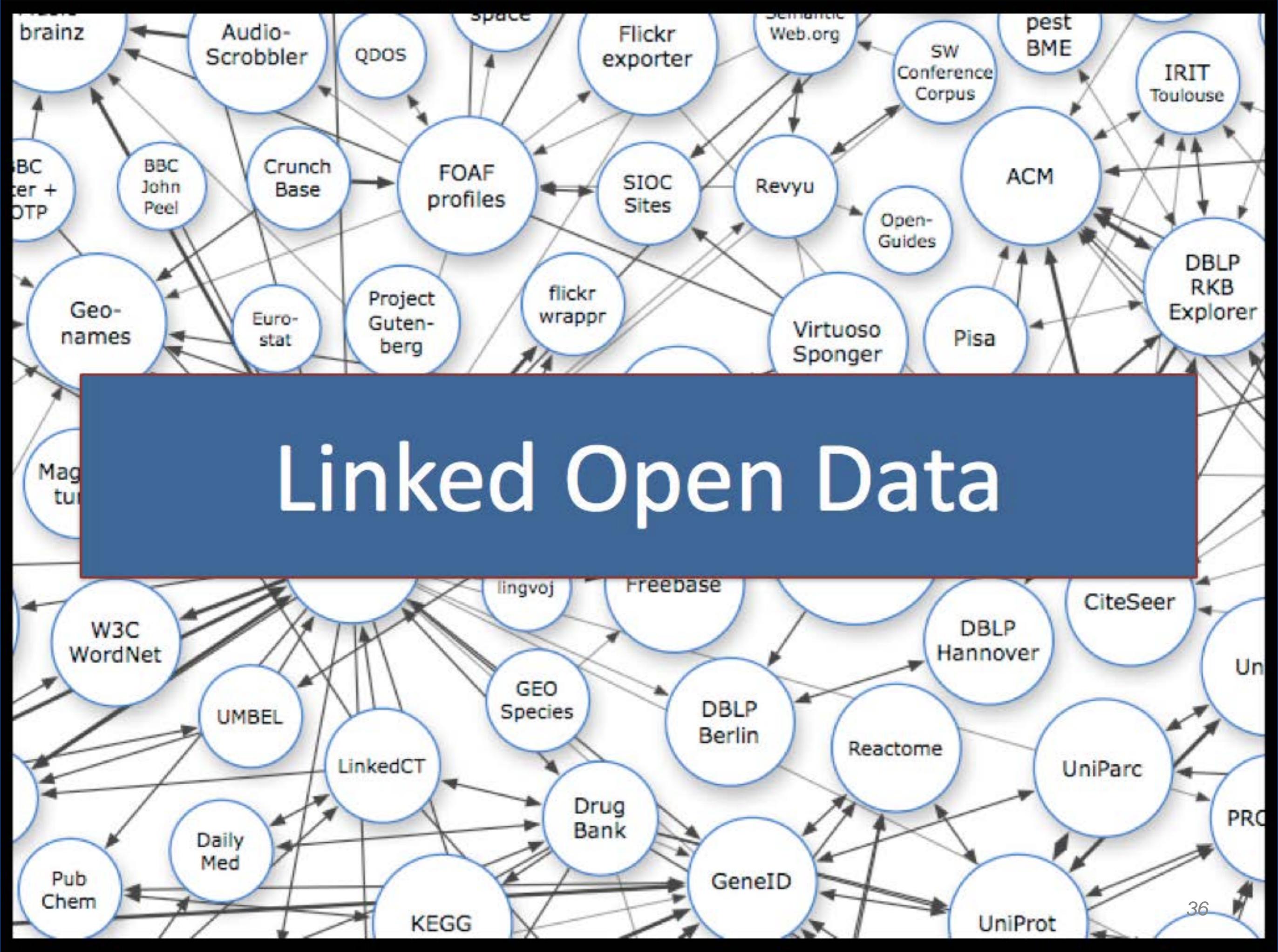
There is also ISNI
in other contexts

(institutions, deceased authors, etc.)

Lesson # 3:

Strings of text (i.e. names, titles, affiliations) are poor things to link together.

Use identifiers!



Linked Open Data



Linked data in the real world

The image shows a browser window with a Google search for "thomas piketty". The search results are displayed on the left, and a knowledge panel is on the right. The knowledge panel includes a large photo of Thomas Piketty, his name, profession (Economist), a brief biography, birth date (May 7, 1971), spouse (Julia Piketty), and book (Capital in the Twenty-First Century). Below the knowledge panel are sections for "Read now" (Google Play, iBooks, Oyster Books) and "People also search for" (Frédéric Lordon, Paul Krugman, Aurélie Filippetti, Emmanuel Saez, Joseph Stiglitz).

thomas piketty - Google Search

Google Thomas piketty Sign in

Web News Videos Shopping Books More Search tools

About 1,040,000 results (0.35 seconds)

Thomas Piketty - CV - Ecole Normale Supérieure
piketty.pse.ens.fr/en/cv-en - École Normale Supérieure
Thomas Piketty is Professor of Economics at the Paris School of Economics. He is the author of numerous articles published in journals such as the Quarterly ...

Thomas Piketty - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Thomas_Piketty - Wikipedia
Thomas Piketty (French: [to'ma pike'ti]; born on 7 May 1971) is a French economist who works on wealth and income inequality. He is professor (directeur ...
[Capital in the Twenty-First - Paris School of Economics - Aurélie Filippetti](#)

Thomas Piketty: New thoughts on capital in the twenty-first ...
https://www.ted.com/.../thomas_piketty_new_thou... TED
French economist **Thomas Piketty** caused a sensation in early 2014 with his book on a simple, brutal formula ...

Amazon.com: Capital in the Twenty-First Century ...
www.amazon.com > ... > Economics > Comparative - Amazon.com, Inc.
In *Capital in the Twenty-First Century*, **Thomas Piketty** analyzes a unique collection of data from twenty countries, ranging as far back as the eighteenth century, ...

Capital in the Twenty-First Century — Thomas Piketty ...
www.hup.harvard.edu/catalog.php?isbn... - Harvard University Press
Thomas Piketty's findings in this ambitious, original, rigorous work will transform debate and set the agenda for the next generation of thought about wealth and ...

Thomas Piketty - Paris School of Economics
www.parisschoolofeconomics.eu/.../piketty-th... - Paris School of Economics
Thomas Piketty, Associate Chair. EHESS. Campus Jourdan – 48 Boulevard Jourdan 75014 Paris. Building B, 1st floor, office B112. thomas.piketty@psemail.eu.

Thomas Piketty - The Economist
www.economist.com/topics/thomas-piketty - The Economist

Thomas Piketty
Economist

Thomas Piketty is a French economist who works on wealth and income inequality. He is professor at the École des hautes études en sciences sociales, professor at the Paris School of Economic... [More Wikipedia](#)

Born: May 7, 1971 (age 44), Clichy, France
Spouse: Julia Piketty
Books: *Capital in the Twenty-First Century*

Ads Read now

Google Play
iBooks
Oyster Books

People also search for View 10+ more

Frédéric Lordon Paul Krugman Aurélie Filippetti Emmanuel Saez Joseph Stiglitz

The last lesson:

**Managing identifiers and
metadata well
is difficult and
expensive**

**Managing identifiers and
metadata poorly
can be more expensive
and probably in ways
you can't track.**

Thank you!

Todd Carpenter, Executive Director

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