

2-26-2014

# Research Literally at Your Fingertips

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## Repository Citation

Buehler, M. A. (2014, February). Research Literally at Your Fingertips. Presentation at University Forum, Barrick Museum, University of Nevada, Las Vegas.

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# Research Literally at Your Fingertips

University Forum: Barrick Museum, UNLV  
Marianne A. Buehler, Assistant Professor  
UNLV Libraries, February 26, 2014

## Acknowledgements

My thanks to Cory Tucker, Head of Collection Management, Lied Libraries, for introducing me this evening.

We are fortunate to have the *University Forum Lecture Series* supporting the public event this evening. I am honored to present on the topic of *open access to research*.

# Presentation Content

- **Research: History of accessibility**
- **Roles of publishers and academic libraries**
- **Publishers and faculty research**
- **New models of open access to scholarly materials**
- **Locating and access to research**
- **U.S. Federal Legislation and open research**

# Brief and Basic History of Research

## Research: History of accessibility

- 1700—present: Four centuries+ of costly research subscriptions.
- 2000—present: Full circle effect from the 1600s.
  - Research is increasingly open access and free to use.

# Beginnings of “Priority of Discovery”

- **Early 1600s: establishment of “first to discover”**
  - Perennial research competition.
  - Scientific discovery encrypted in an anagram, deposited with an official witness.
  - Competitor claim: Original scientist had his witness unscramble the anagram, establishing his priority.

# Galileo's Anagram to Kepler

Galileo's witness → anagram to Kepler in 1610:

*smaismrmilmepoetalevmibunenugttaviras*

- Unable to solve the anagram
- Gave Galileo time to complete his observations

Galileo told Kepler it stood for: *"I have observed the uppermost planet triple,"* referring to Saturn's rings, seen for the first time.

# Origins of Scientific Journals

1660—cooperative learned society forums created (Royal Society, London)

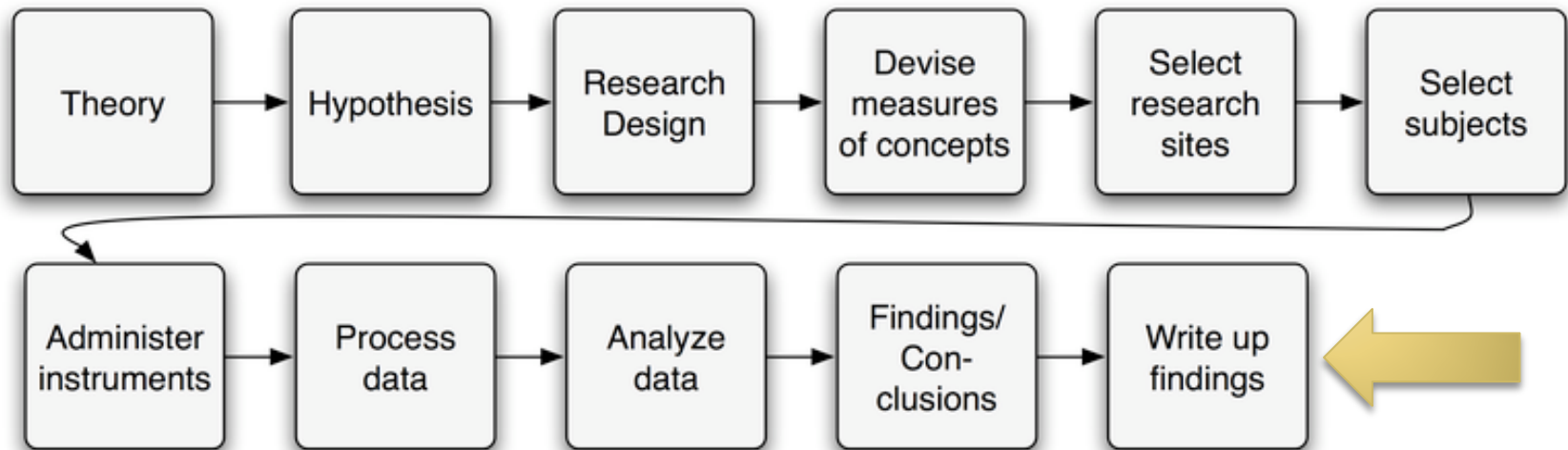
1665—first scientific journal: Paris

1668: Parallel to learned societies, scientific journals are published by private commercial groups: paywalls

1700's: beginnings of steady scholarly journal development



# Scientific Process Standardization



Contributions to <http://researchmeth.wikispaces.com/> are licensed under a [Creative Commons Attribution Share-Alike 3.0 License](#).

# Faculty Research, Libraries, Publishers and Readers

- **Traditional academic publishing process:**

Faculty conduct research->write a paper for journal dissemination-> submit a paper to journal editors for peer-review-> declined or accepted-> article published: readers and libraries require a subscription to use content.

# Fast Forward to the 20<sup>th</sup>-21<sup>st</sup> Century

Years 1980s-> 2000,  
academic libraries financially  
squeezed by publishers.

Years 2000->current time,  
digital repositories created to  
archive research: global open  
access visibility and usability.

2009: scholarship exceeds 50  
million journal articles and 26,406  
active academic journals.

**Timeline of  
accelerating  
subscription  
publishing costs  
due to economic  
downturn: 2008 to  
2014.**

**Publishers  
and Academic  
Libraries Still  
at Odds**

**Libraries  
response to  
publishers:  
DIGITAL  
LIBRARIES**

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[UNLV Digital Collections](#)



## Nevada 2.0: New Economies for a Sustainable Future

Nevada 2.0: New Economies for a Sustainable Future was held on

January 2011 to explore opportunities to diversify Nevada's economy by examining similar efforts in nearby states.

[Visit site](#)



## Browse Research and Scholarship

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## About the Repository

The repository is a service of the University of Nevada, Las Vegas Libraries. The mission is to capture, preserve, and share the intellectual output of UNLV faculty, staff, students, and collaborations with other stakeholders. Research and scholarly archived output includes: articles, monographs, audio/visual presentations, working papers, technical reports, conference papers/posters, theses/dissertations, data sets, and publicly-

# Contemporary Research Discovery Business Models

- Scientists guard research until publication OR use social media to be the first to announce a discovery.
- Altmetrics: social media commenting, Twitter, republish, Facebook, Instagram, follow, views/downloads, citations, saves.

# Types of Research-> Open Access

- Research articles, conference proceedings, posters, presentations, technical reports
- Graduate and undergraduate students: theses/dissertations, honors, professional papers, presentations
- Chapters, books
- Data: projects, sets
- Educational resources: reports, conferences
- Multimedia: podcasts, audio-visual presentations (mp4 and mp3),

# Locating and Access to Research Aggregator Databases of Open Research and Google Scholar

- *OpenDOAR*: <http://www.opendoar.org/>
- *ROARMAP*: <http://roarmap.eprints.org>
- *ETD database: Networked Digital Library of Theses and Dissertations:*  
<http://thumper.vtls.com:6090/search/query?theme=NDLTD>
- *Directory of Open Access Journals:*  
<http://www.doaj.org/>
- *Google Scholar*: <http://scholar.google.com/>



# Subject/Discipline Repositories

- **arXiv**: physics, mathematics, computer science, quantitative biology, and statistics
- **Public Library of Science (PLOS)**
- **PubMed (citations+)**
- **ERIC education**
- **Social Science Research Network (SSRN)**
- **Research Papers in Economics (RePEc)**
- **Economists Online**
- **Industrial & Labor Relations (ILR)**

[http://oad.simmons.edu/oadwiki/Disciplinary\\_repositories](http://oad.simmons.edu/oadwiki/Disciplinary_repositories)

# Data Curation: Open Access Data Files

## Potential repository data content:

- Text
- Images
- Spreadsheets
- Recordings

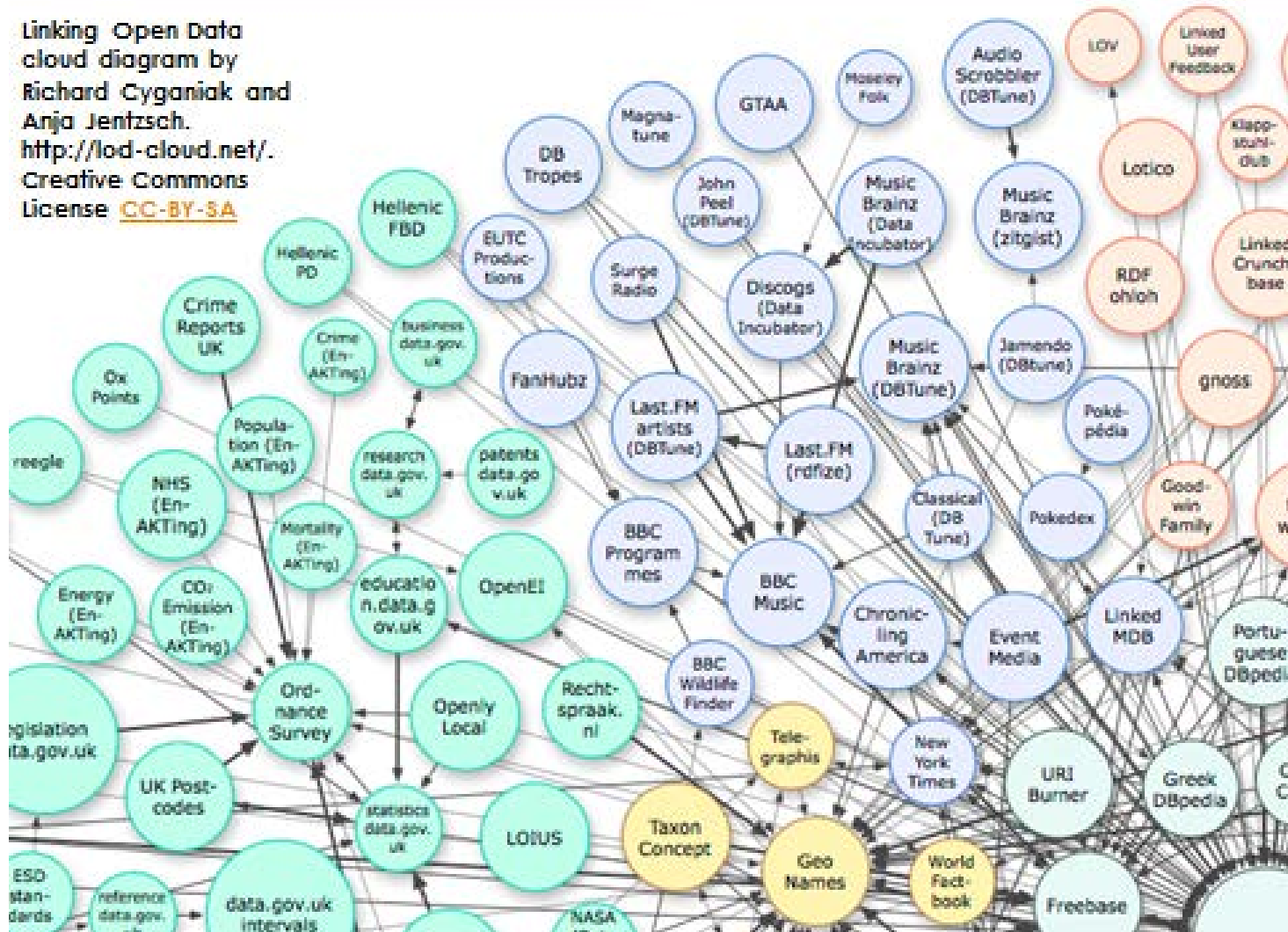
Replication of studies?

# Open Data and Linked Data

- **Open data:** potential for reuse, redistribution with attribution, or share alike licensing (*Creative Commons Licenses*).
- **Linked data:** technical interoperability of interlinking structured data enabling connectivity to improve information discovery.
  - Set of online best practices for publishing and sharing structured data, use of URIs.
  - Beneficial for digital repositories: enhances visibility by linking content to the wider web of data.

# Linked Data: A Visual

Linking Open Data  
cloud diagram by  
Richard Cyganiak and  
Anja Jentzsch.  
<http://lod-cloud.net/>.  
Creative Commons  
License [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/)



# Predatory Publishers and Journals

- Take advantage of the open access model
- Primarily in STEM fields → Lots of grant \$

*List of Predatory Publishers*

<http://scholarlyoa.com/publishers/>

*List of OA Predatory OA journals (350)*

<http://scholarlyoa.com/individual-journals/>

# New Models of Open Access Publishing Give Rise to Predatory Practices

- Levy article processing charges, catching authors unawares. Charges range from a few to many hundreds of dollars.
- Look for: a peer-review board, copyright information, article citations, contact information, and physical location.

# Predatory Publisher Open Research Network



- **86 Journal Titles – copied from another publisher.**
- **No editorial board to be found.**
- **No articles.**
- **“Sharing academic knowledge through Publishing the most exciting researches with respect to the subjects of our Journals and providing a rapid turn-around time possible.”**

**<http://scholarlyoa.com/2013/05/>**

# The Open Access Advantage (OA)

## **OA research via the Internet**

- Benefits for:
  - **Authors:** increased visibility and impact of research results.
  - **Readers:** direct access to scholarship.
  - **Universities:** opportunity to showcase the research of its members.
  - **Taxpayers:** research supported by public funds more accessible.





# U.S. Federal Legislation

## Federally Funded Research Requirements

- NIH Public Access Policy (2008)
- NSF Data Management Plan Requirements (Jan 2011)
- OSTP (Office of Science and Technology Policy) Memo (Feb 2013)
- FY 2014 Omnibus Appropriations Bill (January 2014)

## Proposed Federal Legislation

- Federal Research Public Access Act (FRPAA) 2006, 2010, 2012; would increase access to federally funded research.
- Fair Access to Science and Technology Research Act (FASTR) 2013; a strengthened version of FRPAA (increased access).

***By paying income tax, US taxpayers fund agency research—citizens should have access to the research they have paid for.***

# Resources

- Fjallbrant, N. (1997). Scholarly communication- Historical development and new possibilities. Proceedings of the IATUL Conferences, Paper 5. <http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1389&context=iatul>
- Roquet, Mark. (2014). Getting started with research data in your repository. Presentation not publically available.
- COAR. 7 things you should know about...Linked Data. <http://eprints.rclis.org/21139/2/COAR.pdf>

Thank you for your interest!

Questions?