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Title

Science, Scholarship, Knowledge Infrastructures, and Judy and Gary Olson

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Science, Scholarship, Knowledge Infrastructures, and Judy & Gary Olson

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Milena Golshan

Gary & Judy Olson's Retirement Celebration

University of California, Irvine

May 29, 2017

UCLA Center for Knowledge Infrastructures

PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings , Studies , and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD

Vol I.
For *Anno* 1665, and 1666.

In the *SAVOY*,
Printed by *T. N.* for *John Martyn* at the Bell, a little with-
out *Temple-Bar* , and *James Allestry* in *Duck-Lane* ,
Printers to the *Royal Society.*

PHILOSOPHICAL
TRANSACTIONS B

**Theme issue 'Celebrating 350 years of
Philosophical Transactions: life sciences
papers' compiled and edited by Linda
Partridge**
19 April 2015; volume 370, issue 1666

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Technological advances in mediated communication
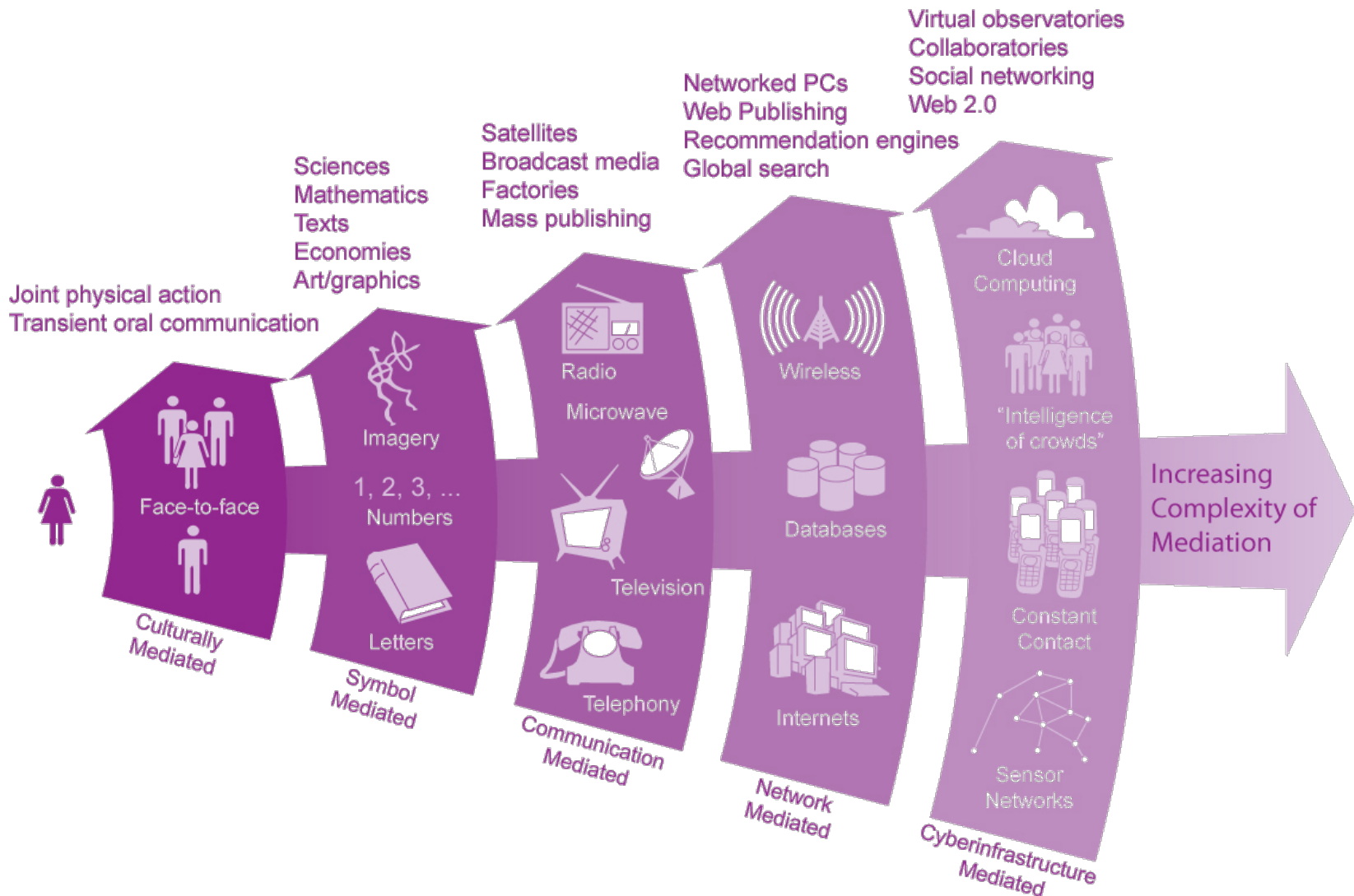
Borgman, C. L., Abelson, H., Dirks, L., Johnson, R., Koedinger, K. R., Linn, M. C., … Szalay, A. (2008). *Fostering Learning in the Networked World: The Cyberlearning Opportunity and Challenge.* National Science Foundation. http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf08204
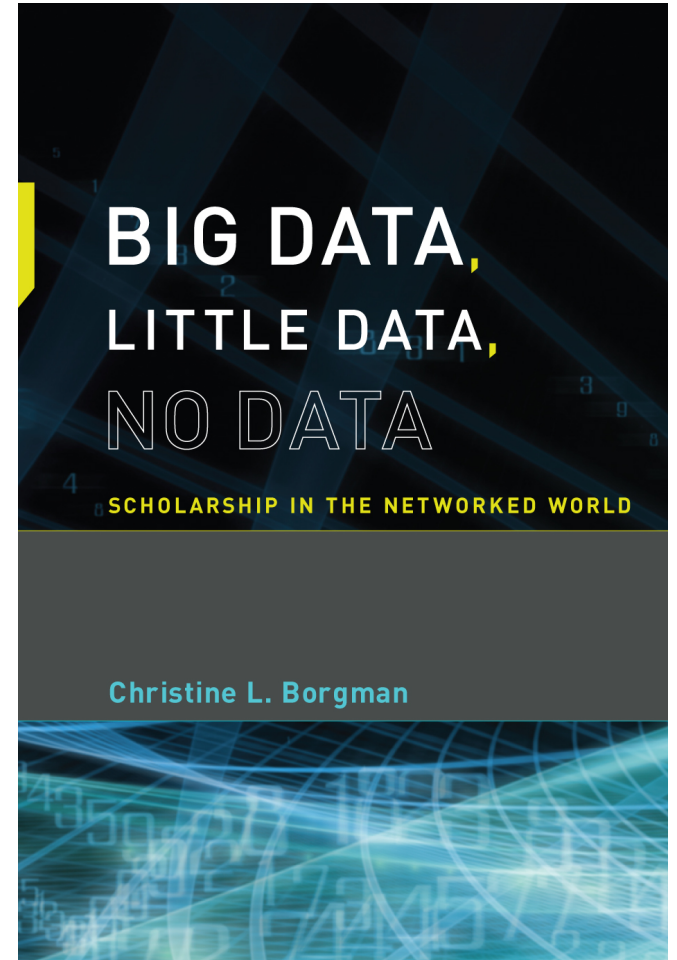
Image: Jillian Wallis and Roy Pea

3
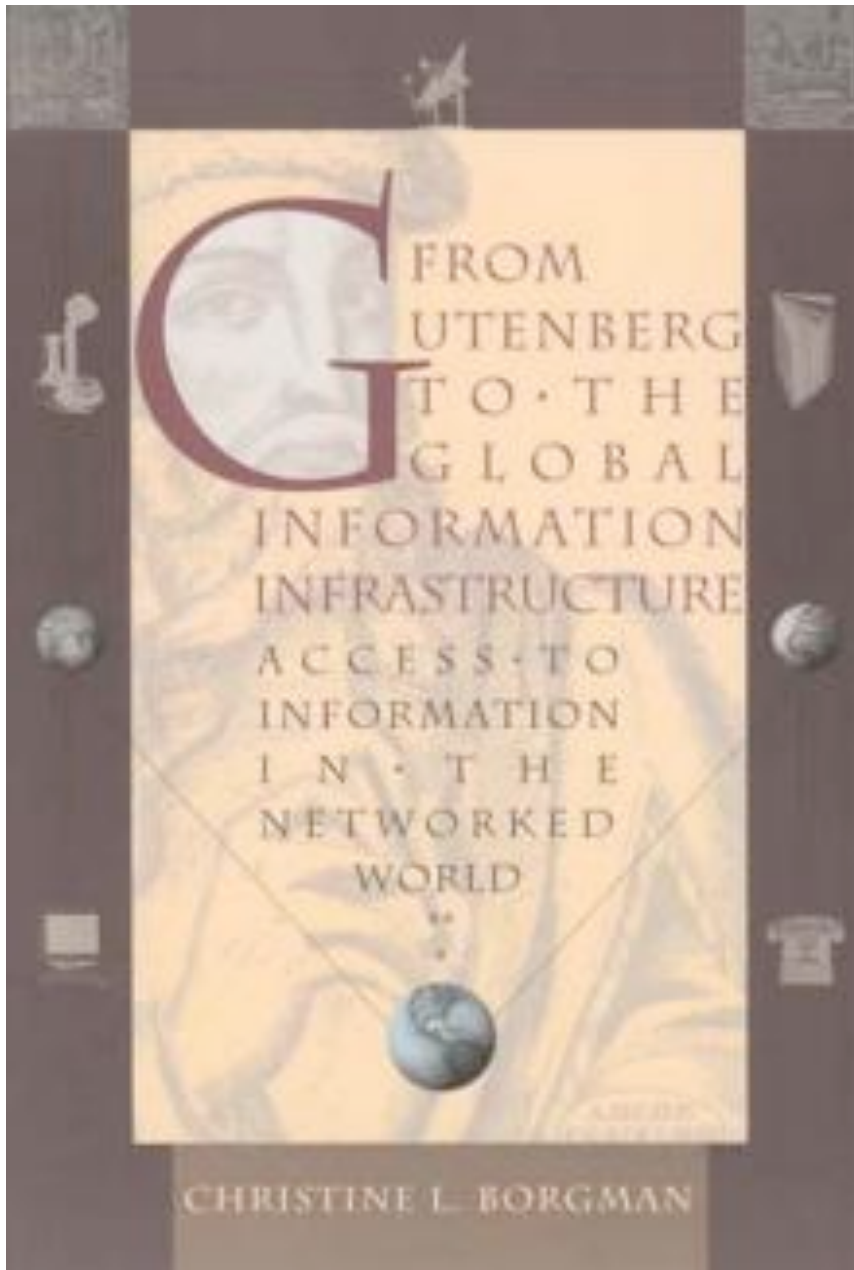
MIT Press, 2000

MIT Press, 2007

4
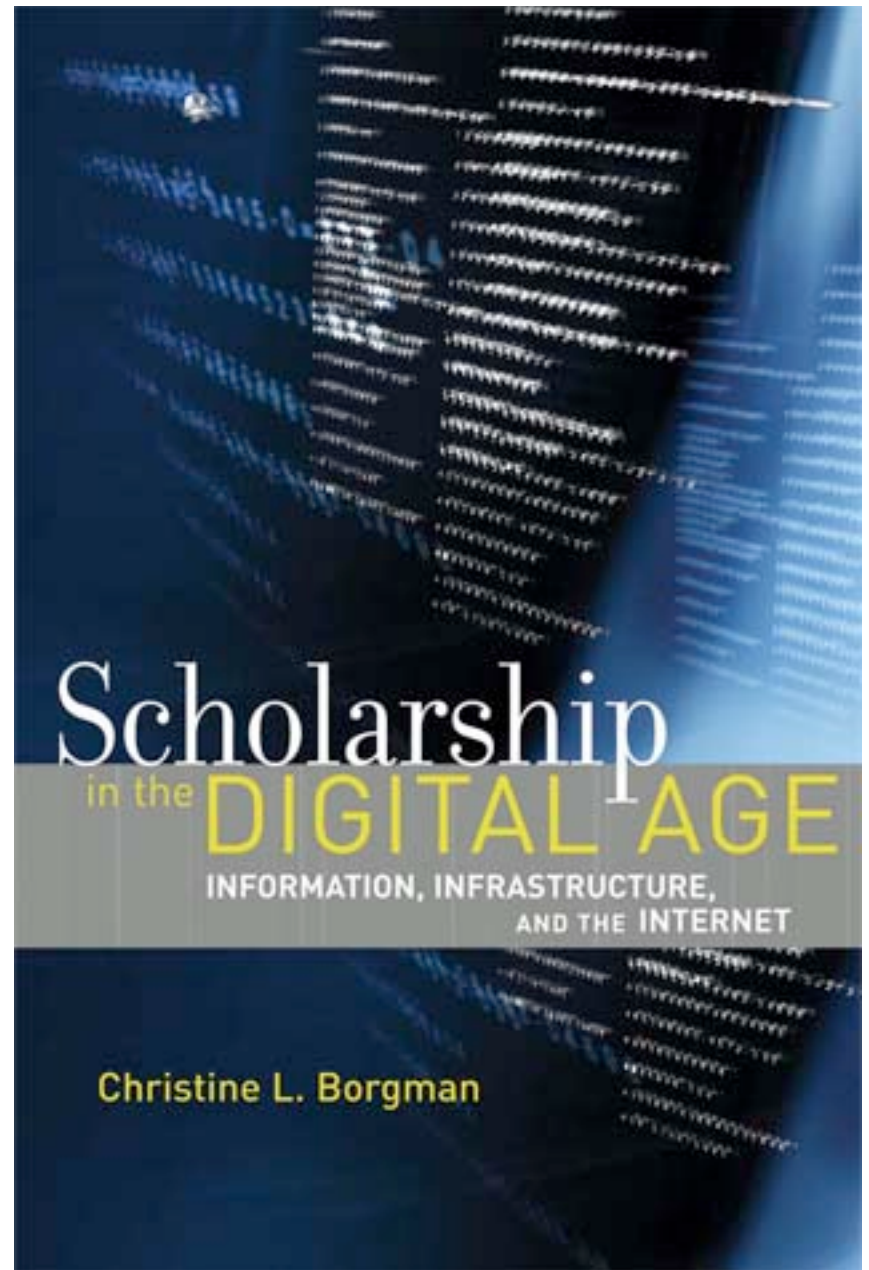
Why Share Research Data?

- To reproduce research
- To make public assets available to the public
- To leverage investments in research
- To advance research and innovation

BIG DATA, LITTLE DATA, NO DATA

SCHOLARSHIP IN THE NETWORKED WORLD

Christine L. Borgman

MIT Press, 2015

Lack of incentives to share data

- Rewards for publication

- Effort to document data

- Competition, priority

- Control, ownership

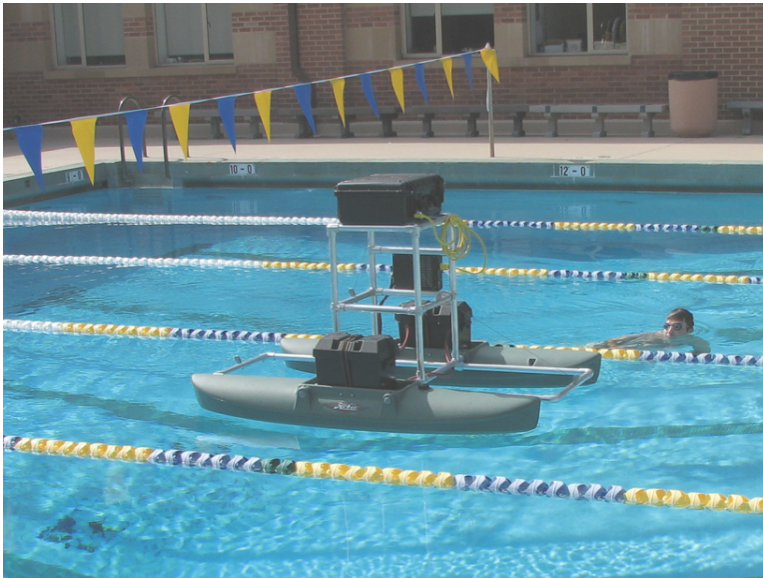http://www.buildingsrus.co.uk/.../ target1.htm

Data

Science <–> Data

Engineering researcher:
**"Temperature is temperature."**

CENS Robotics team

Biologist: ***"There are hundreds of ways to measure temperature.*** *'The temperature is 98' is low-value compared to, 'the temperature of the surface, measured by the infrared thermopile, model number XYZ, is 98.' That means it is measuring a proxy for a temperature, rather than being in contact with a probe, and it is measuring from a distance. The accuracy is plus or minus .05 of a degree. I [also] want to know that it was taken outside versus inside a controlled environment, how long it had been in place, and the last time it was calibrated, which might tell me whether it has drifted.."*

Data are representations of observations, objects, or other entities used as evidence of phenomena for the purposes of research or scholarship.

C.L. Borgman (2015). *Big Data, Little Data, No Data: Scholarship in the Networked World*. MIT Press

Knowledge Infrastructures
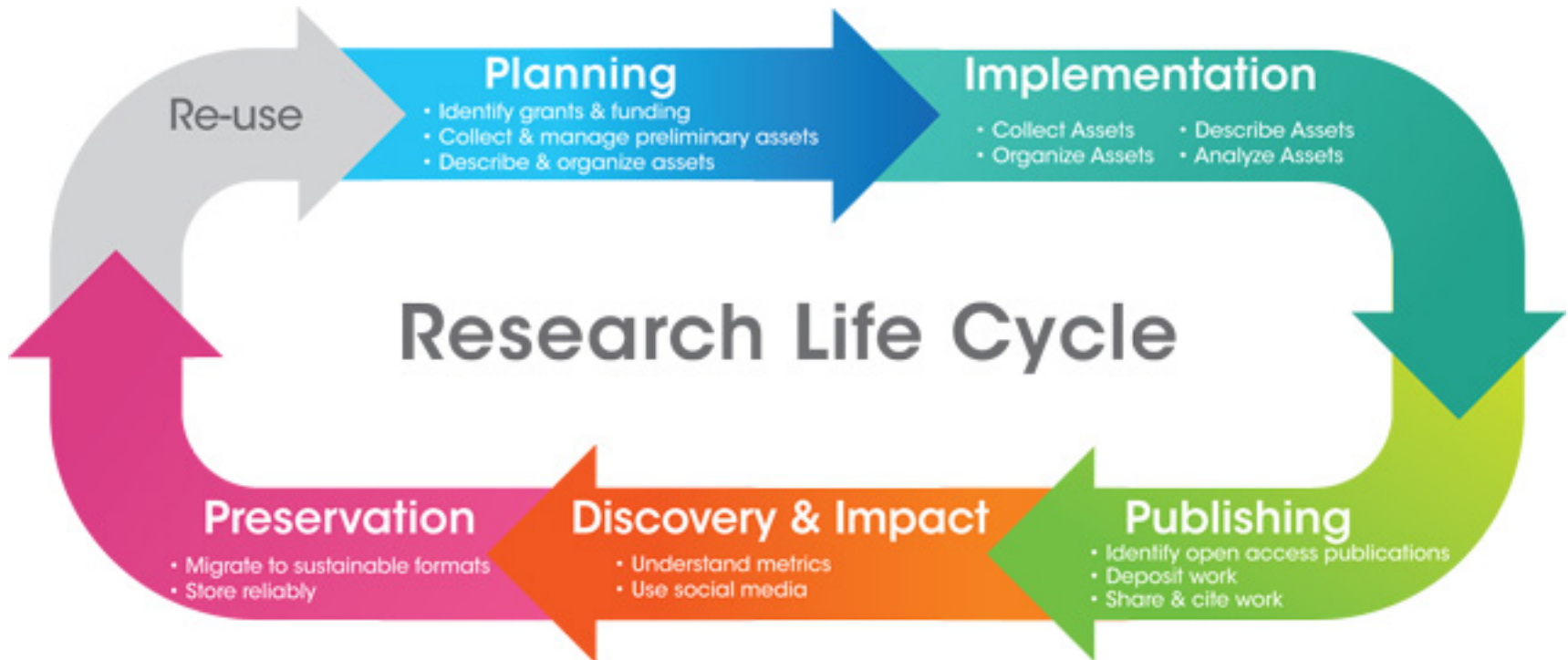
Slide: Alyssa Goodman, Harvard
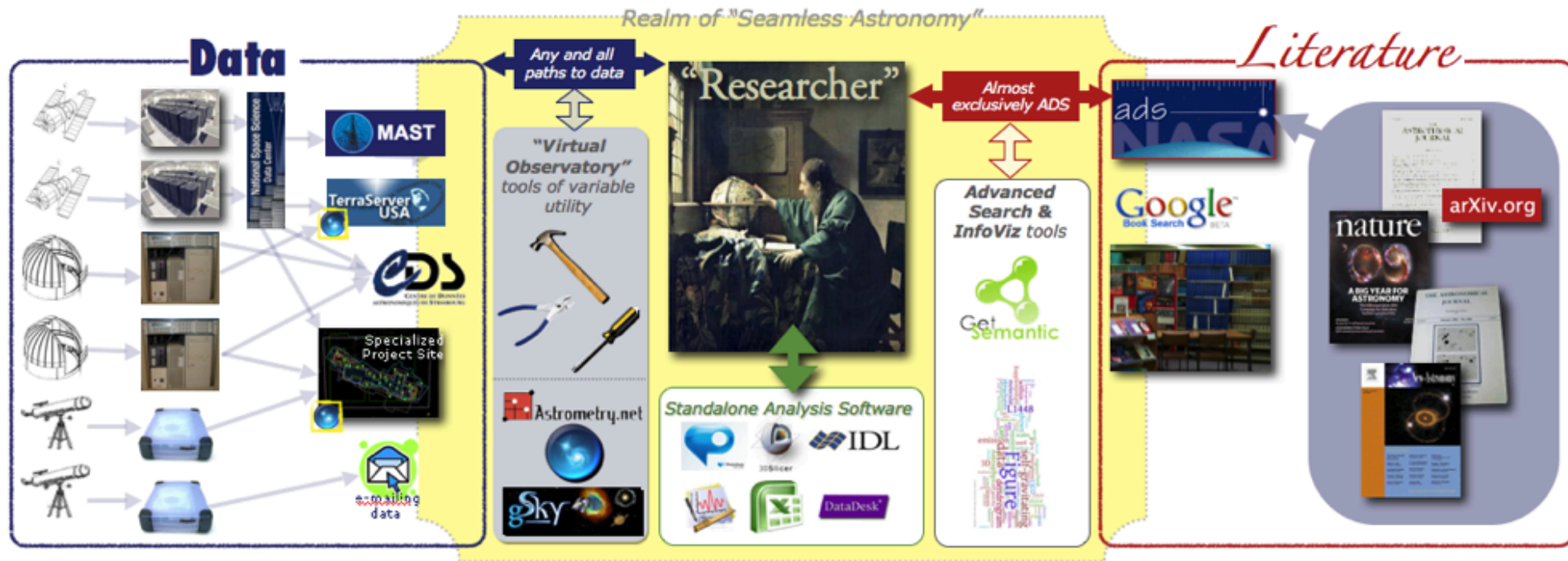
Knowledge Infrastructures

- Technical fabric
  - Data archives
  - Metadata, provenance, classification, collections
  - Tools, services, support
- Social fabric
  - Data curation workforce
  - Digital stewardship workforce
- Trust fabric
  - Memory institutions
  - Stewardship

Knowledge Infrastructures:
Intellectual Frameworks and Research Challenges

Report of a workshop sponsored by the National Science Foundation and the Sloan Foundation

University of Michigan School of Information, 25-28 May 2012

When to invest in data?

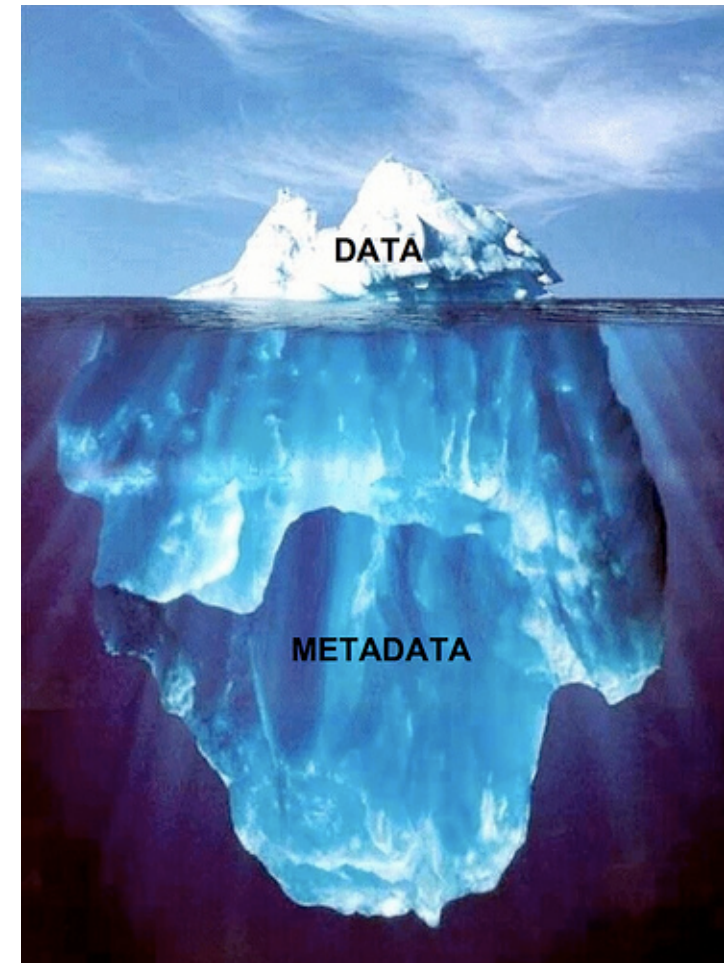http://www.lib.uci.edu/dss/images/lifecycle.jpg

When to invest in data?

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Reuse across place and time

- Reuse by investigator
- Reuse by collaborators
- Reuse by colleagues
- Reuse by unaffiliated others
- Reuse at later times
  - Months
  - Years
  - Decades
  - Centuries

Image from Soumitri Varadarajan blog. Iceberg image © Ralph A. Clevenger. Flickr photo

Data Curation and Stewardship

- Services and tools
- Data management planning
- Selection and appraisal
- Metadata, provenance
- Migration
- Economics
- Infrastructure

ZOMBIE LIBRARIANS DISREGARD DATA!

Olsons' influence on the next generation of data librarians

- Support data sharing by fostering scholarly collaboration in the digital age: "...a team is likely to succeed if it...uses technologies to support ... **the sharing of data/knowledge**..."

- Create shared vocabularies within multidisciplinary teams to foster collaboration and data sharing.

- When working with widely distributed teams, there must be consensus on how the data will be analyzed, published, and released.

Judith Olson, & Gary Olson. (2014). How to make distance work work. *IX Interactions*, (XXI.2), 28. https://doi.org/1072-5220/14/0300

Slide by Yi Ding and Morgan Wofford, UCLA

Olson's influence on the next generation of data librarians

- Be mindful of challenges of remote work and benefits of face-to-face communication when providing data management consultations.

- Take advantage of ways that communication technology is better than collocation to contribute to privacy, accessibility, and diversity.

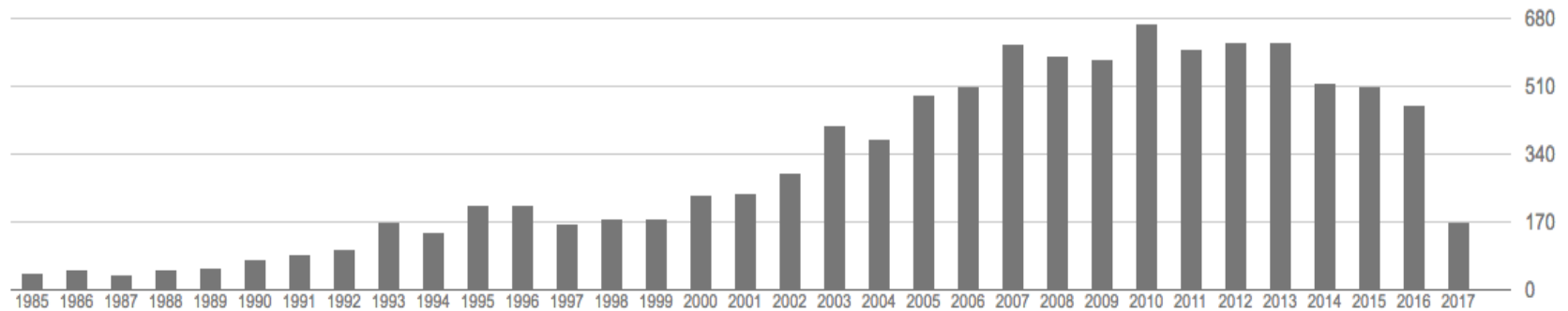- Stay up to date on new collaboration technologies "and the social behaviors that surround effective use."

Judith Olson, & Gary Olson. (2014). How to make distance work work. *IX Interactions*, (XXI.2), 28. https://doi.org/1072-5220/14/0300

Slide by Yi Ding and Morgan Wofford, UCLA

Citation Record: Gary M. Olson

Citations per year

Citation indices	All	Since 2012
Citations	10633	2898
h-index	49	25
i10-index	97	59

("Gary M. Olson - Google Scholar Citations," Retrieved May 28, 2017 from https://scholar.google.com/citations?user=4XyoYbAAAAAJ&hl=en)

Data compiled by Yi Ding and Morgan Wofford, UCLA

Citation Record: Judith S. Olson

Citations per year
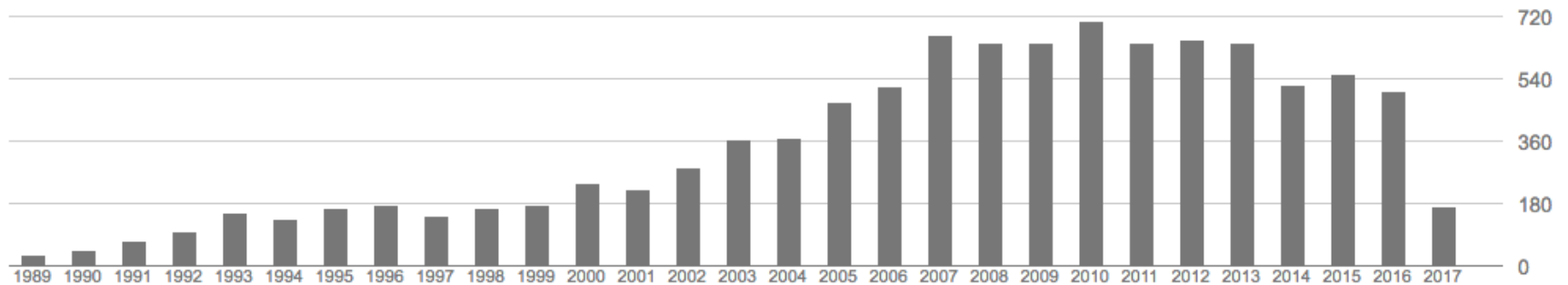
Citation indices	All	Since 2012
Citations	10352	3036
h-index	44	25
i10-index	75	49

("Judith Olson - Google Scholar Citations," Retrieved May 28, 2017 from
https://scholar.google.com/citations?user=xfwOz_kAAAAJ&hl=en)

Data compiled by Yi Ding and Morgan Wofford, UCLA

Oxford, 2006
Bill & Diana Dutton's backyard

Oxford, 2006
Bill & Diana Dutton's backyard

ACM Awards Dinner
San Francisco, 2014

Acknowledgements

Christine Borgman

Peter Darch

Ashley Sands

Irene Pasquetto

Bernie Randles

Milena Golshan

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