So, What Does a Chief Technology Strategist Actually Do?

Dean B. Krafft
January 13, 2010

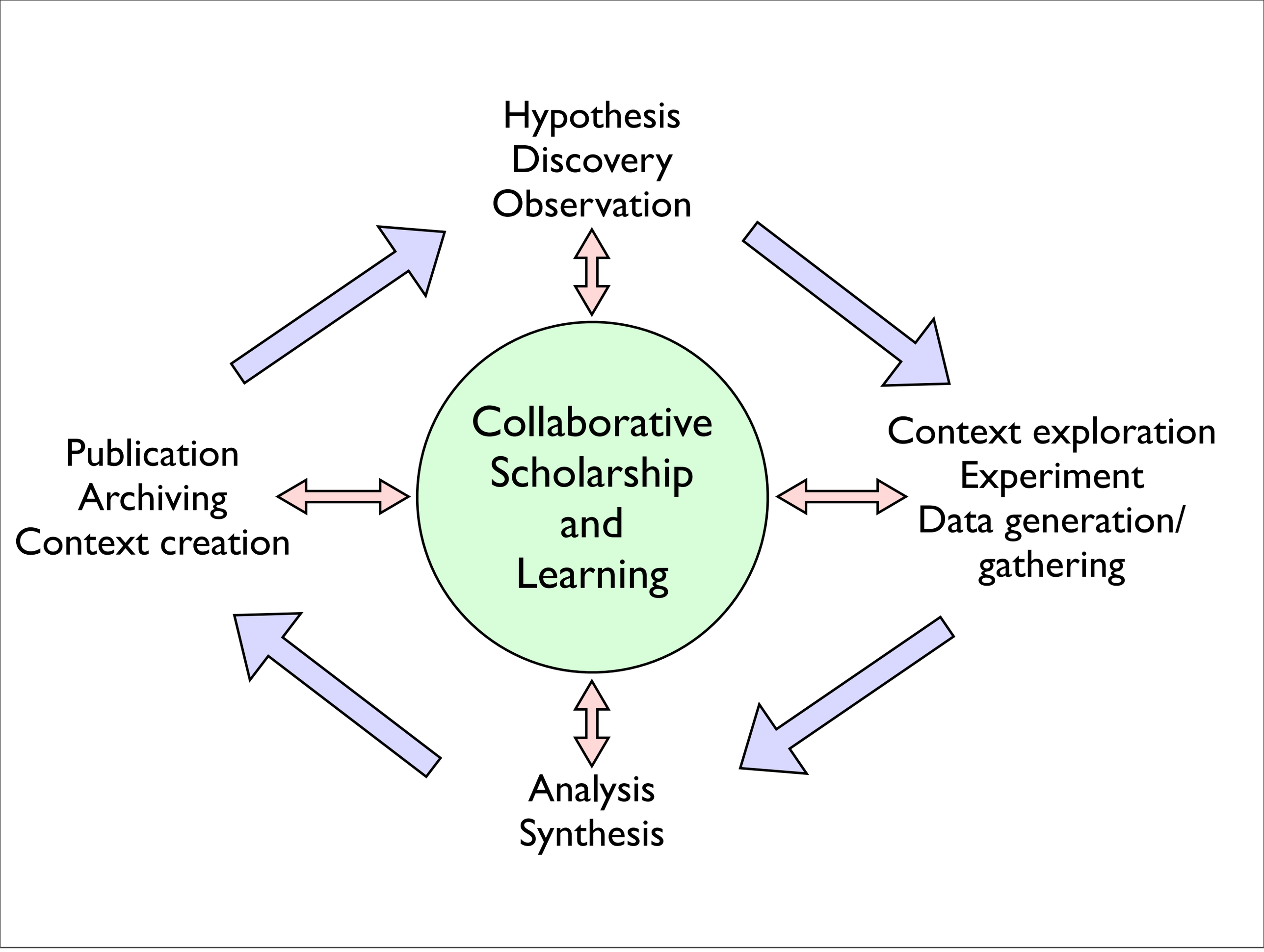
Cornell University Library

Helps the Library manage the disruptive transition to digital

tools and resources

I want to speak broadly on the challenges that the Library is facing and specifically on some of the projects I am working on that relate to these challenges

Why is this hard?



In the physical world, the Library was at the center of cycle of scholarly activity. The digital transition challenges this position.

"The library as an institution, engendered over the past few millennium *[sic]* to provide gatekeeping to scarce physical resources, is reaching a terminus in its life cycle."

Peter Brantley
Reality Dreams (for Libraries)
12/29/09

Highly complex library technology environment, (click) and one that is constantly changing.

Highly complex library technology environment, (click) and one that is constantly changing.

Need for a CTS

- Need someone to understand and track the explosive changes in CS, IS, and IT
- Need an informed, high-level advocate for necessary change within the Library
- Need a credible partner to work with central IT, external partners, and funding organizations to enable change
- I need to be out there synthesizing all these pieces to create new opportunities for CUL

Library Change Focus - 57%

- Member of Library committees (e.g., LibExec, LOL, DataExec)
- Library representative to outside organizations and partnerships (e.g., 2CUL, ARTstor, CNI)

Research Focus - 33%

- Lead and partner on strategic research (e.g. VIVO, Datanet, Fedora)

IT Focus - 10%

- Library representative to Cornell-wide IT groups (e.g., IT Managers Council, Faculty Advisory Board on IT, Acad Tech planning)
- Liaison between CUL and campus on IT policy and security issues

What are my hats?

Challenges

- Unbundling, disintermediation, commoditization, and consumerization
- IT, academic technologies, and the library
- Preserving digital scholarship and culture for Cornell and the world
- Leveraging our skills, strengths and trust to create services for the scholars of 2020

Definitions

- Unbundling: The disruption of vertically integrated business models: goodbye classified advertising
- Disintermediation: The elimination of intermediaries: goodbye Tower Records
- Commoditization: Price is the only significant factor in a product: hello Amazon and iTunes
- Consumerization: Technology solutions for the masses: hello Flickr, Wikipedia and Google Maps

Unbundling

Newspapers: dead tree printing and classified advertising; Libraries: processing physical books/ journals - what's strategic?

Research Library Competition

- Research libraries used to compete over physical holdings
- Could compete over subscriptions (but scholarly communication is changing)
- Continuing to compete over special collections
- We will compete over the quality of unique scholarly services

Identify our critical, strategic services and unbundle ourselves, before it gets done to us – or before Brantley & others dismiss us

Research Library Collaboration

- Must collaborate over physical and digital holdings
- Must collaborate over open access services and publications
- Could collaborate on web curation and data curation

Cornell Library Annex Off-site Book Storage

A collaborative opportunity

With digital surrogates available for browsing and discovery, we can deliver physical from off-site storage

HATHI TRUST
a shared digital repository

Catalog Search [ ] Find

About | Access & Services | Repository | Partnership | Updates

About HathiTrust | Mission & Goals | Functional Objectives | Governance

Welcome to the Shared Digital Future

HathiTrust is a bold idea with big plans.

As a digital repository for the nation's great research libraries, HathiTrust (listen to pronunciation) brings together the immense collections of partner institutions.

HathiTrust was conceived as a collaboration of the thirteen universities of the Committee on Institutional Cooperation and the University of California system to establish a repository for these universities to archive and share their digitized collections. Partnership is open to all who share this grand vision.

- FAQ
- Press
- Papers, Reports & Presentations
- Contact

HathiTrust is a solution.

To prospective partners, HathiTrust offers leadership and reliability.

It provides a no-worry, pain-free solution to archiving vast amounts of digital content. You can rely on the expertise of other librarians and information technologists who understand your needs and who will address the issues of servers, storage, migration, and long-term preservation.

You will shape HathiTrust.

Growing the world's largest library won't happen overnight. You've heard of other digital libraries. This one is different in concept and scale. Its greatest promise—and challenge—rests in defining how to serve researchers in the digital age. Together we will develop and refine the services needed to search and use such a large digital collection, and realize collectively our greatest potential as a library community. Together we will make HathiTrust available, to everyone, anywhere, any time. Together we will shape the future.

Bold idea. Big plan. Join HathiTrust.

June Activities

- New Working Groups Formed
- Prototype Created for New HathiTrust PageTurner
- CDL Staff to Visit Ann Arbor
- HathiTrust-OCLC Catalog Update
- HathiTrust.org Website Reorganization
- Ingest Rate Increases
- Data API Testing and Development
- Changes to Google Metadata
- July Forecast

Read the full update >>

Currently Digitized

3,499,441 volumes
1,224,804,350 pages
130 terabytes
41 miles
2,843 tons
564,378 volumes (~16% of total) in the public domain

as well as digital holdings

ARTSTOR

History | Find Organize Share Display Options Tools

Search

Enter a keyword and Go!

All Collections

Read Search Tips GO

Use our **advanced search** to specify additional search criteria.

Browse

Browse ARTstor by:

- **Geography**
  (e.g., Afghanistan, Albania, Algeria...)
- **Classification**
  (e.g., painting, performing arts, photography...)
- **Collection**
  (i.e., ARTstor, Institutional, Personal...)
- **Sample Topic**
  (e.g., African and African-American Studies, American Studies...)

Folders and image groups

OPEN

Institutional collections

- Cornell Knight Visual Resources Collection
- Scholars Resource Collection
- Archivision Library - Base Collection
- Archivision Library - Addition Module One
- Archivision Library - Addition Module Two
- Hosted Collection Workspace

Create collaborative solutions rather than doing it all ourselves

ARTstor Shared Shelf

- ARTstor implementation with SAH, Harvard, Yale, Cornell, NYU, Univ. of Miami, UIUC, Colby College
- Don't have to create or buy a new metadata/workflow system to replace Luna
- Allows faculty to use common externally hosted system for all their teaching images
- Leverages a lot of expertise in creating the "right" system (lots of eyeballs)

Hosted solution for visual resource management and delivery

Collaboration as Competition

- For universities and research libraries, collaboration can be a competitive advantage (BorrowDirect)
- 2CUL: Cornell & Columbia Library partnership looking at opportunities for deep integration
- Collaboration is an opportunity to unbundle services

Collaboration is really an unbundling opportunity

2CUL Opportunities

- Common Fedora-based preservation repository
- Web curation services
- Electronic records management and archiving
- Common discovery tools

Cornell University Library

Columbia University Libraries

Within the Technology Infrastructure part of 2CUL, here are our current focus areas

Disintermediation and commoditization

Move away from mediating things that are being provided directly, and providing things available as commodities

Google books

Search Books | Advanced Book Search

Google has reached a groundbreaking agreement with authors and publishers.

› Fiction

Literature
Science fiction
Fantasy
Romance
Mystery
Fairy tales
Short stories
Poetry

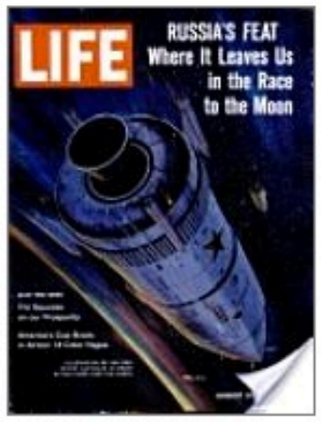
› Non-fiction

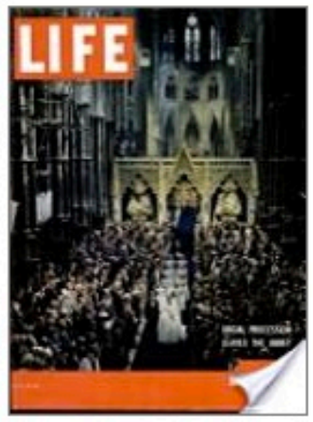
Philosophy
Economics
Political science
Linguistics
Mathematics
Physics
Chemistry
Biology

› Random subjects

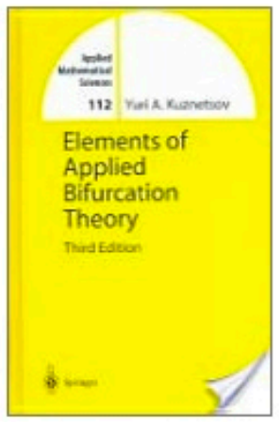
Political Science / General
Anthropology
Cataloging
Human locomotion
Air warfare
Political oratory
Voyages around the world
Women's rights

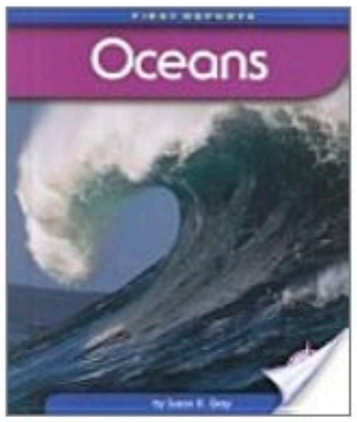
LIFE Magazine

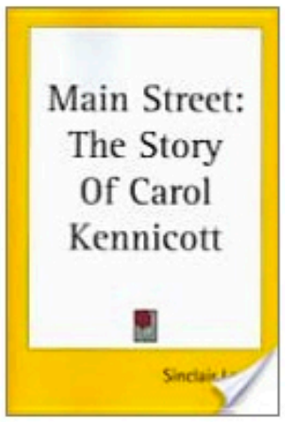




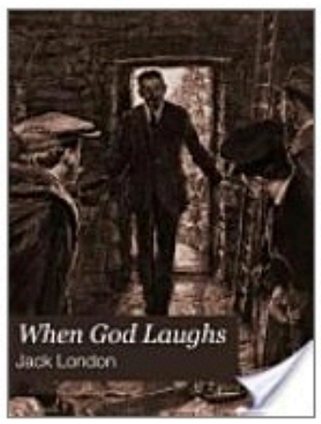
Interesting

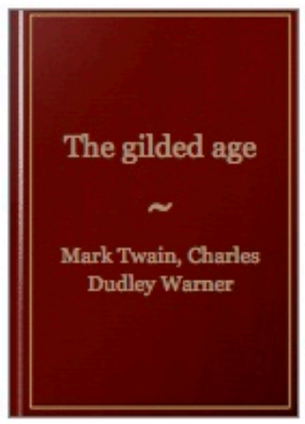


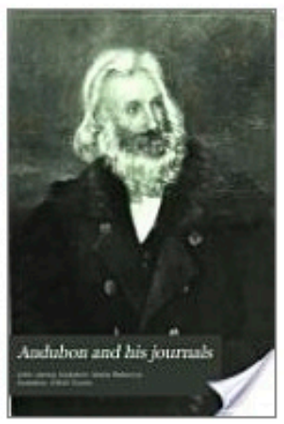


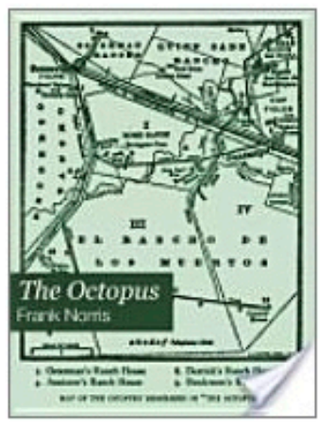


Classics (with free EPUB downloads)









That may include many books

ScienceDirect

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Cornell University Library

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Include
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Apply

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Journal/Book Title	Subscription Details	Content Type		Article Feed	Favorites	Vol/Issue Alerts
A					Apply	
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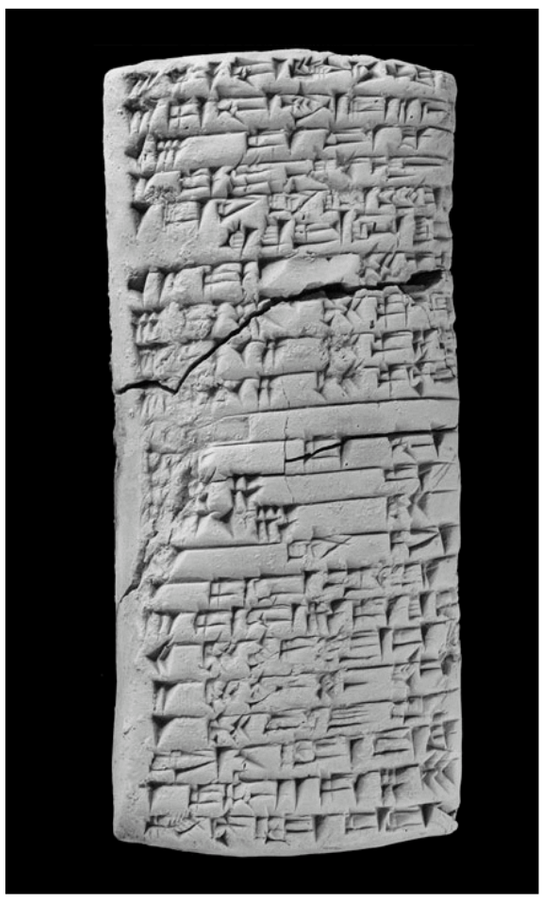
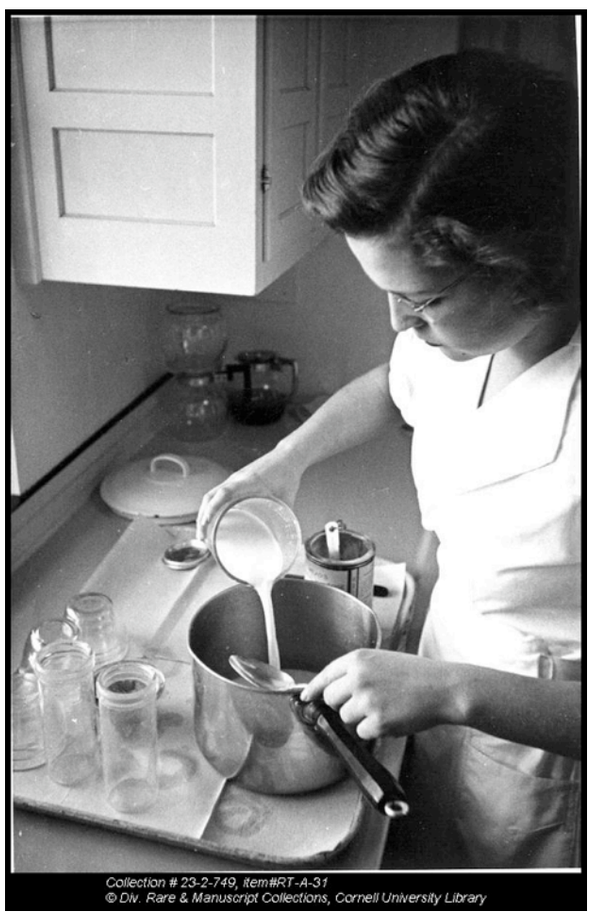
Accident Analysis & Prevention		Journal	Articles in Press			
Acoustic Wave Sensors		Book				
Acta Biomaterialia		Journal	Articles in Press			
Additives for Plastics Handbook (Second Edition)		Book				
Adhesion Science and Engineering		Book				
Adsorption Technology & Design		Book				
Adsorption by Powders and Porous Solids		Book				
Adsorption, Ion Exchange and Catalysis		Book				
Advanced Catalysts and Nanostructured Materials		Book				
Advanced Free Radical Reactions for Organic Synthesis		Book				
Advanced Inorganic Fluorides		Book				
Advanced Powder Technology		Journal	Articles in Press			
Advanced Thermodynamics for Engineers		Book				
Advances in Biomedical Engineering		Book				
Advances in Catalysis		Book Series				
Advances in Chemical Engineering		Book Series				
Advances in Colloid and Interface Science		Journal	Articles in Press			
Advances in Engineering Fluid Mechanics: Multiphase Reactor and Polymerization System Hydrodynamics		Book				

It's already happened for many journals that we no longer hold directly





In our special collections, we aren't the brokers, and we can't easily be disintermediated

Cornell University Library

Search Library Search Cornell

arXiv.org

Search or Article-id (Help | Advanced search)

All papers Go!

Open access to 549,302 e-prints in Physics, Mathematics, Computer Science, Quantitative Biology, Quantitative Finance and Statistics

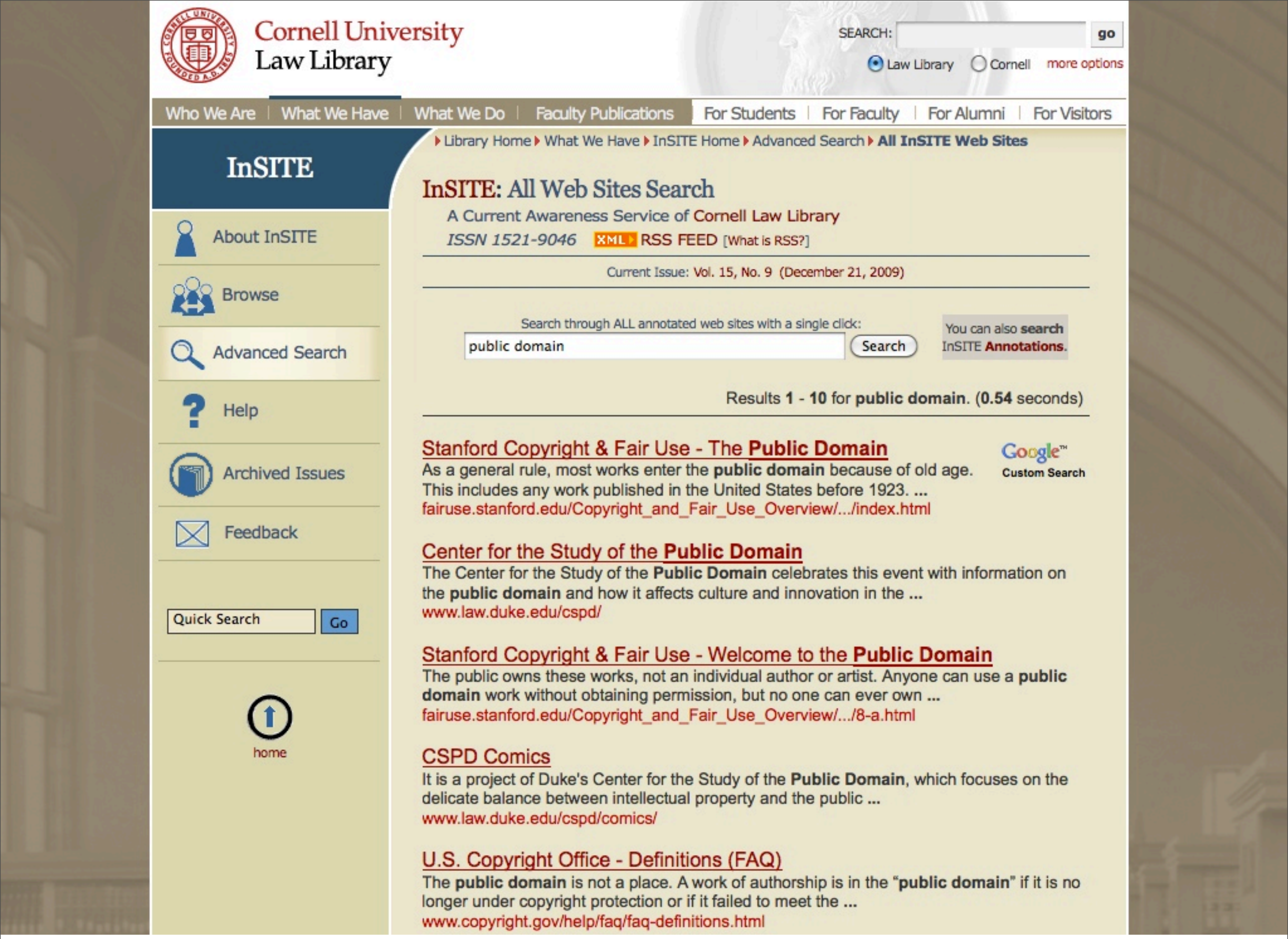
Subject search and browse: Physics Search Form Interface Catchup

8 Apr 2009: Added public author identifiers, Facebook interaction, myarticles widget, and personal Atom feeds
31 Mar 2009: Quantum Gases (cond-mat.quant-gas) subject area added
See cumulative "What's New" pages.
Robots Beware: indiscriminate automated downloads from this site are *not* permitted.

Physics

- Astrophysics (**astro-ph** new, recent, find)
  includes: Cosmology and Extragalactic Astrophysics; Earth and Planetary Astrophysics; Galaxy Astrophysics; High Energy Astrophysical Phenomena; Instrumentation and Methods for Astrophysics; Solar and Stellar Astrophysics
- Condensed Matter (**cond-mat** new, recent, find)
  includes: Disordered Systems and Neural Networks; Materials Science; Mesoscale and Nanoscale Physics; Other Condensed Matter; Quantum Gases; Soft Condensed Matter; Statistical Mechanics; Strongly Correlated Electrons; Superconductivity
- General Relativity and Quantum Cosmology (**gr-qc** new, recent, find)
- High Energy Physics - Experiment (**hep-ex** new, recent, find)
- High Energy Physics - Lattice (**hep-lat** new, recent, find)
- High Energy Physics - Phenomenology (**hep-ph** new, recent, find)
- High Energy Physics - Theory (**hep-th** new, recent, find)
- Mathematical Physics (**math-ph** new, recent, find)
- Nuclear Experiment (**nucl-ex** new, recent, find)
- Nuclear Theory (**nucl-th** new, recent, find)
- Physics (**physics** new, recent, find)
  includes: Accelerator Physics; Atmospheric and Oceanic Physics; Atomic Physics; Atomic and Molecular Clusters; Biological Physics; Chemical Physics; Classical Physics; Computational Physics; Data Analysis, Statistics and Probability; Fluid Dynamics; General Physics; Geophysics; History of Physics; Instrumentation and Detectors; Medical Physics; Optics; Physics Education; Physics and Society; Plasma Physics; Popular Physics; Space Physics
- Quantum Physics (**quant-ph** new, recent, find)

Outside use may be much greater than inside use – but our choice is to solve the “shared open access” problem, or just send all our money to Elsevier



We can build unique services as well as holding unique collections

Consumerization and Concentration

Integrate with and take advantage of consumer-level services and the concentrated attention that goes with them; and meet consumer expectations

flickr from YAHOO!

Signed in as deanbkrafft (1 new) Help Sign Out

Home You Organize & Create Contacts Groups Explore Search Cornell University Library's Search

Cornell University Library's photostream pro

Slideshow Share This

Collections Sets Galleries Tags People Map Archives Favorites Profile

Cornell... is a friend (edit)

[American Legation]

Collection: Willard Dickerman Straight and Early U.S.-Korea Diplomatic Relations, Cornell University...

Some rights reserved

Uploaded on Nov 11, 2009 | Map

0 comments

Dancing girl

Collection: Willard Dickerman Straight and Early U.S.-Korea Diplomatic Relations, Cornell University...

Some rights reserved

Uploaded on Nov 11, 2009 | Map

0 comments

A concert of Corean musicians

A firewood market in Corea

Willard Dickerman Straight

3 sets

Human Ecology

8 sets

Diver Railroad

3 sets

LOL has piloted moving our collections to Flickr and taking advantage of the eyeballs that come with it

How do we ensure Cornell's information resources are discoverable and accessible?

To our own faculty and students and to everyone – they expect the same level of discovery and access they get from consumer services

"There's a whole Web's worth of context out there."

John Mark Ockerbloom
Content and context in concept-oriented catalogs
1/7/10

We need to relate our resources to the larger context of the web

Lots of Information Sources

- Greenstone
- LibGuides
- DLXS
- Luna Insight
- Fedora
- DSpace
- Filemaker
- Web sites
- ARTstor
- Licensed DBs
- Voyager
- arXiv
- DPubS
- VIVO

We have several problems with discoverability – many legacy projects, and growing hosted solutions

It’s not just what we hold, it’s also what we pay for

A-Z List of Databases

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

☐	**Select/Deselect all Databases**	
☑	19th century masterfile	description
☑	2007 Census of agriculture	description
☑	ABI/Inform	description
☑	Academic search premier	description
☑	Access world news	description
☑	AccessAsia	description
☑	AccessScience	description
☑	AccessUN	description
☑	ACLS Humanities E-Book	description
☑	ACM portal	description
☑	Africa-Wide: NiPAD	description
☑	African American song	description
☑	AgEcon search : research in agricultural and applied economics	description
☑	AgeLine (Ovid)	description
☑	Agricola	description
	Agricultural statistics (direct access only)	description
☑	Agriculture Network Information Center (AgNIC)	description
☑	AGRIS	description
	All about birds (direct access only)	description
☑	All-Russia population census 2002	description
☑	Alt-PressWatch	description
☑	AltPressIndex	description
☑	America History and Life	description
☑	America's historical newspapers	description
☑	American Bibliography of Slavic & East European Studies (ABSEES)	description
☑	American FactFinder	description
☑	American Heritage Dictionary (Credo Reference)	description
☑	American Journeys images	description
☑	American memory images	description
☑	American National Biography	description
☑	American periodicals series online	description
☑	Ancestry	description

Many licensed databases of journals, images, books, reference works, datasets, and much more

Currently, we use a really bad federated search product to search a subset of these databases

Google Scholar BETA

Web Images Video News Maps **more »**

lagoze krafft payette Search

Advanced Scholar Search
Scholar Preferences
Scholar Help

Scholar **All articles - Recent articles** Results **1 - 10** of about **91** for **lagoze krafft payette**. (**0.56** secc

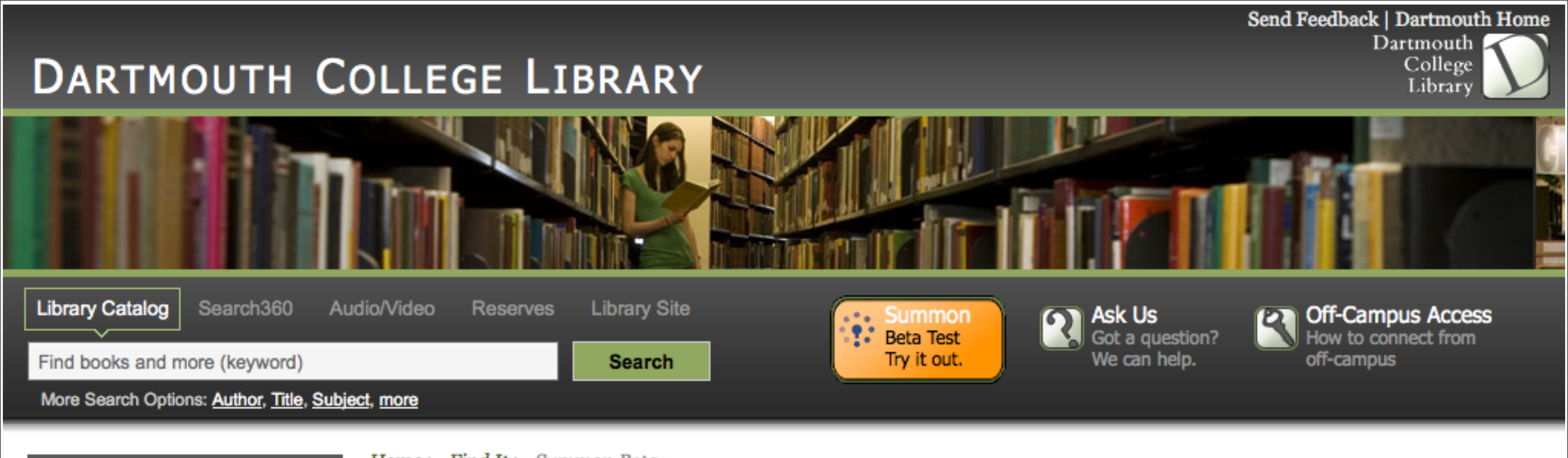
A Spectrum of Interoperability: The Site for Science Prototype for the NSDL; Re-Inventing the Wheel? … - Get it! Cornell - all 2 versions »
… Arms, D Hillmann, C **Lagoze**, D **Krafft**, R Marisa, J … - D-Lib Magazine, 2002 - eric.ed.gov
EJ643458 - A Spectrum of Interoperability: The Site for Science Prototype for the NSDL; Re-Inventing the Wheel? Standards, Interoperability and Digital Cultural **...**
Cited by 96 - Related Articles - Cached - Web Search

What Is a Digital Library Anymore, Anyway - Get it! Cornell - all 3 versions »
C **Lagoze**, D **Krafft**, S **Payette**, S Jesuroga - D-Lib Magazine, 2005 - webdoc.sub.gwdg.de
... Figure 9 was replaced with a correct version on 1/26/06.). Copyright © 2005 Carl **Lagoze**, Dean B. **Krafft**, Sandy **Payette**, and Susan Jesuroga. **...**
Cited by 30 - Related Articles - Cached - Web Search

[CITATION] What is a digital library anyway? Beyond search and access in the nsdl [Electronic Version]
C **Lagoze**, D **Krafft**, S **Payette** - D-Lib Magazine, 2005
Cited by 2 - Related Articles - Web Search - Get it! Cornell

[CITATION] What Is a Digital Library Anyway? Beyond Search and Access in the NSDL
C **Lagoze**, DB **Krafft**, S **Payette**, S Jesuroga - D-Lib Magazine
Cited by 2 - Related Articles - Web Search - Get it! Cornell

Do we just count on all our licensed information providers to give access to Google?



Lots and lots of citations and full text of scholarly materials, which the Dartmouth Library owns or provides access to, are in Summon now, including:

- 4,800+ publishers' content included, such as journals and books
- 50,000+ journal, newspaper and magazine titles
- 400+ million items indexed so far, from journal articles to maps to videos
- Dartmouth College Library records

For a list of participating journal and database publishers see http://www.serialssolutions.com/summon/summon-content-participants.html

Is one (or more) of the commercial providers going to win and provide universal access?

Discovery/Access Overlay View

Cornell User View

API/UI

Discovery layer with Relations & Annotations

Resources from Multiple Providers

Library Catalog

Licensed DBs

HathiTrust

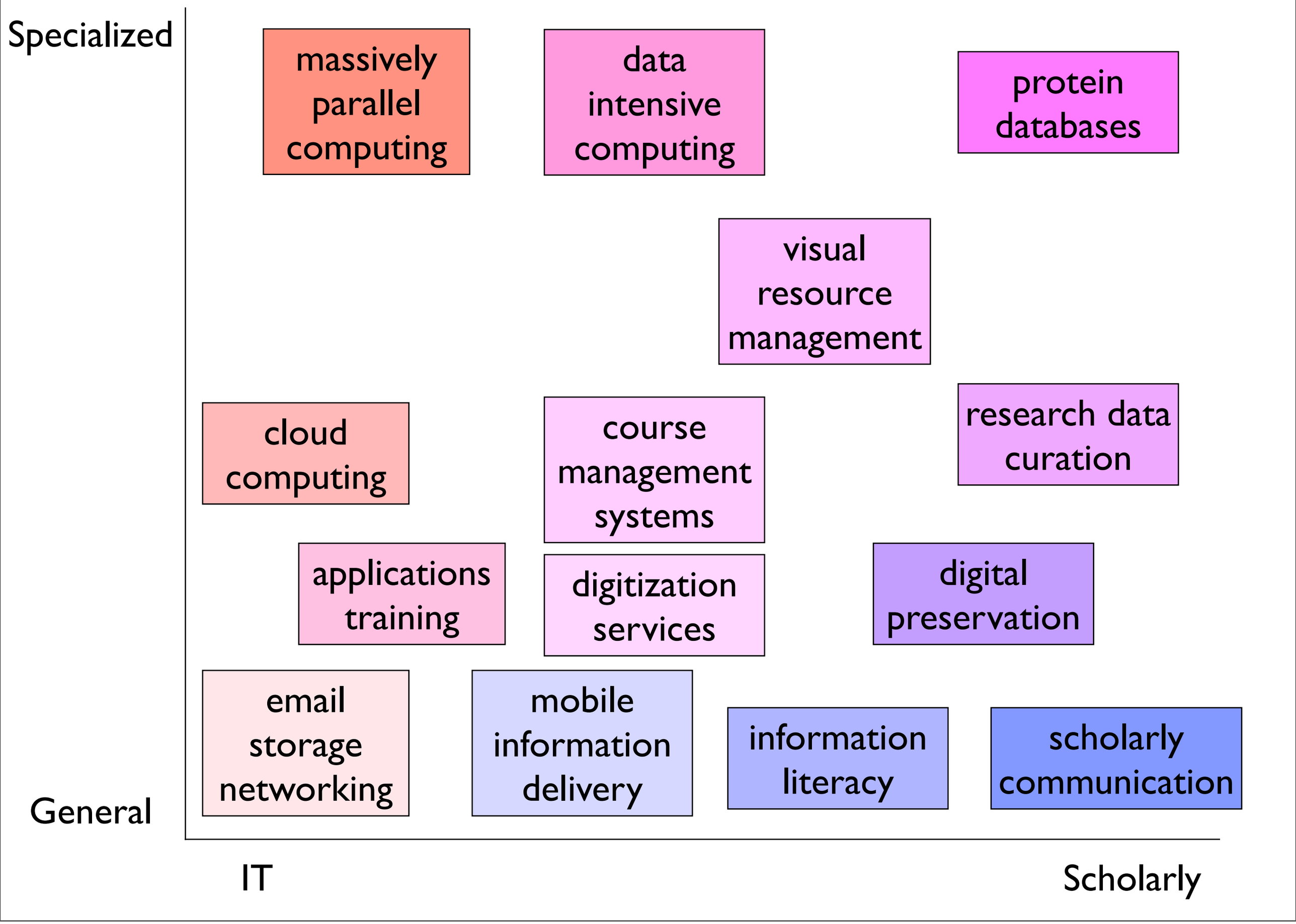
How do we fully index the resources that our users have access to (and ideally allow us to add value)?

Challenges

- Unbundling, disintermediation, commoditization, and consumerization
- IT, academic technologies, and the library
- Preserving digital scholarship and culture for Cornell and the world
- Leveraging our skills, strengths and trust to create services for the scholars of 2020

Academic Technology Providers

- Central IT - IT, infrastructure focus
- Library - scholarly, enduring access focus
- Research Centers - narrow, deep services
- College-level support - balanced between central/edge and general/specialized
- Department-level support - specialized, edge services



Library's piece is the middle to the bottom right

Who does what?

- Structures and support evolve over time and are different at every institution
- Allocation driven by history and personality
- Central IT pushed by major business/ administrative challenges (Peoplesoft)
- Fully merging IT and Library has been rife with difficulties - different missions and cultures (IT is from Mars, Library is from Venus)

However, there are clear opportunities to sort out what happens in the middle – the boundary between IT and scholarship

Cornell ATS Report

- IT strategic planning committee charged Academic Technology Subcommittee to look at provision of AT at Cornell
- Chaired by Dean Krafft and Nancy VanOrman - Library members were Oya Rieger and Jon Corson-Rikert
- Delivered preliminary report to ITGC on November 17, 2009

ATS Recommendations

- Create an AT Support Council, consisting of representatives of all the local and central AT support providers, an AT governance group reporting to the ITGC, and SIGs as needed.
- Provide a single Helpdesk service that coordinates back-end support among all the support providers for AT, admin computing, and IT infrastructure.
- Provide a central service and support web portal that provides clear entry points and user views of academic technology services for all faculty, students, and staff at the university.

ATS Report Summary

- CIT and Library put equal overall FTE effort into supporting Cornell-wide AT
- There are currently overlaps in services and opportunities for much better coordination and service delivery
- In any scenario, both organizations will continue to have some level of AT responsibility

Next steps from the Provost: Library should work with CIT and ITGC to address provision of AT at Cornell

What the Library Must Provide

- Disciplinary understanding and expertise
- Full awareness and engagement with modern IT tools and services
- Our raison d'être: ensuring access to and long-term preservation of the cultural and scholarly record
- Close collaboration with IT experts

Challenges

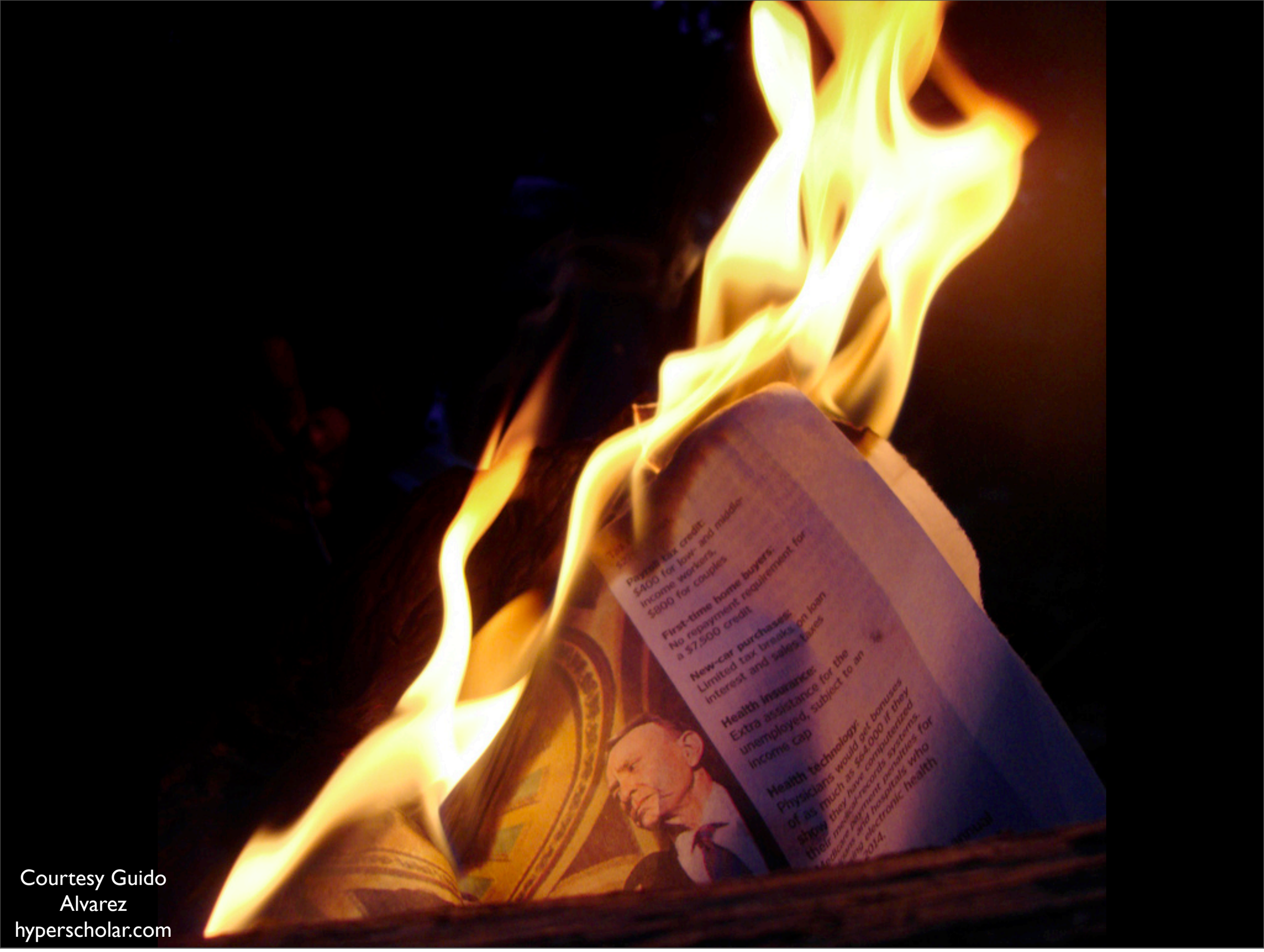
- Unbundling, disintermediation, commoditization, and consumerization
- IT, academic technologies, and the library
- Preserving digital scholarship and culture for Cornell and the world
- Leveraging our skills, strengths and trust to create services for the scholars of 2020

Preservation Challenges

- Dealing with diffuse information sources
- Curating the Web
- Living with (and in) the Cloud

Figuring out how to preserve the bits may be the least of our challenges

It used to be easy – subscribe to magazines & newspapers in print, on microfilm, or through a subscription database



These are bad times for print-based newspapers

BIG NEWS: Barack Obama | Sarah Palin | Future Fuel | FISA | More...

THE HUFFINGTON POST

POLITICS

THE INTERNET NEWSPAPER: NEWS BLOGS VIDEO COMMUNITY

Log In | Sign Up | July 10, 2009

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FROM AP: Al-Qaida inmate gets access to Obama's books 21 minutes ago

Google™ Custom Search SEARCH

John Ensign Scandal Escalates: "It's Not Good"

Quick Read | Comments

Peggy Noonan Goes Off On Sarah Palin In Column: "Horrifying"

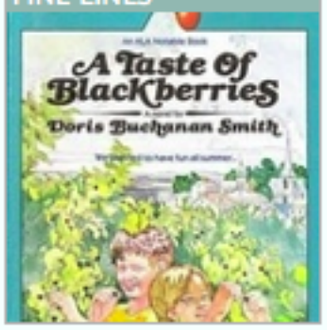
Quick Read | Comments (886)

Palin's Ayers Line Was Scripted By McCain Campaign

More Racist Online Comments From Young Republican Candidate Found

People are going elsewhere for both news

FINE LINES

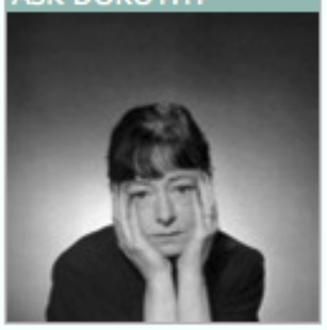


A Taste Of Blackberries: Only The Goofs Die Young

MIXED BAG

10 Things You May Have Missed On TV This Week

ASK DOROTHY



How Do I Tell Everyone That This Guy Died Of Prostate Cancer Because He Was

WHAT NOT TO WEAR

7 Completely Undignified Things Every Woman Should Wear Once

GONE FISHIN'

She's Not Crazy, She's *Alaskan*: Why It's Hard (And Easy) To Criticize Sarah

CLIPS

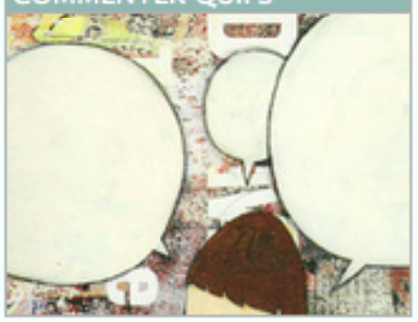
Joe Jackson Eyes Paris & Blanket's Potential As Performers

CELEBRITY, SEX, FASHION FOR WOMEN

JEZEBEL

Display ▾ Condensed ▾ rape kits Most recent ▾ Hybrid ? Login

COMMENTER QUIPS



Reader Roundup

Another really good day! More »

04:40 PM 1 0
By Dodai

UNSOLVED MYSTERIES

Who Killed Romance? Investigating The Allegations Against Feminism

Have you heard the news? Romance is dead, and feminism is the

04:30 PM 436 45
By Intern Katy
Comment by **PilgrimSoul**: The very fact that the word "chick" (which I admittedly sometimes use) is in the TITLE OF THE WEBSITE means...
3 Responses | Other threads

and culture. There are millions of blogs out there on every possible subject.

Newspaper Armageddon

- How do research libraries preserve news, journalism and culture when it is fragmented and scattered in a million pieces across the web?
- What do we do when we can't just subscribe to a nice simple set of newspapers, whether paper or electronic?
- How do we avoid facing future scholars with a gaping hole in the cultural record?

Web curation

- Discipline-based selection and archiving of web-based materials
- Initial pilots: Human rights websites at Columbia; Women's blogs at Harvard
- Who is responsible? Internet Archive? Google? Library of Congress? Us?

Who should be responsible for ensuring that scholars 50 years from now can find what they need?

The Web can be a scary place

From "The Web is Agreement"
by Paul Downey
http://map.whatfettle.com

There are many new challenges for preservation on the web: Google/privacy, DRM, IP nukes

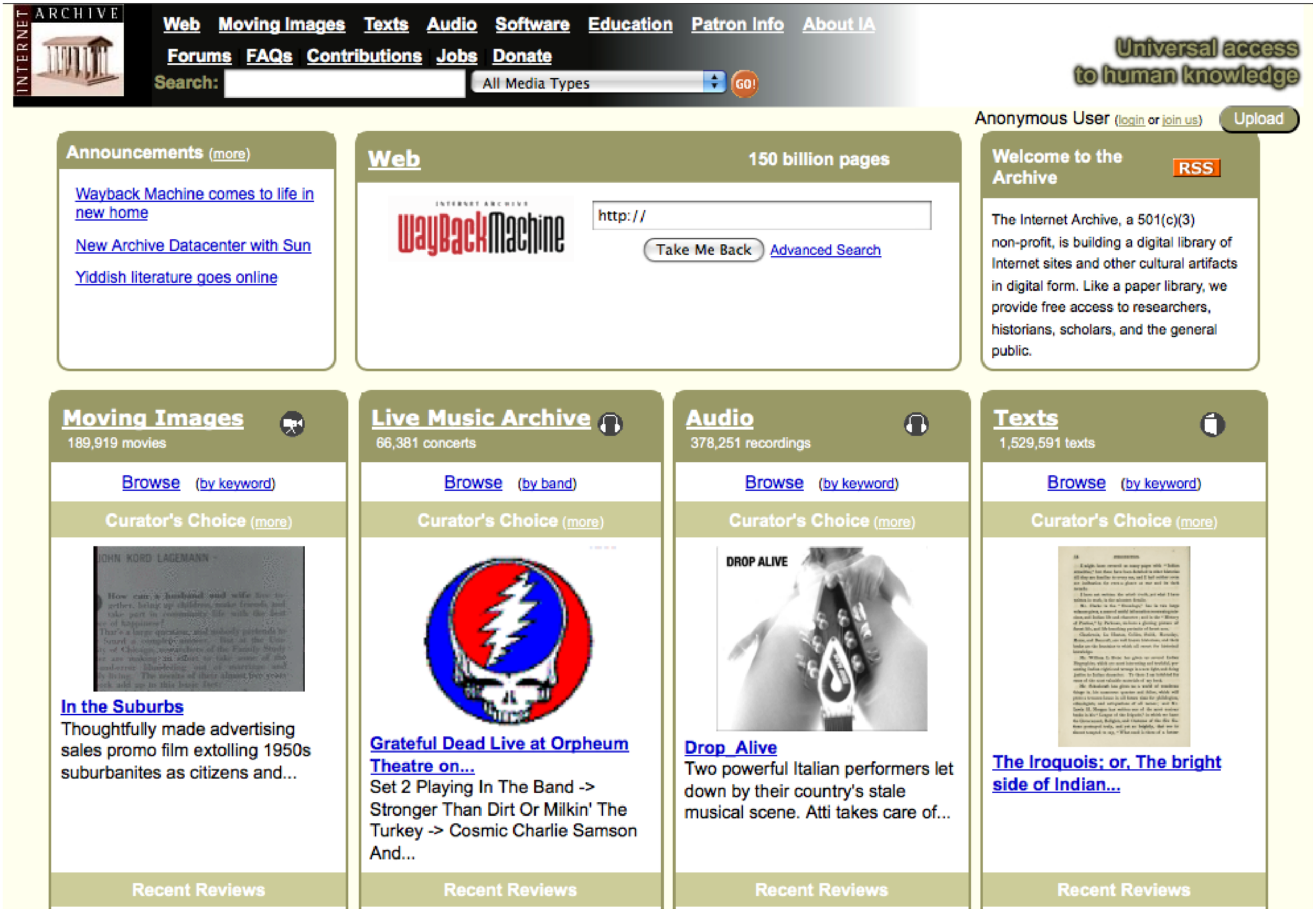
Libraries must live in (or with) the cloud

- Cloud storage, computing, and applications will have lower costs, better service, and a smaller carbon footprint
- Scholars will use these services - how should the library help preserve that work?
- How do we balance core library needs and values against business values and pressures?

Lost in the Cloud

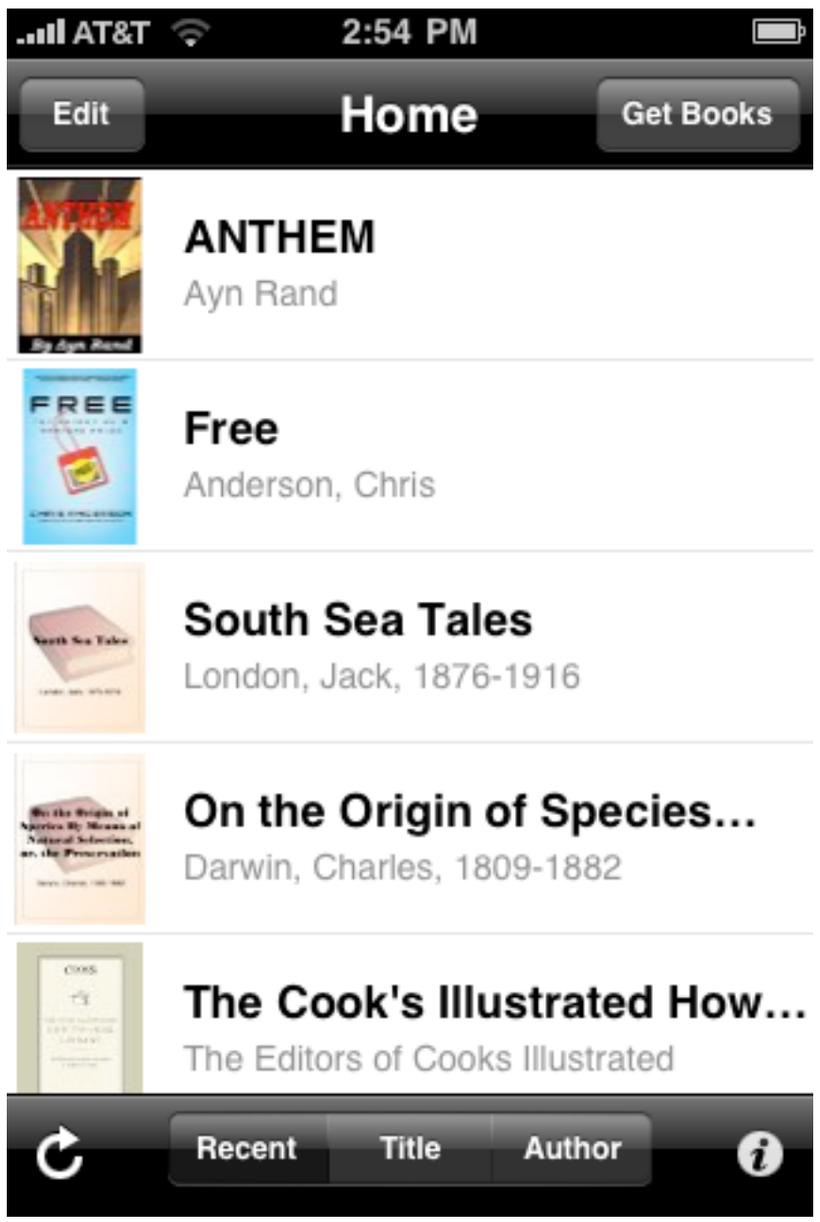
Jonathan Zittrain, NYTimes Op-Ed 7/19/09

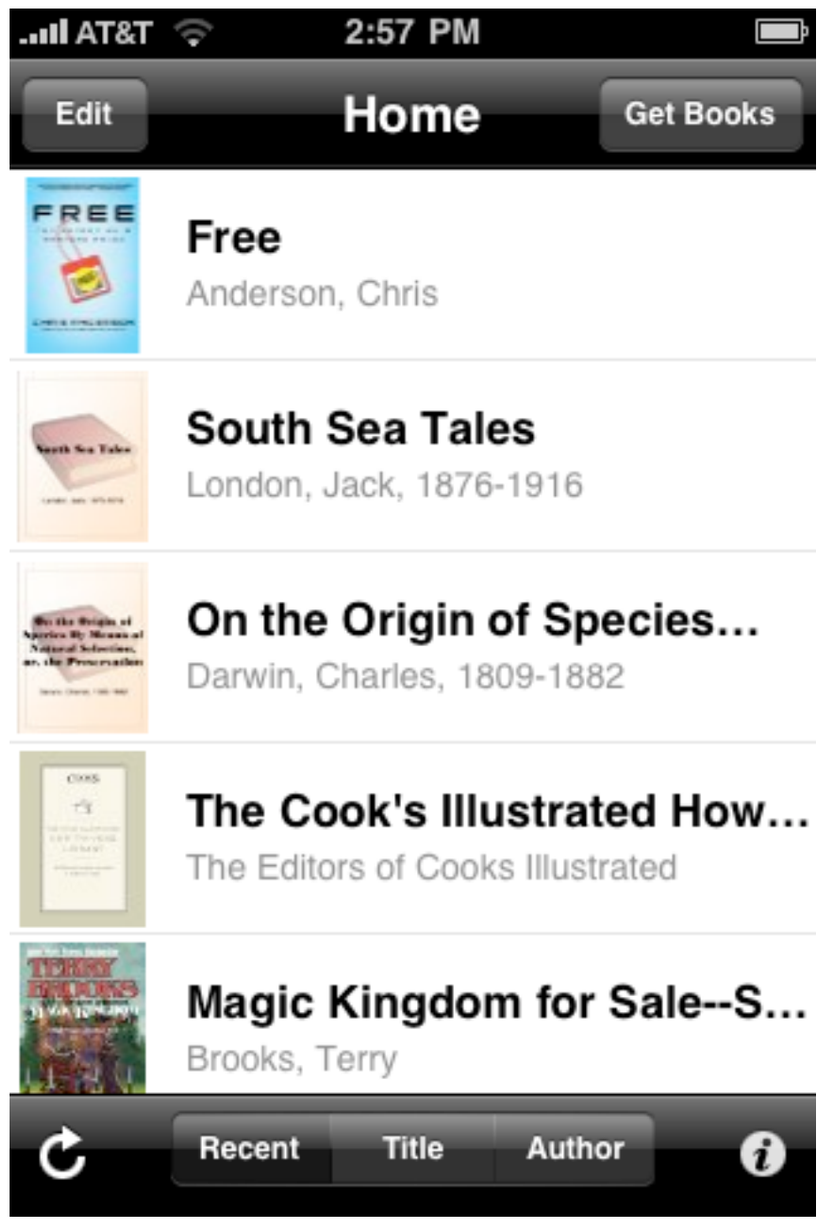
- If you entrust your data to others, they can let you down or outright betray you
- Data stored online has less privacy protection both in practice and under the law
- Cloud platforms may restrict the ability to write and run arbitrary code
- No reason to turn back, but legal changes may be needed to ensure critical rights



We rely heavily on the Internet Archive for snapshots of the historical web – will it outlive Brewster Kahle?

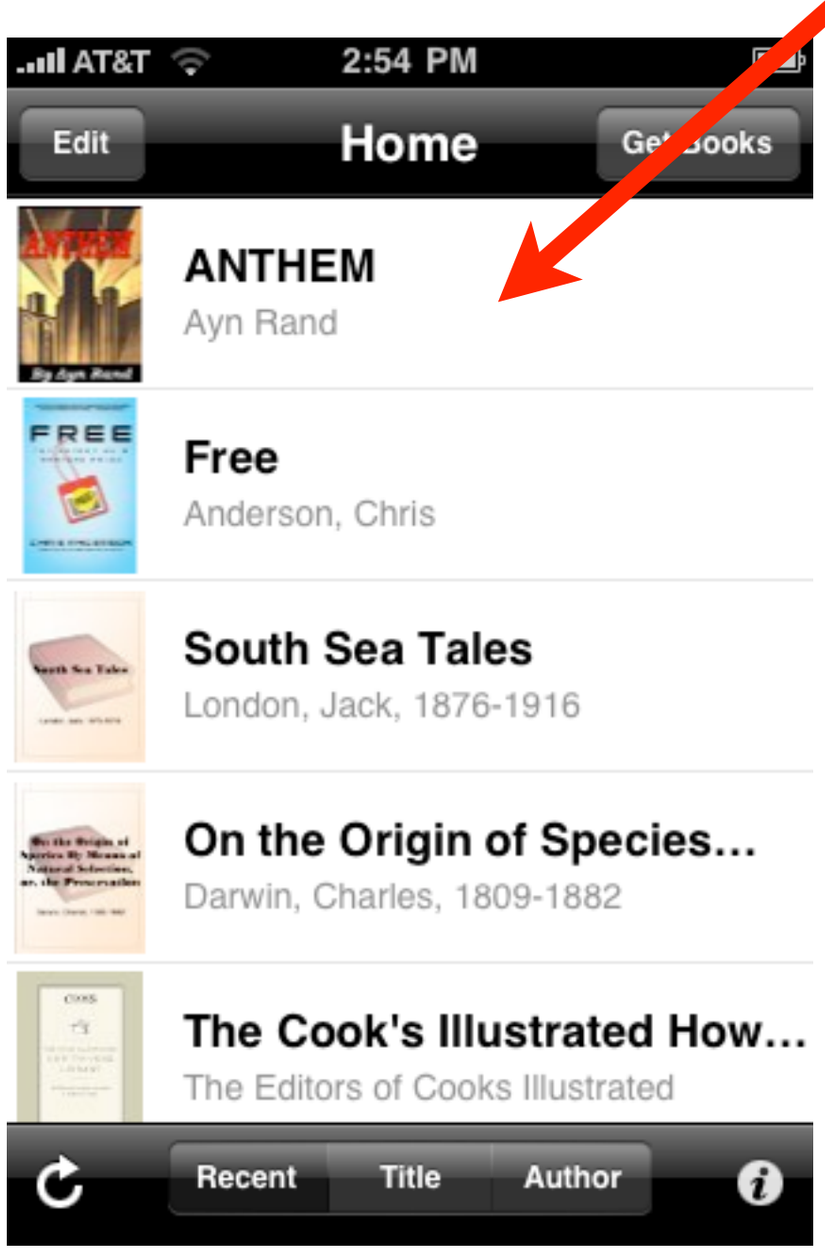
Google may not always be the same company with the same values

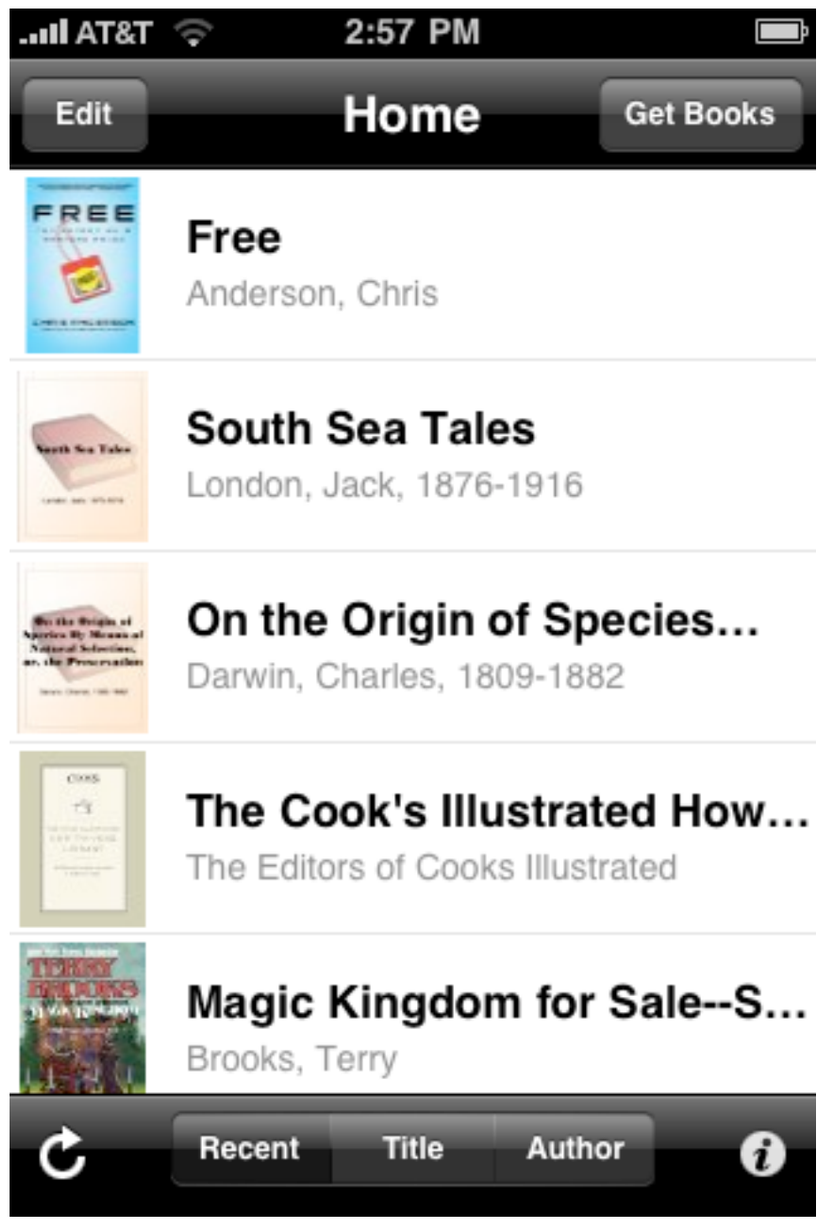




Here today - gone (or edited) tomorrow?

Amazon deleted copies of Orwell's 1984 and Animal Farm off owner's Kindles. It did refund their money, and promised not to do it again. Eastasia/Eurasia?





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Organizational Lifetimes

- Google: 11 years
- Amazon: 13 years
- Internet Archive: 13 years
- IBM: 98 years
- Cornell University: 141 years
- Harvard University: 373 years
- Oxford University: 842 years

Even if disruption is coming to research libraries, which of these would you bet will still be around in 100 years

Challenges

- Unbundling, disintermediation, commoditization, and consumerization
- IT, academic technologies, and the library
- Preserving digital scholarship and culture for Cornell and the world
- Leveraging our skills, strengths and trust to create services for the scholars of 2020

Our strengths

- Disciplinary expertise
- Training in selection and curation
- Understanding how to describe and organize information: FRBR, metadata, ontologies
- Ability to recognize the unique needs of researchers, scholars and students and create new tools, services and solutions
- A long and trusted organizational history

"From a campus wide perspective, fundamental components of campus library and technology organizations need to be surgically extracted from their current hosts and combined in a new data systems support unit [...] with the goal of enhanced information access, handling, and interactivity."

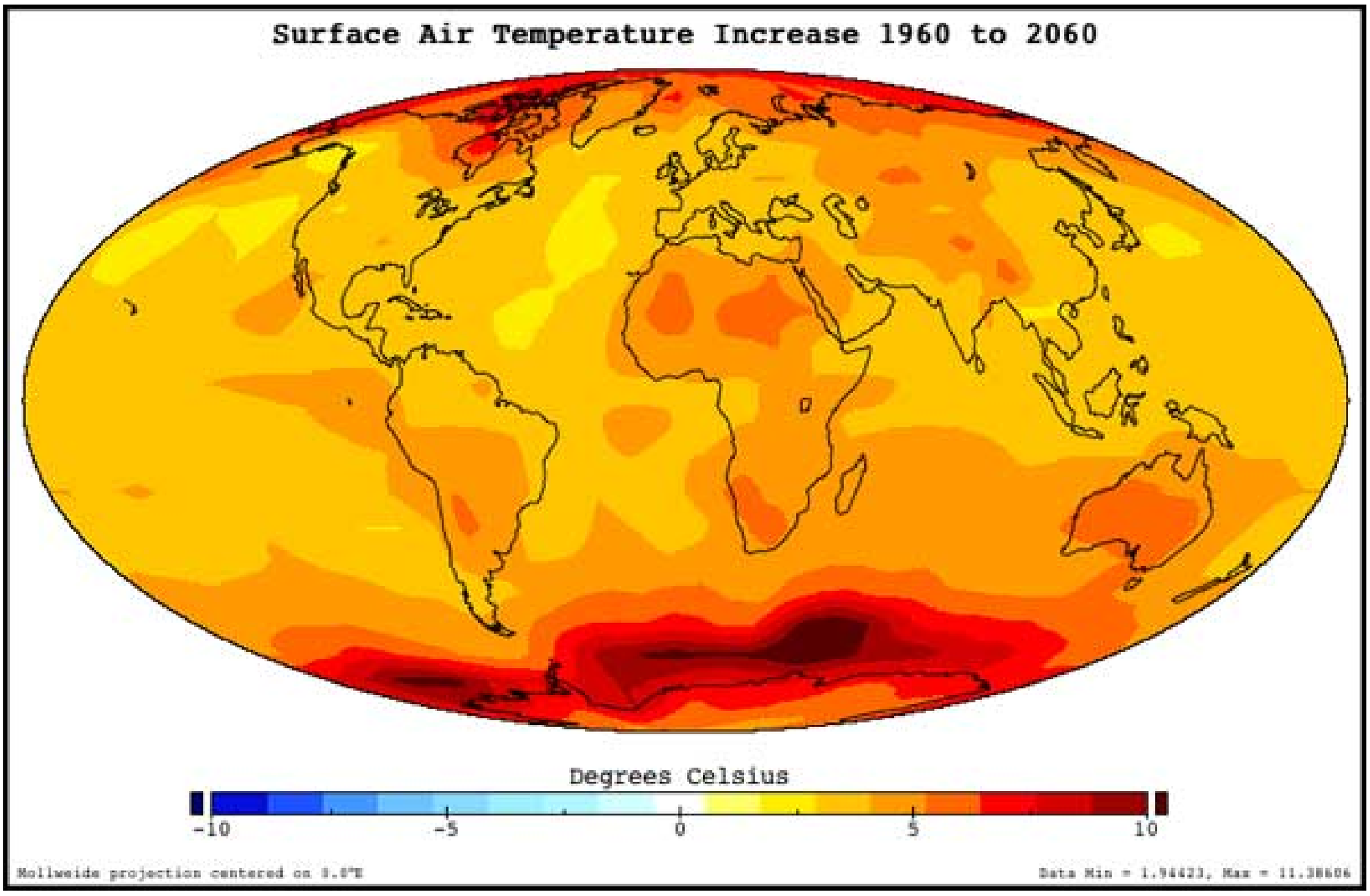
Peter Brantley
Reality Dreams (for Libraries)
12/29/09

It is not obvious to everyone that the Library should play a role in the digital transition

NSF Datanet Challenge

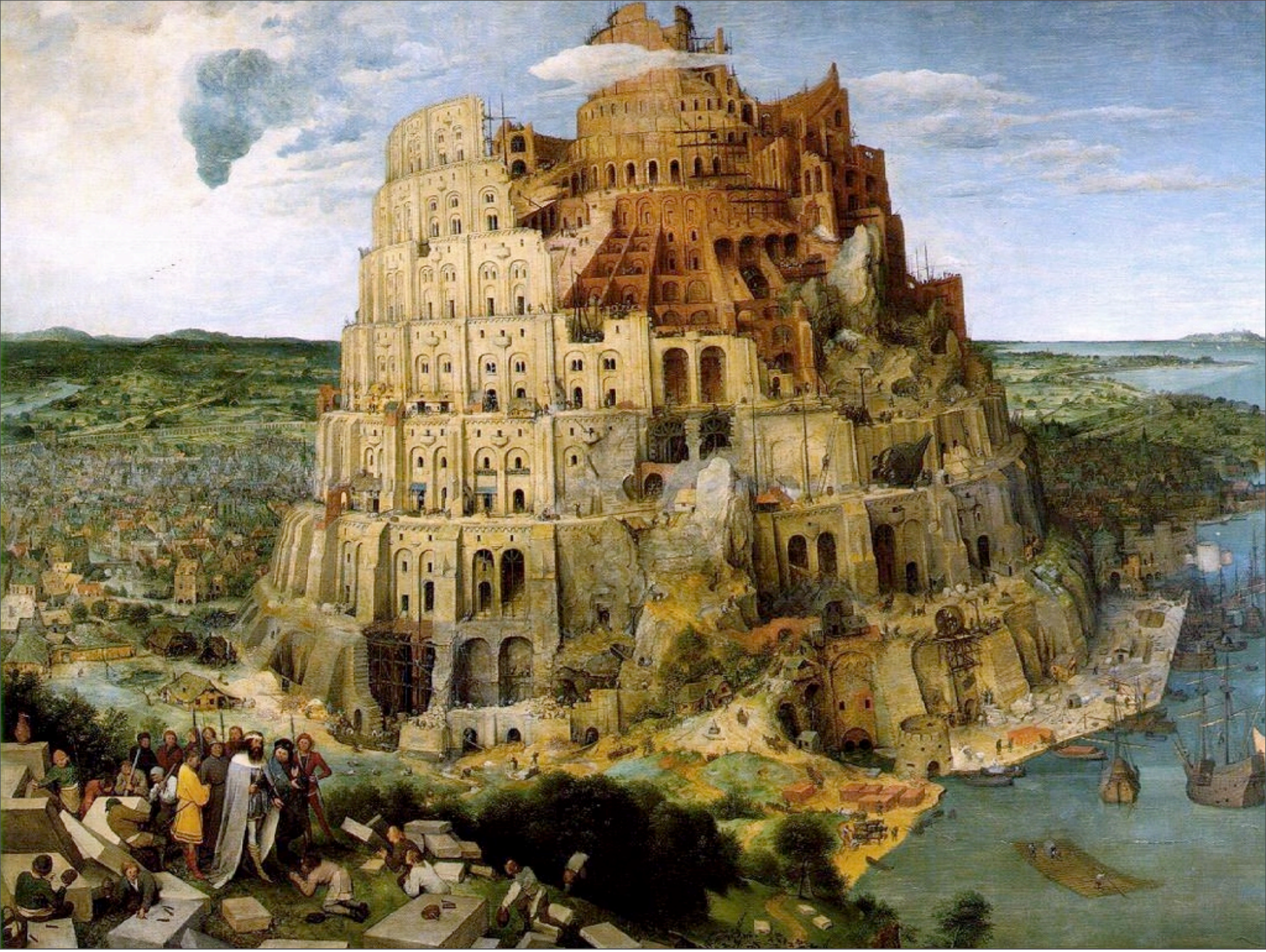
"Integrate library and archival sciences, cyberinfrastructure, computer and information sciences, and domain science expertise to provide reliable digital preservation, access, integration, and analysis capabilities for science and/or engineering over a decades-long timeline."

National Science Foundation Solicitation 07-601



http://www.nasa.gov/vision/earth/everydaylife/climate_class.html

Science must combine data from many disciplines to address grand challenge problems like climate change



Current state of describing and combining cross-disciplinary research datasets

The Data Conservancy

- Collaboration of Johns Hopkins, Cornell, NCAR, UCLA, UIUC, and others
- Carl Lagoze, Steve Kelling, Jim Cordes, Dean Krafft from Cornell
- $4 million/year for five years with possible five year extension
- Both DataStaR and arXiv have deliverables

Cornell University

DataStaR

Deliverables

- September 2010: Create SWORD deposit of research datasets into Data Conservancy
- March 2011: Pilot projects deposit datasets into DC - extend metadata/ontologies
- September 2011: Broaden DataStaR to support additional disciplines. Improve DataStaR integration with Semantic Web

Supporting eResearch

- Preserving primary digital data tied to intermediate work products and publication
- Ensuring fixity, security and recoverability
- Developing cross-disciplinary ontologies and metadata mappings

- Pulling order and information from data, descriptions, and observations across multiple disciplines

Image courtesy
climateandfarming.org

VIVO national network of scientists

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- Press Releases

About

VIVO enables the discovery of research and scholarship across institutions to create a national network of researchers. Participants include institutions with local installations of VIVO or those with research discovery and profiling applications that can provide semantic web-compliant data. The information accessible through VIVO's search and browse capability will therefore reside and be controlled locally, within institutional VIVOs or other semantic web-compliant applications.

VIVO is an open source semantic web application originally developed and implemented at Cornell. When installed and populated with content at an institution, it enables the discovery of research and scholarship across disciplines at that institution. VIVO supports browsing and a search function which returns faceted results for rapid retrieval of desired information. Content in any local VIVO installation may be maintained manually or brought into the database in automated ways from local systems of record, such as those with HR, grants, course, and faculty activity information.

Institutions currently using VIVO include Cornell University and University of Florida.

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We are also bringing the Library's strengths to respond to other unfilled needs

NIH VIVO grant

- NIH 2-year grant of $12.2 million to Univ. of Florida, Cornell, Indiana U. and 4 implementation sites including WCMC
- Builds on work by Jon Corson-Rikert and others since 2003
- Based on Semantic Web technologies, and will integrate with other Linked Open Data efforts
- Cornell has $3.96 million to create new ontologies and software to enable national, multi-institutional network of scientists. Team of 15 people led by PI Dean Krafft, Co-PI Medha Devare, and Development Lead Jon Corson-Rikert

VIVOweb

- *What is it?* Information regarding scientists' interests, activities, and accomplishments. Scientists using software tools based on this information to support new and existing collaborations and teams.
- *Why?* Support the acceleration of team science. Improve visibility (accuracy, currency, breadth) of information about science. Improve competitiveness.
- *How?* Institutionally hosted information provided and maintained by institutions and scientists. Facilitation and support through the libraries.

Summarizing

In my hiring talk I made several specific recommendations to the Library. Here's an update on them, 18 months later.

Put the Library in our users' workflow

- Provide the right academic technology support
- Ensure that all the materials we hold and pay for are discoverable and accessible
- Take some risks to match library services to new technologies

Mediate Cornell's unique assets to everyone

- Enable research data with efforts like DataStar and the Data Conservancy
- Fully integrate Cornell's digital assets with the Web
- Leverage 2CUL and other consortial efforts to share the costs and build the best solutions

Enable creating unique context and organization

- The Cornell community is not enough; we must link with global contexts
- VIVOweb is an opportunity to build a web-scale system for research and scholarship
- Must create and leverage opportunities like arXiv that have global reach and impact: "[arXiv is] the cornerstone and the future of the Cornell library (perhaps the only piece that will be around 20 years from now from the current structure)" - *anonymous physicist*

Be a trusted broker

- We have a unique ability and obligation to preserve the scholarly and cultural record
- As a broker, we can ensure open and protected access to controversial knowledge
- We need to be a partner in efforts like ARTstor, 2CUL, and HathiTrust

Applamazoogle is putting a lot of information intermediaries out of business. Let's not become extinct.

We must make unique contributions.

J.W. Audubon - Ivory-billed Woodpecker

CUL in 2020

- The growth in Library resources and services will have been mostly digital - and the physical materials will primarily be accessed as digital surrogates
- Librarians will be the bridge between disciplines and the unique digital tools and services that they need
- The Library will be more specialized, providing some global services locally and drawing on consortial partners and outside services for others
- We'll just be completing the upgrade to Voyager 9.1

The last bullet may sound flippant, but we will still have major ongoing production responsibilities – even in 2020

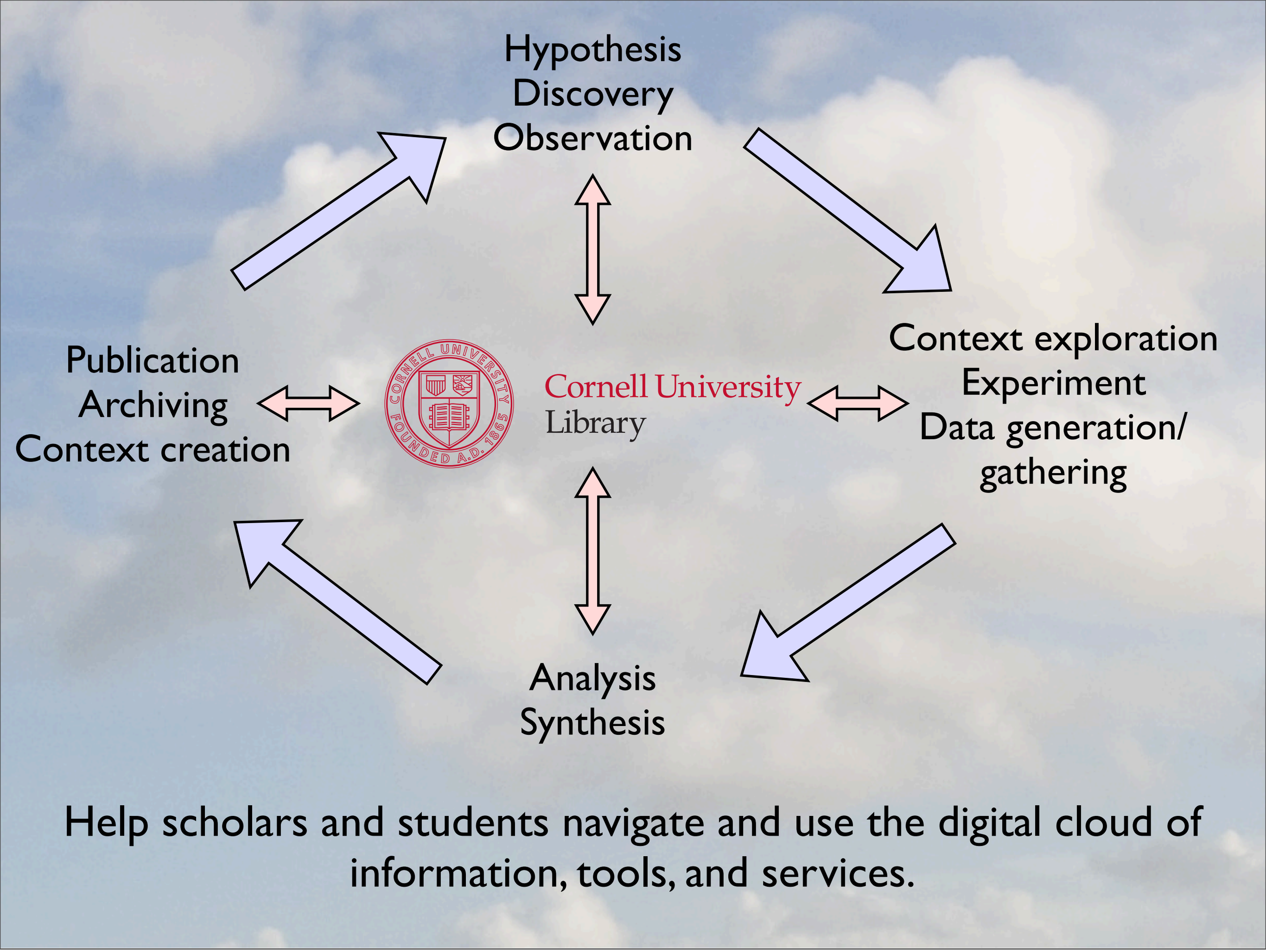

Figure out the strategic services that the library should be providing in support of scholarship