

The Library as Strategic Asset in the Information Chain:

*An evolving paradigm
for library roles in a digital age*

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THEMES

- Evolutionary forces at play
- Understanding the research process
- Strategic, instrumental, “in the flow”
 - Current examples, future possibilities

Late 20th Century: Diffuse Libraries

With the incorporation of **distributed technologies** and more **open models**, the library has the potential to become more involved at all stages, and in all contexts, of knowledge creation, dissemination, and use. Rather than being defined by its collections or the services that support them, the library can become a **diffuse agent within the scholarly community**.

Lougee, CLIR, 2002

Early 21st Century: Amazoogole era...

...2004 might well be remembered as the Year of Search...If we get through these rocky times with civilization's underpinnings intact, our descendants, **swimming in total information**, might be required to memorize the date of last August's Google IPO as a cultural milestone...

Newsweek, December 2004

Publication: from product to process

By 2100, our current view of electronic publications as copyright-able artifacts will be viewed primarily as a historical allegiance to a pre-participatory, non-interactive, essentially dull and lifeless era of publishing - an era in which one thought of digital libraries...as a collection of linked "things" rather than **articulated processes and procedures...**

Hal Berghel

Wisdom of Crowds

“No one in this world, so far as I know. Has ever lost money by underestimating the intelligence of the great masses of the plain people”

H.L. Mencken

H. L. Mencken was wrong.

“large groups of people are smarter than an elite few”

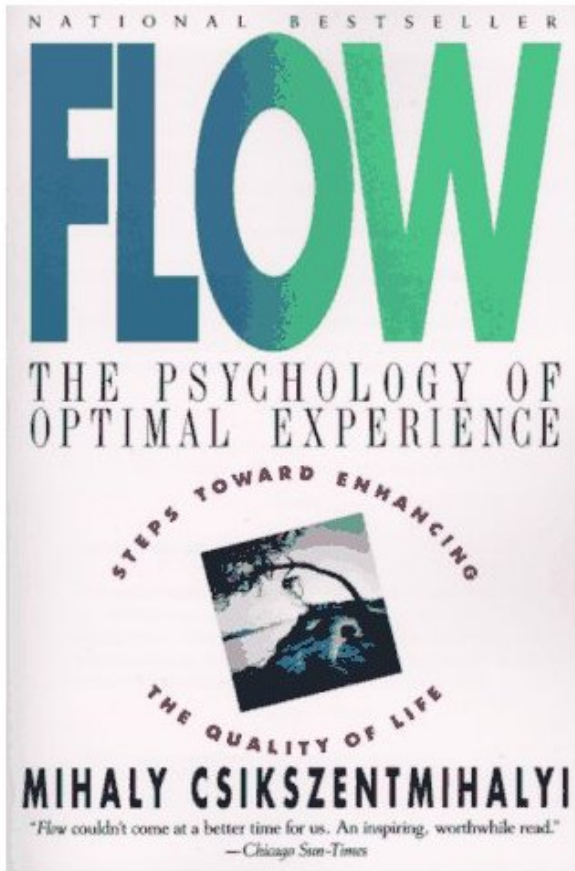
James Surowiecki,

The Wisdom of Crowds

“Into the flow” (process)

“Where attention is scarce, the library needs to provide services which save time, which are built around user workflow, and which are targeted and engaging...Aggregating resources may not be enough. They will be **shaped and projected into user environments** in ways that support learning and research objectives.”

Lorcan Dempsey, Ariadne, 2006



“The Flow”

1990

The Flow is best described as the state where attention, motivation, and situation meet.

...it's about shaping the environment, optimal experience.

TECHNOLOGY



TECHNOLOGY



LIBRARIES

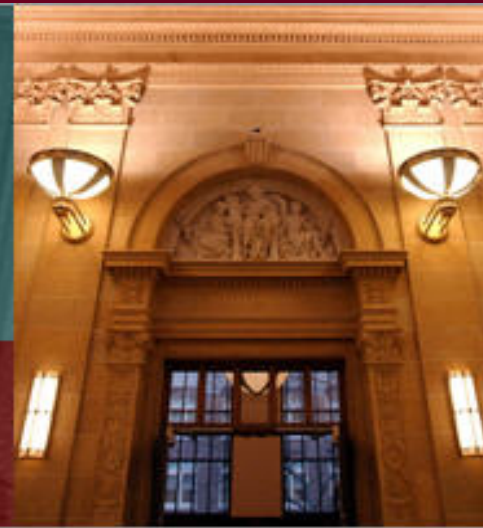


Understanding User Processes/Flow

- Resources (content/services/tools) for research are distributed, increasingly electronic, heterogeneous
- Content resources becoming more dynamic, processes more important
- The “pull” of Internet-based resources, increased attention to *process* motivate the library to:
 - better understand research processes
 - integrate content/services/tools in user’s workflow
- **Create context where attention, motivation, and situation meet.**

A MULTI-DIMENSIONAL FRAMEWORK FOR ACADEMIC SUPPORT

A UNIVERSITY LIBRARIES RESEARCH PROJECT
FUNDED BY THE ANDREW W. MELLON FOUNDATION



2005-2007

- Understand behavior, challenges of graduate students and faculty
- Overarching methodology, two phases: humanities & social sciences, sciences (physical, natural/life, health sciences communities)

<http://www.lib.umn.edu/about/mellon/>

<http://www.lib.umn.edu/about/scieval/>

Project Strategy

- Humanities/Social Sciences
 - 16 Departments within the College of Liberal Arts
 - Interviews with ~ 50 faculty
 - Focus groups with graduate students
 - Survey of ~1150 faculty and graduate students (>50% response rate)
- Sciences
 - Interviews with ~ 50 faculty, 20 grad students in physical, natural, and health sciences
- Community analysis (Bioethics)

Key Question Areas

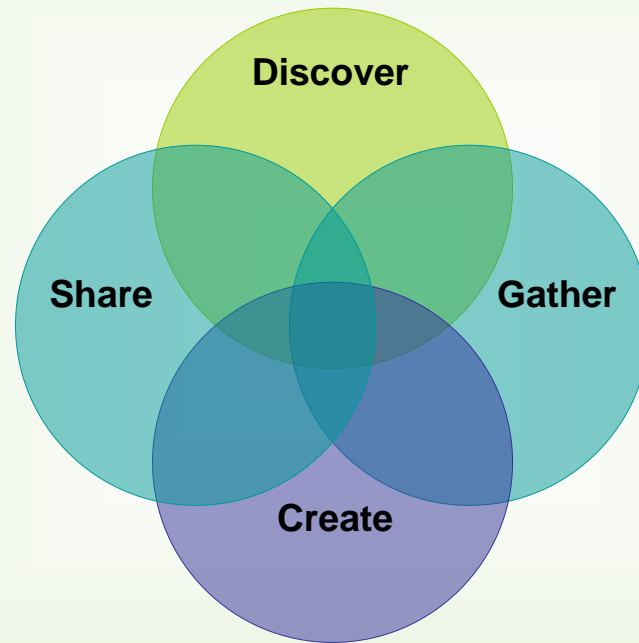
- **Research Practices:** What methodologies are used? What usage trends can be identified?
- **Interdisciplinary & Collaborative Research**
- **Resource Organization and Storage:** What materials do researchers use, collect, self-organize, and preserve?
- **Library Research:** What role do libraries currently play?

Goal = understand current flow, shape optimal flow

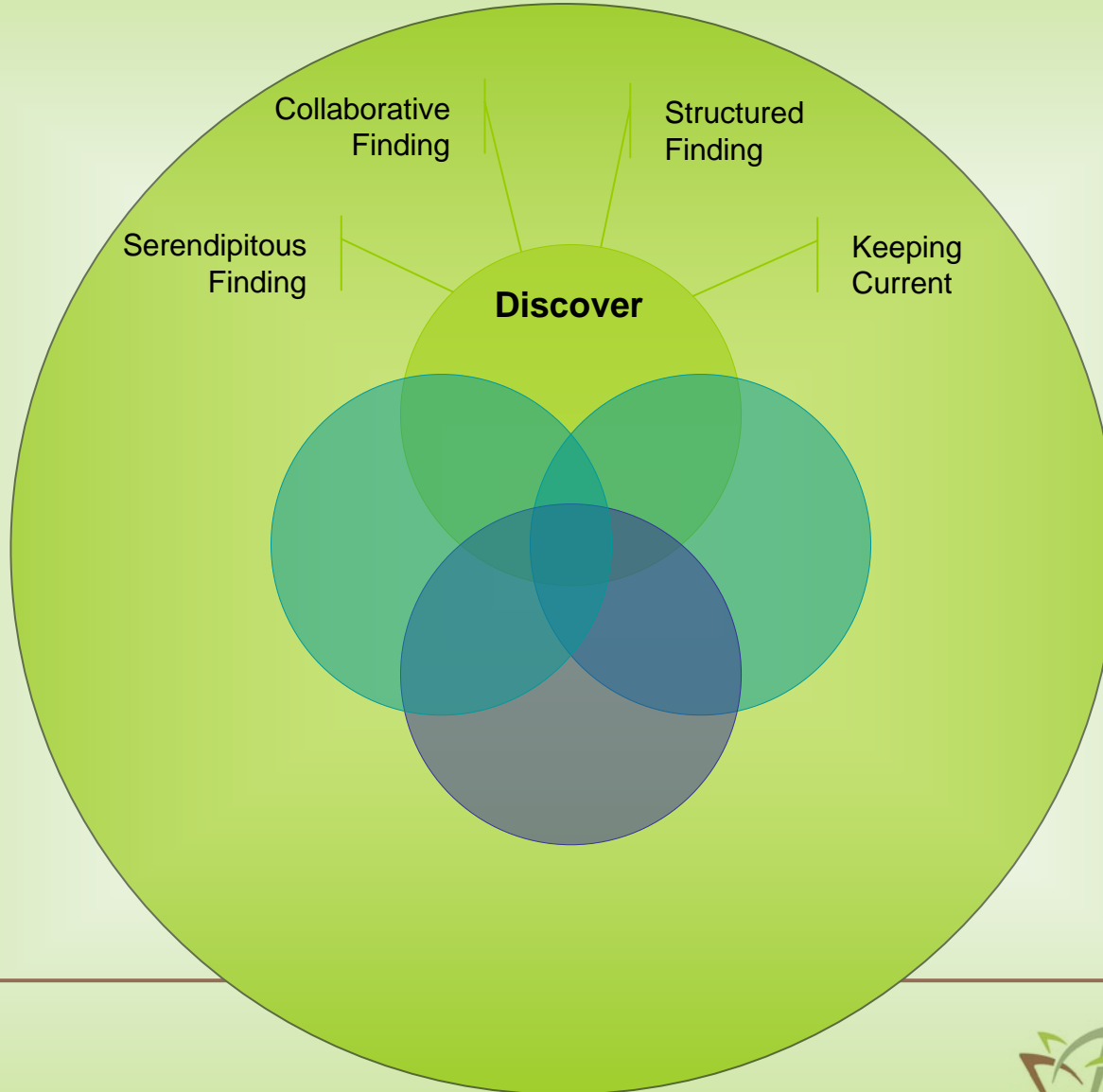
Analytical Framework

- Categorize behaviors & identify “primitives”
- Analyze behavioral data, trends, relationships
- Identify potential tools/new services
- Prototype tools/services; solicit scholar feedback (iterative process)

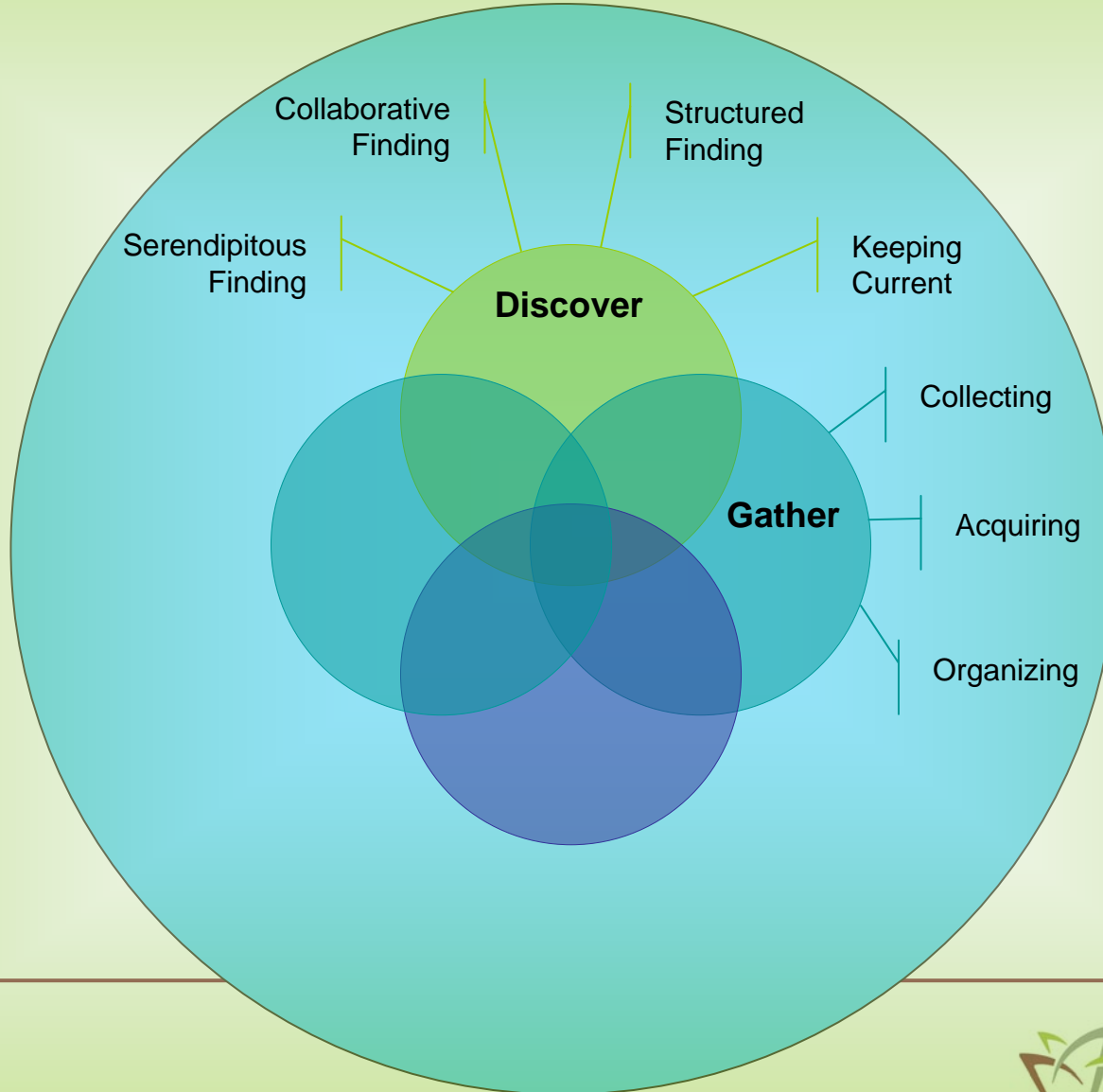
PRIMITIVES



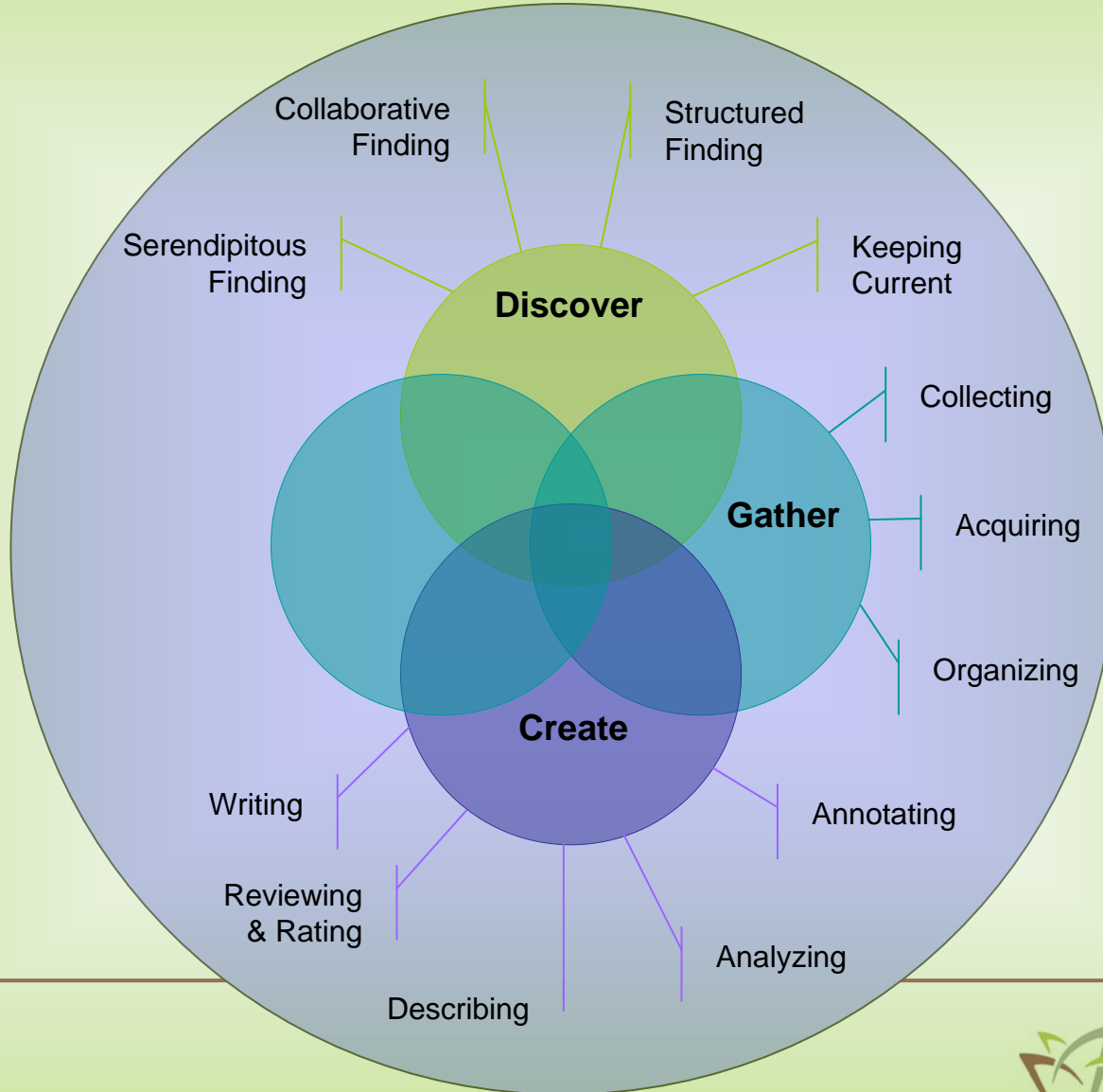
PRIMITIVES => BEHAVIORS



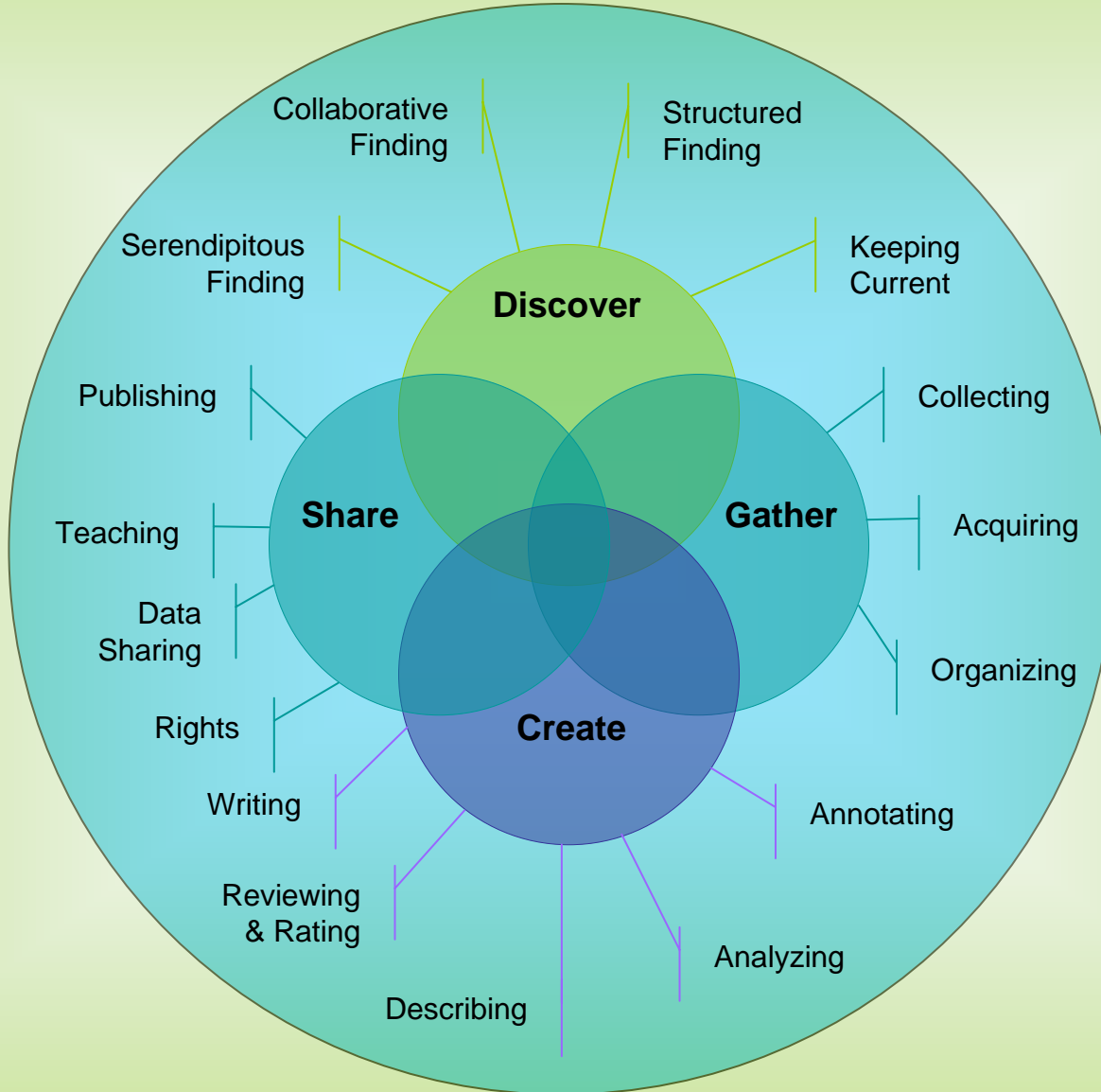
PRIMITIVES => BEHAVIORS



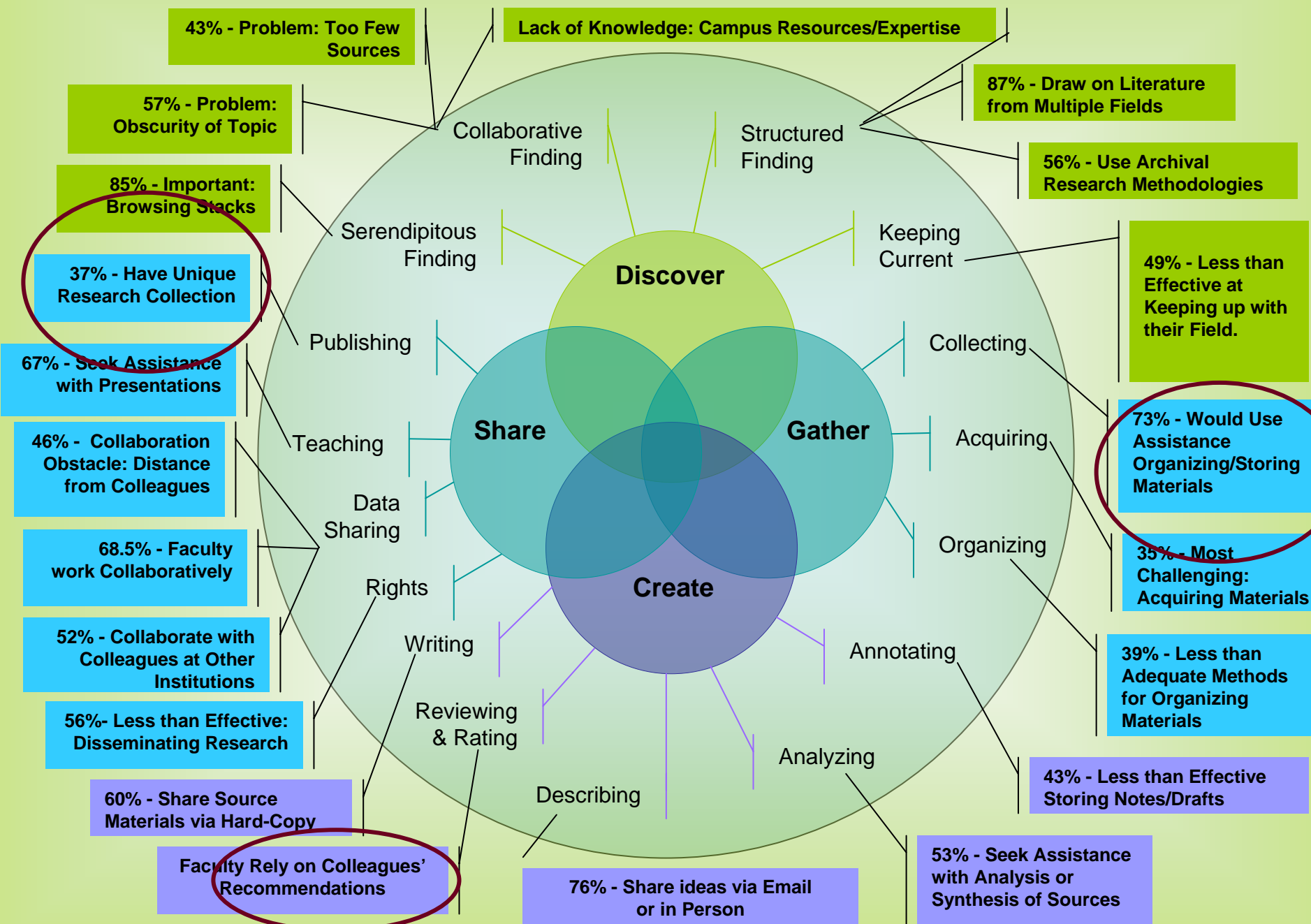
PRIMITIVES => BEHAVIORS



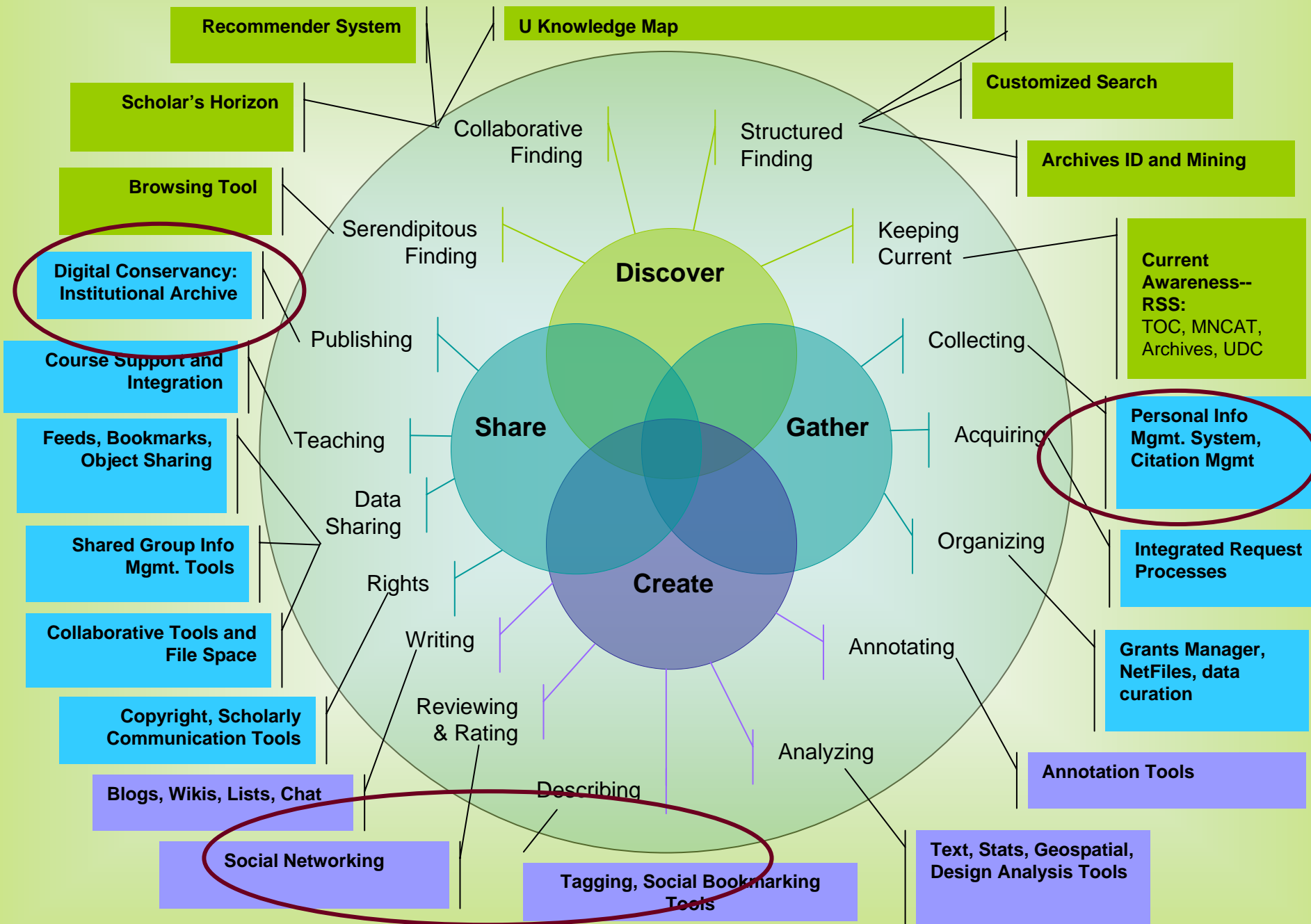
PRIMITIVES => BEHAVIORS



SURVEY DATA RESULTS



POTENTIAL TOOLS & SERVICES



Summary of Results

- Strong interest in digital resources
- Diversity of locations, mobile
- Diversity of resources/media used, interdisciplinary
- Methods learned in “traditional” contexts are not easily transferred to digital context
- Significant problems in managing “gathered” resources
- Increasing interest in collaboration, but challenged by time/space, distance
- Researchers have unique collections, data to be shared

Sciences: Unique Issues

- Interdisciplinarity/collaborative - challenged
- Keeping up within a discipline, understanding another discipline, key figures, vocabulary
- Organizing/managing products of research
- Dependence on journals for long-term preservation
- Idiosyncratic data management, compliance concerns
- Grad students: importance of mentors/advisors (people as information sources)

Sciences: Interdisciplinary Research

Based on the **attributes** of individuals working on a common problem. People are resources.

“I work with colleagues who bring to the table what I can’t do or don’t want to do.”

[Physics:] “Interdisciplinary research is working with people who work on different wave lengths.”

ETHICSHARE

A COLLABORATIVE VIRTUAL COMMUNITY



- Mellon-funded Scholarly Communication Institute (practical ethics)
- Develop sustainable, multi-institutional, interdisciplinary community
- A Place for Bioethics community: discovering, gathering, creating, sharing

How “Social”? (from Bio-ethics)

- “Social” features moderately important:
 - Get Updates via Email/RSS about New Content (77%)
 - Get Recommendations of Resources (68%)
 - Ability to Share Your Work With your Colleagues (76%)
 - Ability to Review a Resources (79%)
 - Community Discussion Space (79%)
 - Add Resources to the Site (71%)
- Significant generational differences

Library as Strategic Asset

- Integrated in user's workflow
- Creating optimal experience
 - Discovery
 - Gather (managing resources)
 - Create (publishing)
 - Share (collaboration)



Integrating... building communities

Discover



SEARCH:

What am I searching?

Books & Articles

Submit

Find Databases
Advanced Search

Guest Access

RESEARCH QUICKSTART:
RESEARCH A SUBJECT

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 ALL

Accounting
Advertising
African American Studies
African Studies
Agriculture
Agronomy

 Need help? Try QuickStudy!

MY LIBRARY

ASSIGNMENT
CALCULATOR

Start Date:

 - -

Due Date:

 - -

You CAN beat the clock!

FULL TEXT FINDER

Journal name:
 Begins Contains Exact
Author (last): Article title: Volume: Issue: Year: Start page:
 - or - - or -

I need some more help!

U**THINK**

University of Minnesota Blogs

Recently updated blogs



1. Design Mathematics (from Creation Times)
2. my lil pups...tho not really that little (from theremedy)
3. My First Blog (from yang1031)
4. Oppositions all around (from theremedy)
5. Post-Poned until 2007 (from Clouds in Water with Books)

 ::

QUICK LINKS

- ◆ Library Catalog (MNCAT)
- ◆ CourseLib
- ◆ Course Reserves
- ◆ Hours & Maps
- ◆ RefWorks or Cite Sources
- ◆ Workshops

TOP FIVE LIST

Most Used Reference Sources

1. [Oxford English Dictionary](#)
2. [Encyclopaedia Britannica Online](#)
3. [Grove Dictionary of Music and Musicians](#)
4. [Merqent Online](#)
5. [Oxford Reference Online](#)



UNIVERSITY OF MINNESOTA
LIBRARIES

myU Portal

UNIVERSITY OF MINNESOTA
Twin Cities • Duluth • Morris • Crookston • Rochester • Other Locations

What's Inside Search... All campuses GO People Search | Directories | Campus Maps

- About the U of M
- Academics
- Admissions
- Arts & Culture
- Community Connections
- Employment
- Health & Medical
- Libraries & Computers
- Research & Scholars
- Sports & Recreation
- U of M Administration

Alumni, Donors, Parents

International Resources

Student Services

One Stop
For students, faculty, and staff

MYU Your view of the U

UNIVERSITY OF MINNESOTA
Driven to Discover™

Submit your single greatest question.

Spotlight on the U

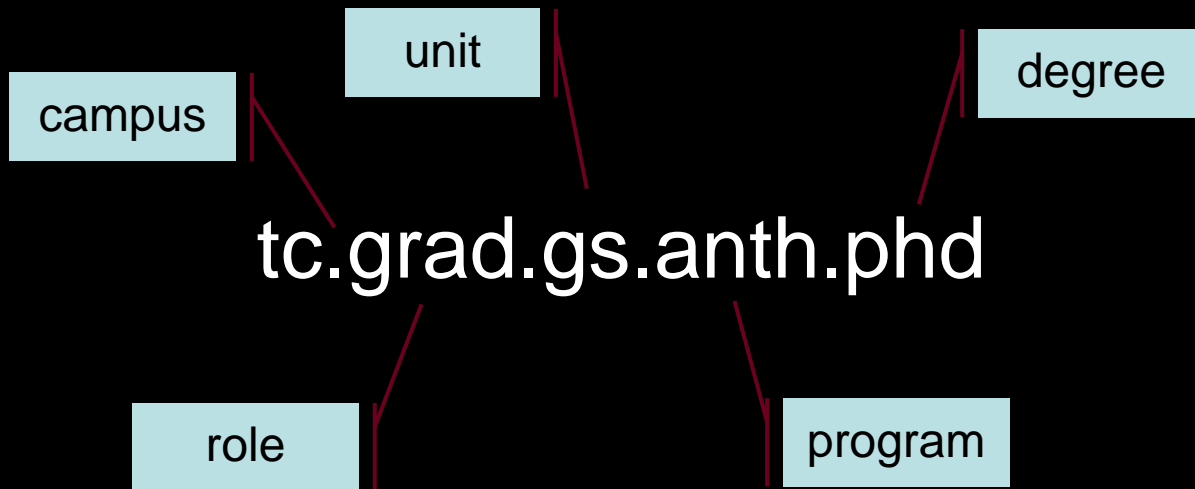
Walk-in flu clinics — Students and staff can get a free flu shot at Boynton Clinic.

FEATURE

Fighting meth with education
Mike Cihak, Jill Beauregard and Jim Beauregard are helping to combat the scourge of methamphetamine with their educational DVD "Meth in the Heartland: A Community's Response." The DVD was their final project in a master's program.

UMNnews

Affinity Strings...



... a beginning point for personalized services

Discovery

- Components
- Discipline-focused
- Content & Tools
- Customizable

my Library

UNIVERSITY OF MINNESOTA
LIBRARIES

Have a Question? Ask Us!
Email | Chat | Phone | FAQ

MNCAT | E-Journals | OneSearch

Find: Keyword

Basic | Advanced | Your Account

messages for Shane A Nackerud

E-mail!
On Wed Aug 22 09:23:36 2007
mail arrived for snackeru@umn.edu
Last updated at Wed Aug 22 09:24:47 2007

Quick Links for Staff

Staff OneStop
Student Mental Health
Academic Calendar
Technology 1-HELP
U of M Home Page
Office for Equity and Diversity

my favorites

Radio K
University Libraries
TechMart
WebCT
Google
Web-based Email

myU Update

What's new on myU?

We recently launched new views for Twin Cities faculty and staff. Coordinate campuses are next.

If you have comments about the new application or suggestions for improvement, please contact the portal managers at tel@umn.edu.

Search Key Resources

Biochemistry and Biophysics resources:

Selected by librarian:
Jim Beattie (jbeattie@umn.edu)

- [i BIOSIS Previews](#)
- [i ChemIDplus](#)
- [i CRC Handbook of Chemistry and Physics](#)
- [i Current Protocols](#)
- [i Entrez Structure](#)
- [i Faculty of 1000 - Biology](#)
- [i Merck Index: An Encyclopedia of Chemicals, Drugs, and Biologicals](#)
- [i PubMed - U of M Students, Staff & Faculty](#)
- [i SciFinder Scholar](#)
- [i Web of Science \(ISI\)](#)
- [i More ...](#)

[Choose a different subject area](#)

All E-Resources

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

Library Links

- [University Libraries](#)
- [Libraries Hours](#)
- [Assignment Calculator](#)
- [Dissertation Calculator](#)
- [Copyright Info](#)
- [Libraries to U](#)
- [Workshops](#)

My Library Accounts

- [MNCAT](#)
- [OneSearch](#)
- [Interlibrary Loan](#)
- [RefWorks](#)
- [UThink Blogs](#)

Have a Citation?

Try the "Full Text Finder"

Journal Title:

Article Title:

start a blog!

Library News

- [New e-resources in Finance and Economics](#)

myU-Library Development

- Phase 1: "Pushing out" services on basis of user demographics (pilot with graduate students)
- Phase 2: Introducing capabilities for users to shape their own library web space -- favorite databases, e-journals, alerts, etc.
- Phase 3: Building community/mentoring views -- echoing the most highly used resources by a discipline; other "social" services

Discovery....*future*

- Comprehensive resources (info, people, tools)
- Community-sensitive
- Semantic functionality

The Human Touch

Searching for documents or knowledge?

- Knowledge is embedded in people
- Collexis behaves like a (human) expert
- Collexis finds information, experts and organizations
- Collexis enhances Knowledge sharing and Collaboration



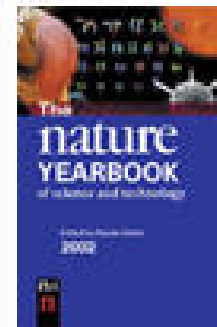
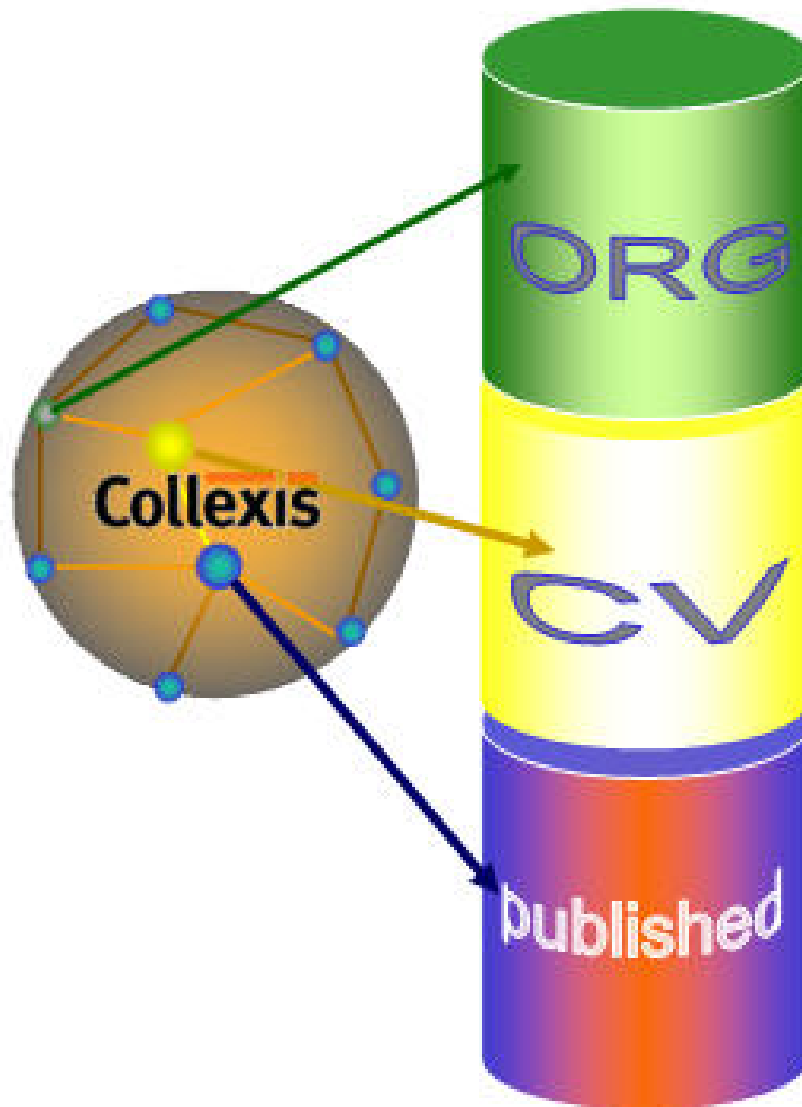
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content



Community of Science




- Publications
- Molecular Databases
- Image databases
- Patents
- Events
- Calls

Gather




 Automatic capture of citation information from **web pages**

 Flexible notetaking with autosave

 Playlist-like library organization, including saved searches (smart collections) and tags


 Runs right in your web browser

 Free and open source

 Saves records and notes in any language; interface available in  with **more on the way**

 Storage of PDFs, files, images, links, and whole web pages

 Fast, as-you-type search through your materials

 Platform for new forms of digital research that can be extended with other web tools and services

 Formatted citation export (style list to grow rapidly)

 **Integration with Microsoft Word and OpenOffice**

 **Integration with WordPress** and other blogging software

- Collections
- My Library
 - Shakespeare
 - Criticism
 - The Plays
 - Comedies
 - Histories
 - Tragedies

Title	Creator	
AC Bradley and his influence in twentie...	Cooke	
Coleridge's Shakespeare Criticism	Coleridge et al.	
▶ Political Criticism of Shakespeare	Cohen	1
▶ Shakespeare : The Invention of the Hu...	Bloom	1
Shakespeare After Theory	Kastan	
Shakespeare Criticism	Anne	
Shakespeare Criticism 1919-1935	Ridler	
Shakespeare, Theory, andPerformance	Bulman	
Twentieth-century Shakespeare criticis...	Berry	

Info Notes Attachments Tags Related

View

Journal Article

Title: Twentieth-century Shakespeare criticism: the histories

Author: Berry, E

Abstract:

Publication: An Cambridge Companion to Shakespeare Studies

Gather ...*future*



shared collections, notes,
and public domain documents



scholarly groups in macro- and micro-
disciplines, official groups



recommendations

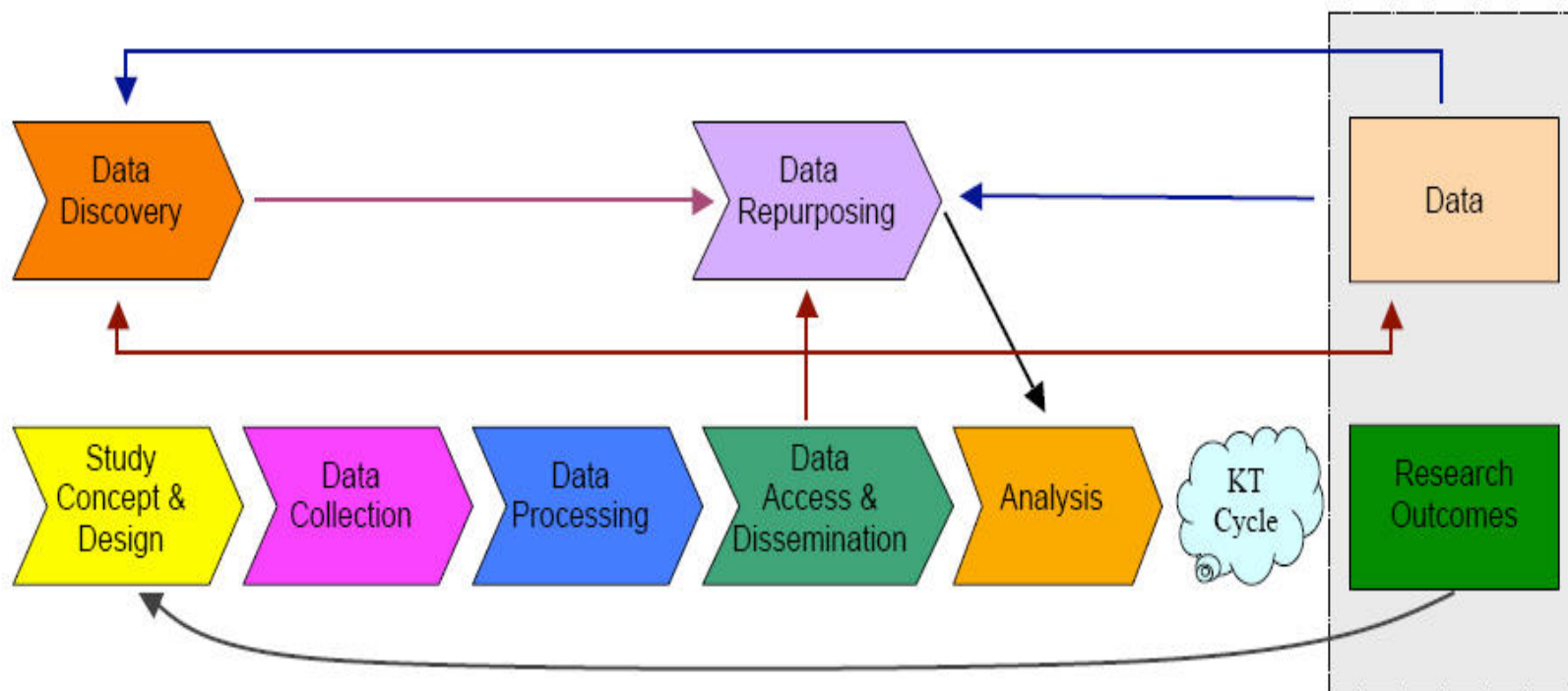


bibliographic feeds



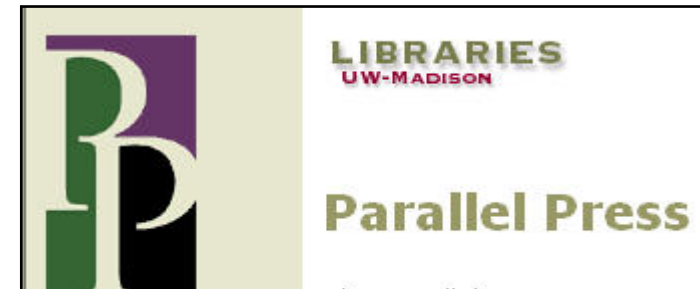
APIs

Gather...*future* (data curation)



Create & Share (Publishing)

Library as publisher



Create & Share...*future*

- *Sustained roles: archive, description*
- Campus publishing strategies, shared infrastructure (*Ithaka, "University Publishing in a Digital Age" 2007*)
- *Support new genres (e.g., compound, actionable)*

Share (collaborate)

- Institutional, discipline repositories
- Wikis, blogs...
- “Socially-enabled” sites

EthicShare Community (bioethics)

- Open framework (drupal)
- Repository functions, events, blogs
- Faceted search
- Multi-institution resolution services
- User-defined groups
- Recommendations, ratings
- Sustainability within community?

EthicShare Community

Sort by... 

1500 items found

Limit by Subject

- [Humans](#) (1408)
- [Stem Cells](#) (815)
- [Embryo Research](#) (693)
- [Embryo](#) (607)
- [United States](#) (477)
- [Cloning, Organism](#) (449)
- [Public Policy](#) (260)
- [Ethics, Medical](#) (212)
- [Government Regulation](#) (193)
- [Financing, Government](#) (179)

Limit by Year

- [2006](#) (297)
- [2002](#) (279)

[Diverse Perspectives: Considerations About Embryonic Stem Cell Research](#)
[Indiana University Center for Bioethics, Stem Cell Study Group](#)

2006;

[Discuss With a Group:](#)



[Can science resolve the ethical impasse in stem cell research?](#)

[Snyder, Michael W](#)

Nature biotechnology. 2006; 24(4): 397-400

[Discuss With a Group:](#)



[Stem cells for obstetricians and gynecologists.](#)

[Rygaard, Svend Kåre, Lindenberg](#)

Acta obstetricia et gynecologica Scandinavica. 2002; 81(5): 383-8

[Discuss With a Group:](#)



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2003;
[Discuss W](#)
[\[On ther](#)
[Di Sciasc](#)

The biblical teachings on suicide.

21 reads [bookmark this](#)

5

[ShareIt](#)

Authors:

[Barry, R](#)

Source:

Issues in law & medicine, Volume 13, Number 3, p.283-99 (1998)

Accession Number:

9479882

Keywords:

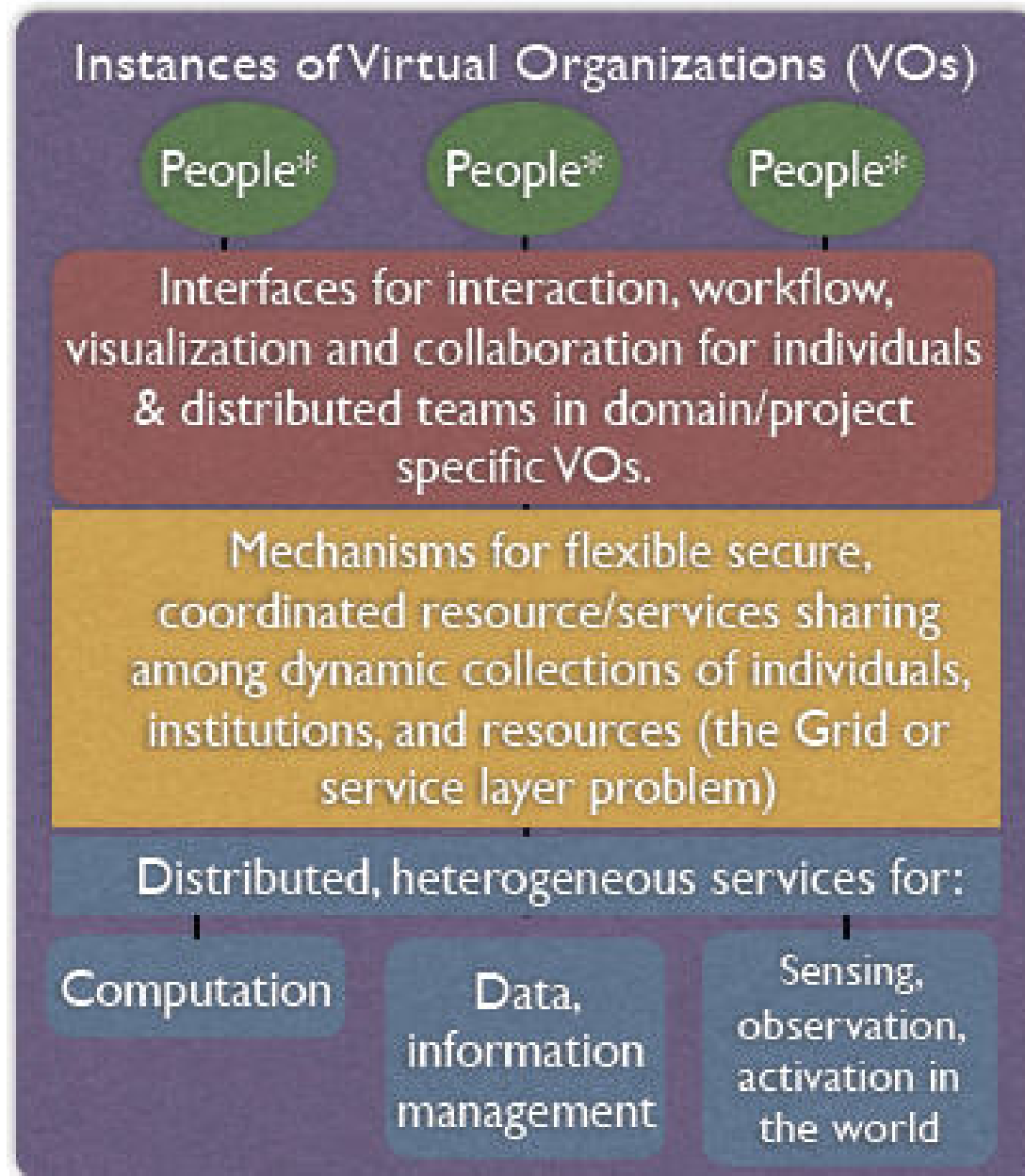
[Bible](#); [Ethics, Medical](#); [Humans](#); [Religion and Medicine](#); [Suicide](#); [Theology](#)

Abstract:

This article refutes Professor Margaret Battin's idea that the Bible tolerates and even encourages suicide. Dr. Barry argues that the Bible only allows killing in self-defense or as punishment for serious wrongdoing. To support his view Barry first describes several incidents in the Scriptures where suicide is requested from God and is refused. He next reviews incidents where self-inflicted death is tolerated as an act of devotion to God. He continues by discussing suicides which were condemned by God in both the Old and New Testaments. Dr. Barry concludes that suicide is not tolerated



Share (collaborate)...*future*



Alternate Names for Instances of VOs:

- Co-laboratory
- Collaboratory
- Grid (community)
- Network
- Portal
- Gateway
- Hub
- Virtual Research Environment (VRE)
- Cyberinfrastructure Collaborative
- Other?

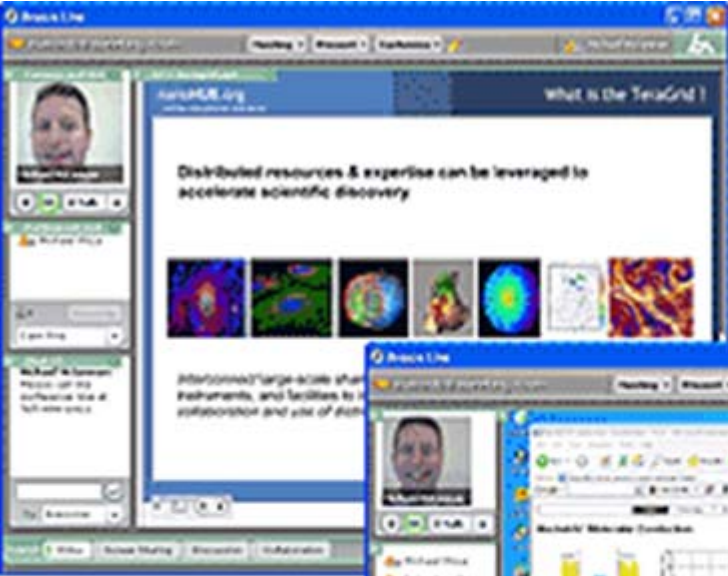


Simulate

- Nanoelectronics**
Tools for nanoelectronics
- NEMS/Nanofluidics**
Tools for NEMS and Nanofluidics
- Nano-Bio Devices**
Tools for nano-bio devices
- More >**
Browse all available tools

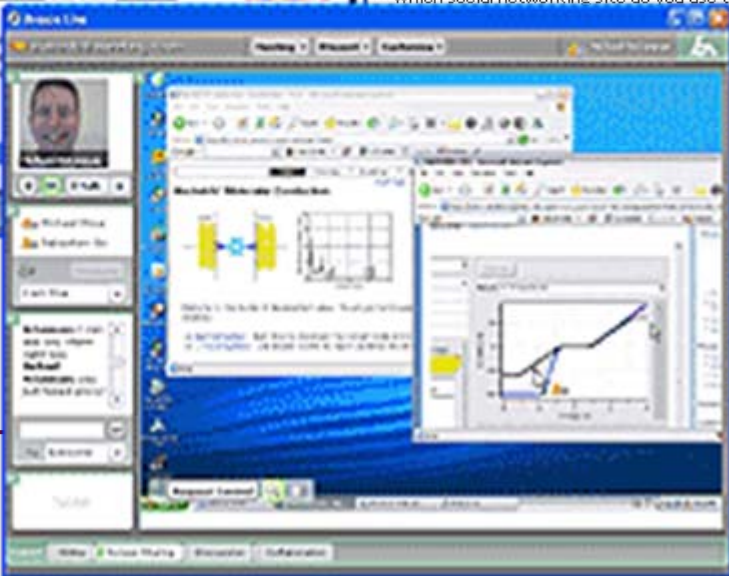
Research

- Seminars**
Browse research seminars
- Collaborate**
Work with your colleagues
- Web Meetings**
Right in your browser
- User Groups**
Share with your colleagues



Contribute

- Contribute Content**
Upload your own materials
- Give us Feedback**
Success story? Suggestions?
- Take a Poll**
Which social networking site do you use the most?



Library Role in Communities

- Content, data management
- Integration, design
- Preservation & sustainability

Exclusive role? Collaborative role?

Lead role?

“Into the flow”

“Where attention is scarce, the library needs to provide services which save time, which are built around **user workflow**, and which are **targeted and engaging** ...Aggregating resources may not be enough. They will be shaped and **projected into user environments** in ways that support learning and research objectives.”

Lorcan Dempsey, Ariadne, 2006

Diffuse, Integrated, In the Flow Strategic

Creating optimal information experiences
and environments....

*“where attention,
motivation,
and situation meet.”*



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