Scholars are on MARS:
Scholarly communication in the 21st century

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Library Systems Office

Things change; so what?

- How much research can you access?

- Who else can access your research?

- Who is taking care of your research for the long-term?

- Will your research make the biggest possible impact on your field?

- Will you achieve tenure and promotion?

- Knowledge is power! Learn about the system!

Some definitions

Getting the word out

- "Toll-access" publishing

  - By subscription: reader or reader's agent pays

  - Access restricted to subscribers

- "Open-access" publishing

  - Disseminated free to readers over the Internet

  - Publishing costs recovered from someone other than the reader

  - So-called "author pays" only one model

- Self-archiving

  - Author places a copy of research on the Internet

  - Freely available to readers

Repositories

- Digital repository
  - Archive for digital research and/or learning objects
  - Papers, datasets, presentations, recordings, etc.
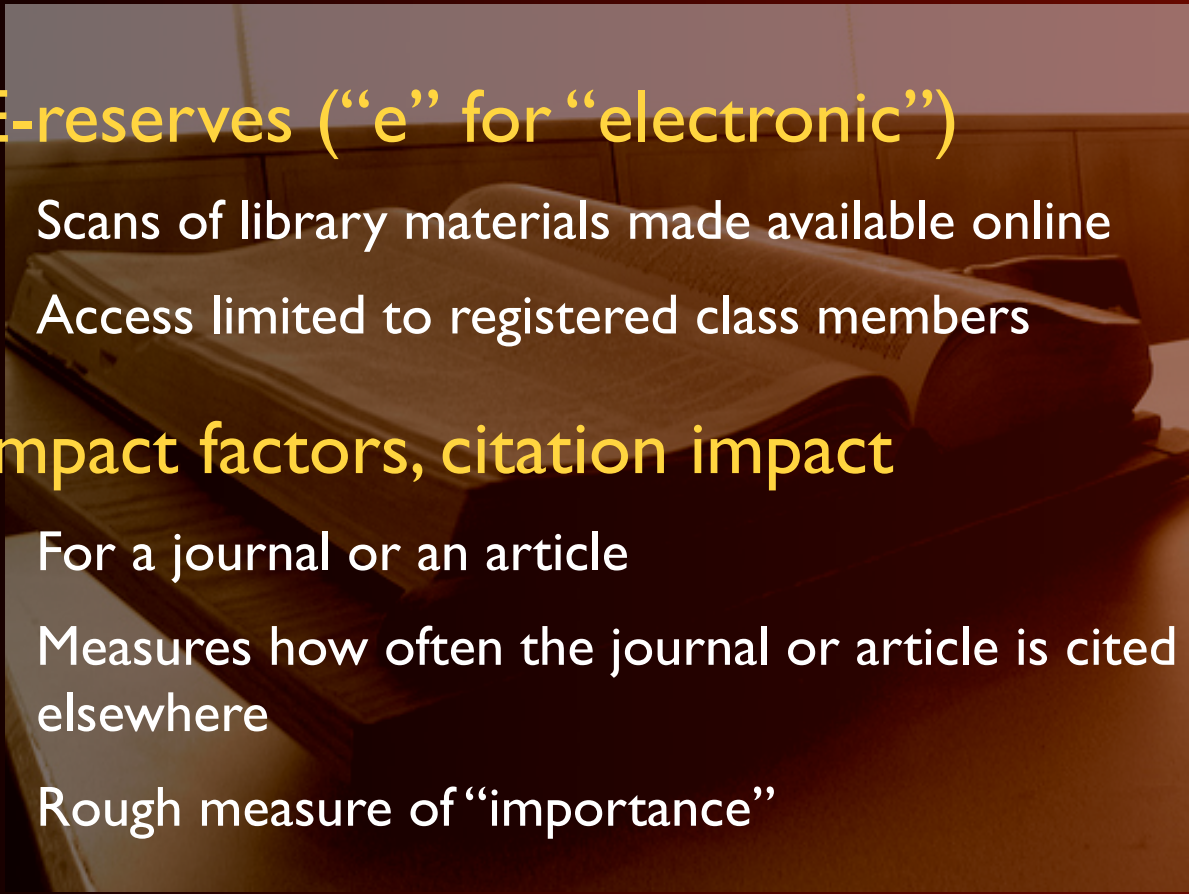
- Institutional repository
  - Digital repository maintained by a university for the research output of its affiliates

- Disciplinary repository
  - Digital repository collecting research output in a particular discipline

Miscellanea

- E-reserves ("e" for "electronic")
  - Scans of library materials made available online
  - Access limited to registered class members

- Impact factors, citation impact
  - For a journal or an article
  - Measures how often the journal or article is cited elsewhere
  - Rough measure of "importance"

The "Big Deal"

Between 1986 and 2000

The consumer price index rose **57%**

The unit cost for books increased **66%**

Faculty salaries increased **68%**

Health care costs increased **107%**

**The unit cost for journals increased 226%**

How?

- Major for-profit publishers bought up thousands of sci-tech-med journals

- Journal publication moved electronic

- The amount of research skyrocketed

- Publishers offered libraries "bundles" of e-journals — the Big Deal

- Prices on the Big Deal rose uncontrollably

- Popular sci-tech-med journals became unavailable outside the Big Deal

Invisible access worries

- Cancel a print journal, keep back issues

- Cancel an e-journal…???

- What if an e-journal dies? Or gets sold?

- What if a big aggregator goes out of business?

- Many libraries end up buying print AND electronic
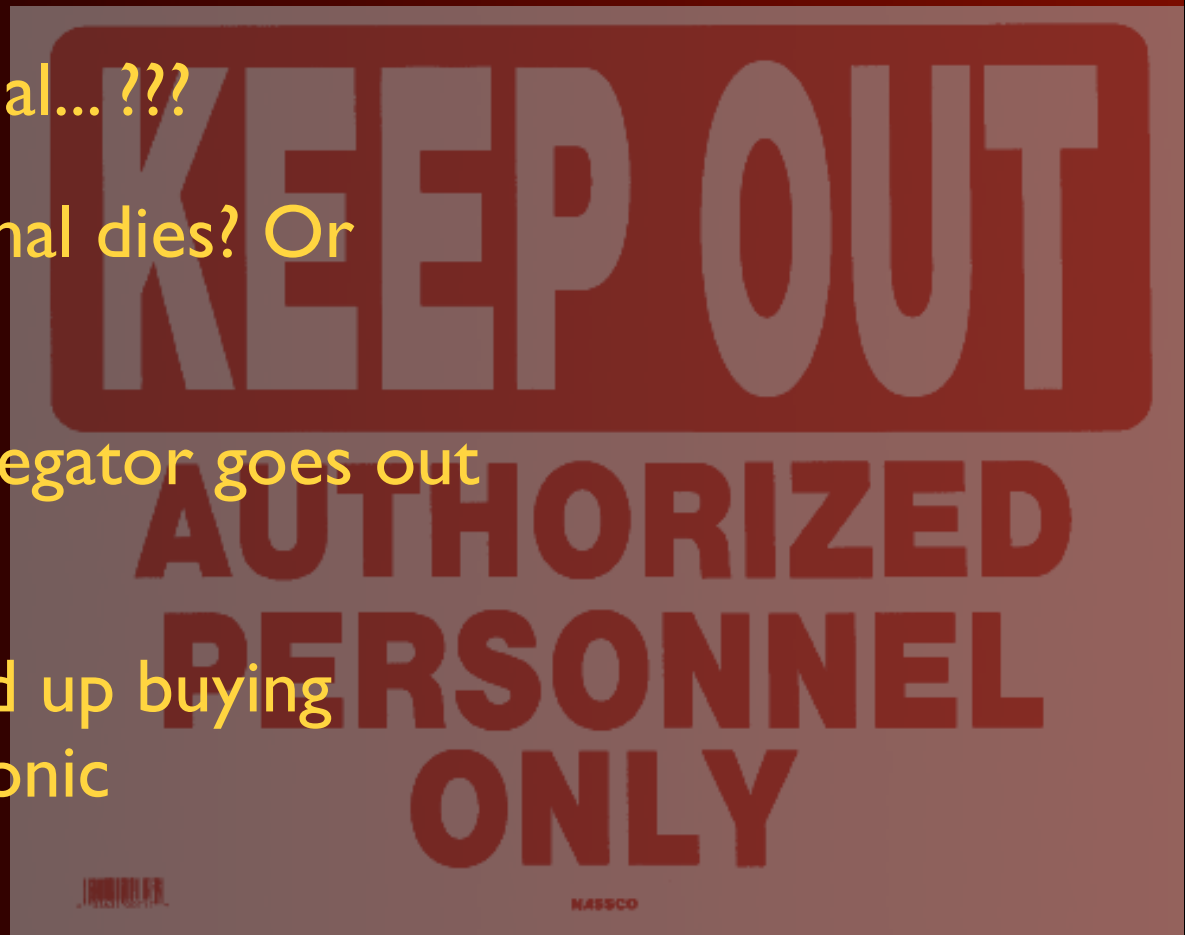
Pernicious effects

- Libraries hate it
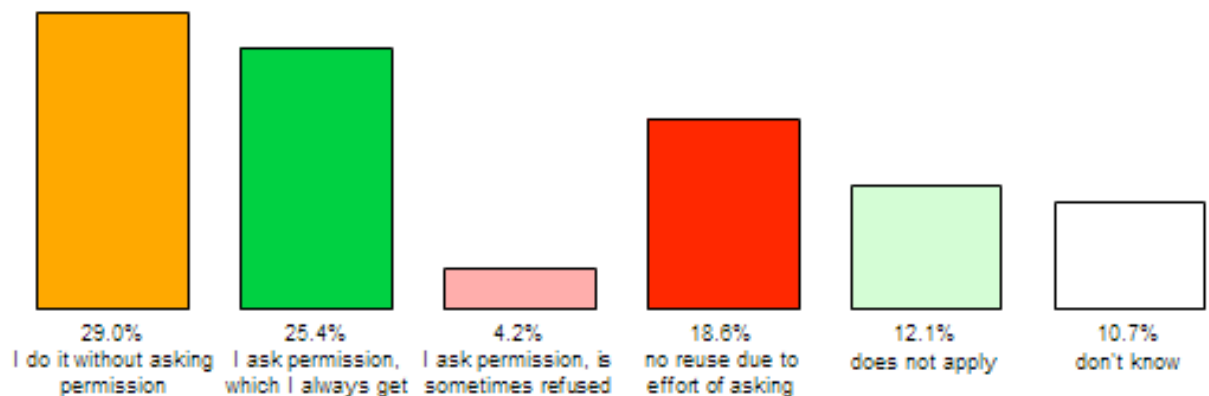 - Lose ability to choose the best journals
  - Strain budgets and systems to breaking
  - Worry about long-term access, preservation

- The humanities and social sciences hate it
  - The scholarly monograph dies
  - University presses fold

- Quality journals hate it
  - Small journals lose subscriptions
  - Lousy Big Deal journals survive

- Sci-tech-med researchers don't notice it...

... or do they?

One-fifth to one-third of authors surveyed feel uncomfortable reusing their own work!

In a traditional (subscription model) journal the copyright generally rests with the journal publisher. What do you do when you want to (re)use your article? (n=355)

| 29.0% I do it without asking permission | 25.4% I ask permission, which I always get | 4.2% I ask permission, is sometimes refused | 18.6% no reuse due to effort of asking | 12.1% does not apply | 10.7% don't know |

Graph from Hoorn, E. and Van der Graaf, M. "Copyright Issues in Open Access Research Journals: The Authors' Perspective." D-Lib 12:2 (Feb. 2006). http://www.dlib.org/dlib/february06/vandergraaf/02vandergraaf.html

Other developments

Measures of cachet

- Sciences
  - Impact factors
  - The need for speed: preprints and preprint archives
  - "Grey literature"

- Humanities
  - Steadily harder to find monograph publishers
  - Innovative electronic projects cannot find funding or support

Peer review in trouble

- Too many articles, not enough reviewers at top journals

- Authors feeling pressure to publish in "top journals" send inappropriate articles

- Peer review demonstrably doesn't catch all errors

- Biases and unsigned reviews assailed

Research in the classroom

- **E-reserves hit the big time**
  - Publishers lose course-packet royalties
  - Print reserves die on the vine in libraries
- **University lawyers get nervous**
  - "Fair use" under threat anyway
  - Some library e-reserve policies arguably too conservative
- **Association for American Publishers: $$$**
  - CHE: "They clearly had a lawsuit in mind when they started contacting our office," said Mary MacDonald, a lawyer for the university [of California] system."

Textbooks to learning objects

- MIT's Open CourseWare started it all

- Add a dash of Blackboard and WebCT...

- "Virtual Learning Environments:" Sakai, Moodle, etc.

- "Open Textbook Project:" dicey economics

Responses

Library responses

- Then
  - Forming consortia
  - Buying the "Big Deal"
  - Cutting budgets to the bone to afford the "Big Deal"
  - Cancelling other journals
- Now
  - Rejecting the "Big Deal"
  - Building open access
    - Hosting OA journals
    - Building institutional repositories
    - Spreading the word

In 1997, the Association of Research Libraries founded SPARC* to address the dysfunctional economics of scholarly publishing.

*Scholarly
Publishing and
Academic
Resources
Coalition

Mason is a member of SPARC

Faculty responses

- Then...

- Now
  - Growth of "grey literature"
  - Faculty senates reject the "Big Deal"
  - Journal editorial boards revolt
  - A few faculty self-archive
  - Public Library of Science
  - MLA revalues e-scholarship
  - University of California charts the way forward

Funder responses

- ## The taxpayer
  - NIH proposal
  - CURES Act
  - Alliance for Taxpayer Access

- ## The private/non-profit funder
  - Wellcome Trust
  - SPARC

- ## The rest of the world
  - Major push for national research repositories
  - England, Australia, elsewhere

May 2005, NIH "requests and strongly encourages" peer-reviewed final manuscripts be placed in PubMed Central

Browser window 1 (grants.nih.gov):

NOT-OD-05-045: Implementation of Policy on Enhancing...

http://grants.nih.gov/grants/guide/notice-files/NO

Implementation of Policy on Enhancing Public Access to Archived Publications Resulting from NIH-Funded Research

Notice Number: NOT-OD-05-045

Key Dates
Release Date: April 29, 2005
Effective Date: May 2, 2005

Issued by
National Institutes of Health (NIH), (http://www.nih.gov)

The National Institutes of Health (NIH) published its Public Access Policy (Policy) in the February 3, 2005, and in the *Federal Register* on February 9, 2005. These announcem including Questions and Answers regarding copyright and other concerns, are availab http://www.nih.gov/about/publicaccess/.

The purpose of this Notice is to provide a summary of the Policy and to furnish guidan manuscripts.

Summary of the Policy
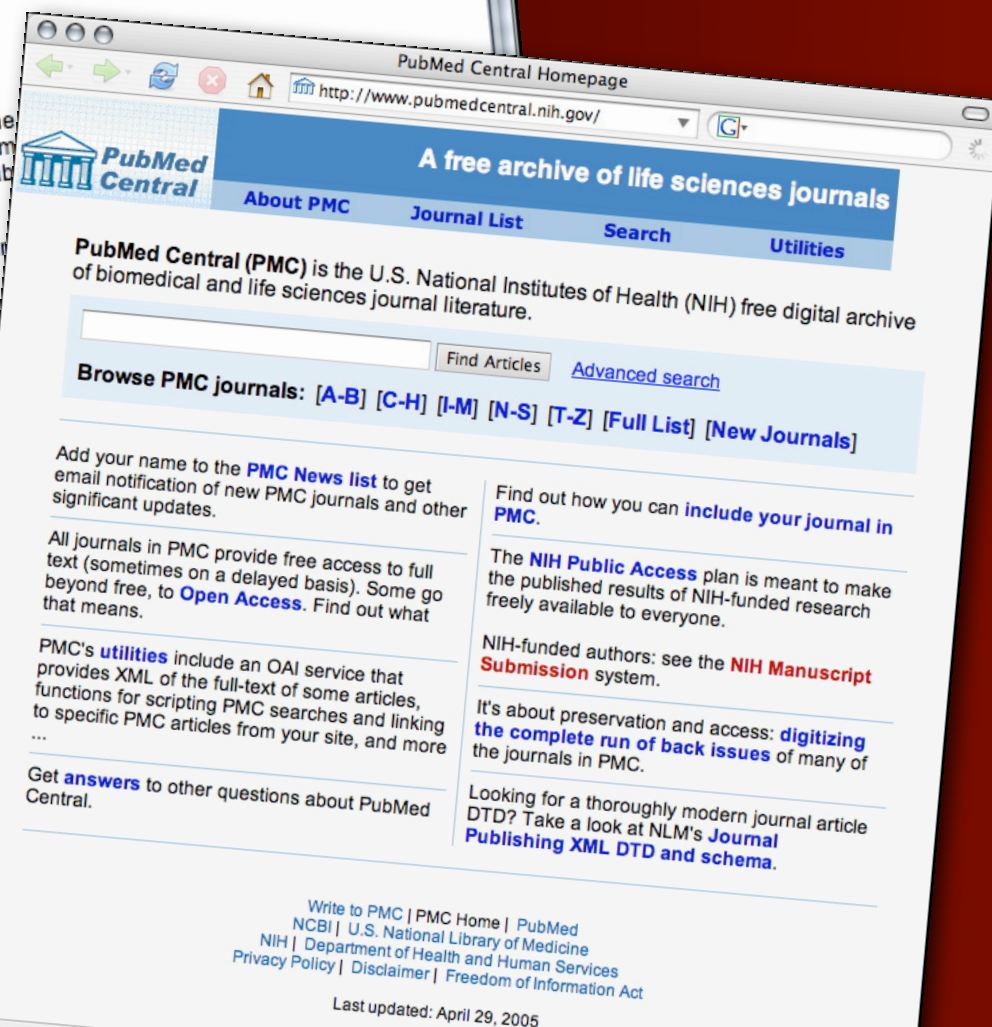
The Policy becomes effective May 2, 2005. The Policy requests and strongly encou peer-reviewed author's final manuscripts available to other researchers and the p PubMed Central (PMC) [see http://www.pubmedcentral.nih.gov] immediately after submission, authors are given the option to release their manuscripts at a later ti publication. NIH expects that only in limited cases will authors deem it necessary

The Policy applies to all research grant and career development award mechan and Individual Ruth L. Kirschstein National Research Service Awards, as well a to peer-reviewed, original research publications that have been supported in w not apply to book chapters, editorials, reviews, or conference proceedings. NI resulting from 1) currently-funded NIH research projects or 2) previously-supp accepted for publication on or after May 2, 2005. Publications resulting from submitted. We welcome comments and suggestions about the submission pr

The NIH Manuscript Submission System

The password-protected, Web-based, NIH Manuscript Submission (NIHMS to facilitate the submission process. This system allows easy identification intramural project numbers by associating them with the corresponding e research study. Currently, manuscript files from NIH Intramural PIs can be staff. Manuscript files from extramural PIs may be submitted by the PI onl to the NIHMS system by either the extramural PI or a third party on the P librarians, publishers, etc.).
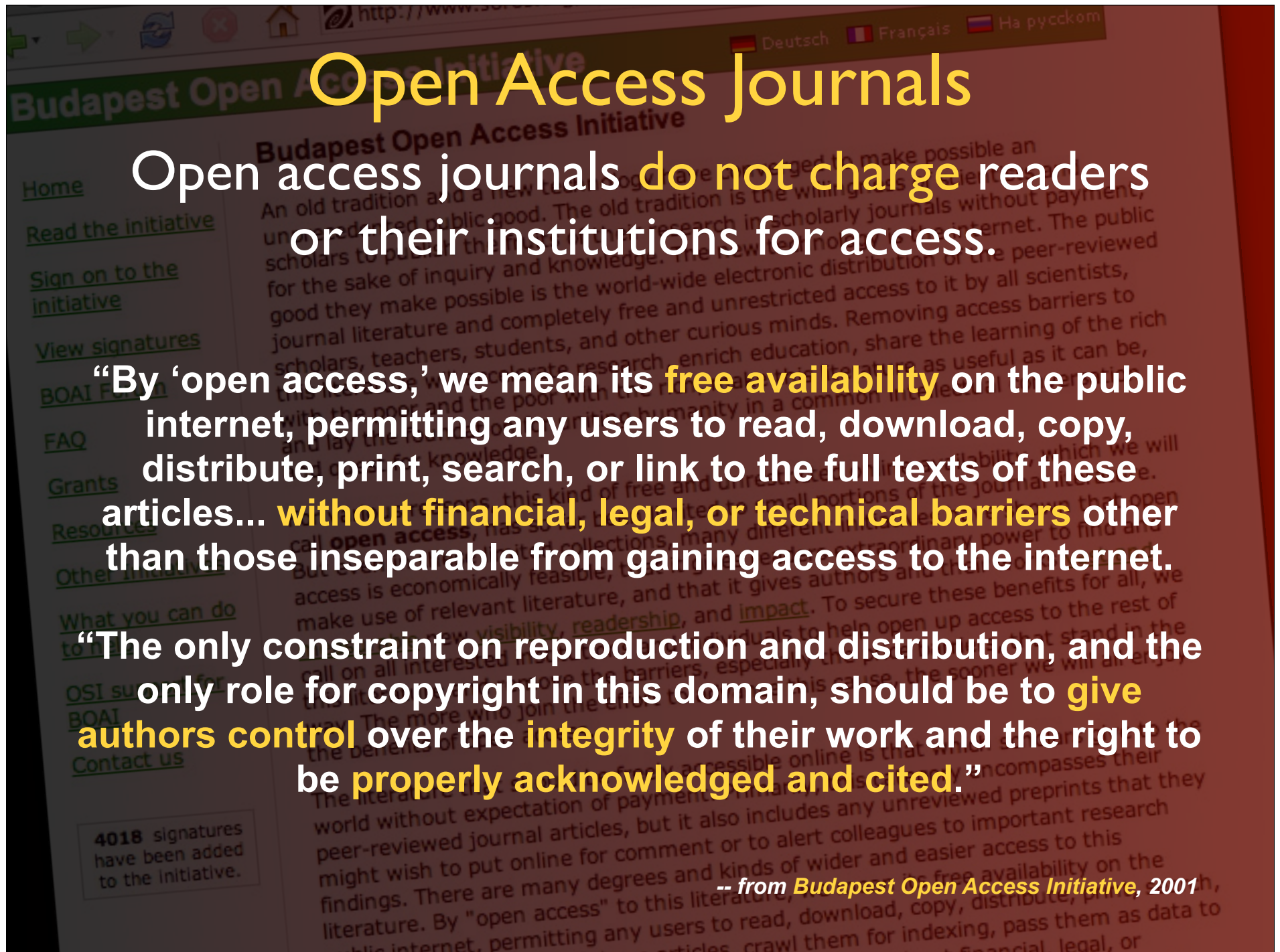
...vel of the submitted materials and the determination ...igned for individual submiss

Browser window 2 (PubMed Central Homepage):

PubMed Central Homepage

http://www.pubmedcentral.nih.gov/

PubMed Central

A free archive of life sciences journals

About PMC   Journal List   Search   Utilities

PubMed Central (PMC) is the U.S. National Institutes of Health (NIH) free digital archive of biomedical and life sciences journal literature.

[   ] Find Articles   Advanced search

Browse PMC journals: [A-B] [C-H] [I-M] [N-S] [T-Z] [Full List] [New Journals]

Add your name to the **PMC News list** to get email notification of new PMC journals and other significant updates.

All journals in PMC provide free access to full text (sometimes on a delayed basis). Some go beyond free, to **Open Access**. Find out what that means.

PMC's **utilities** include an OAI service that provides XML of the full-text of some articles, functions for scripting PMC searches and linking to specific PMC articles from your site, and more ...

Get **answers** to other questions about PubMed Central.

Find out how you can **include your journal in PMC.**

The **NIH Public Access** plan is meant to make the published results of NIH-funded research freely available to everyone.

NIH-funded authors: see the **NIH Manuscript Submission** system.

It's about preservation and access: **digitizing the complete run of back issues** of many of the journals in PMC.

Looking for a thoroughly modern journal article DTD? Take a look at NLM's **Journal Publishing XML DTD and schema.**

Write to PMC | PMC Home | PubMed
NCBI | U.S. National Library of Medicine
NIH | Department of Health and Human Services
Privacy Policy | Disclaimer | Freedom of Information Act

Last updated: April 29, 2005

Done

Results

- NIH report released 16 February 2006

- Abject failure thus far
  - 3.8% compliance rate
  - Awareness was high; compliance still low

- NIH, National Library of Medicine reactions
  - Mandate deposit
  - Shorter or no embargo
  - Use paper's final published version

- Future: CURES Act?

Open-Access Journals

Open Access Journals

Open access journals do not charge readers or their institutions for access.

"By 'open access,' we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles... without financial, legal, or technical barriers other than those inseparable from gaining access to the internet.

"The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited."

-- from *Budapest Open Access Initiative, 2001*

Cui bono?

- Why publish?
  - Authors: career, prestige, impact
  - Small societies: journal sales fund society activities
  - Big publishers: $$$

- Many actors in publishing are not paid $$$
  - Article writers
  - Peer reviewers
  - Editors (often)

The Internet changes everything

- Print journal costs divide into three parts
    - "First copy" costs: peer review, editing, typesetting, etc.
    - Reproduction and dissemination costs
    - Preservation costs (borne by libraries)

- E-journals eliminate the second cost!
    - Copies after the first go out at nearly zero extra cost
    - Other economies possible (communication, management)
    - But what about preservation?

Why adoption is slow

- Many researchers: out of sight, out of mind
  - OA publishing requires research, intentional action
  - Who listens to librarians, anyway?

- Publishers: Fear, Uncertainty, and Doubt

- Authors, editors, reviewers have power but are not exercising it

- No institutional mandate

Self-Archiving and Institutional Repositories

There's another way!

- Journal publishers don't have to provide OA if researchers do themselves!

- Some researchers already email each other preprints or post PDFs to the Web

- And libraries said "hmmmmm..."

ARL

ARL Bimonthly Report 226
February 2003

Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age
by Clifford A. Lynch, Executive Director, Coalition for Networked Information

Introduction

In the fall of 2002, something extraordinary occurred in the continuing networked information revolution, shifting the dynamic among individually driven innovation. The development of institutional repositories emerged as a new strategy that allows universities to apply serious, systematic leverage beyond their faculties' efforts to accelerate changes taking place in scholarship and scholarly communication, both moving beyond scholarly publishing through the licensing of role of supporting established publishers in modernizing scholarly publishing, and support arrangements that go digital content, and also scaling up beyond ad-hoc alliances, partnerships, and support arrangements that go with a few select faculty pioneers exploring more transformative new uses of the digital medium.

Many technology trends and development efforts came together to make this strategy possible. Online storage costs have dropped significantly; repositories are now in place; some progress has also been made on the archives metadata harvesting protocol are now affordable. Standards like the open standards for the underlying metadata itself. The thinking about digital preservation over the past five years has advanced to the point where the needs are widely recognized and well defined, the technical approaches at least superficially mapped out, and the need for action is now clear. The development of accessible journal article collections in disciplines such as high-energy physics has network can change scholarly communication by altering development of a series of extraordinary digital specifically for the digital medium to

An **institutional repository** is a set of services that a university offers to the members of its community for the **management** and **dissemination** of digital materials **created by the institution** and its community members.

—Clifford Lynch, CNI

Search MARS

Mason Archival Repository Service

Home

Advanced Search

Browse by:

Communities &
Collections

Title

Author

Date

Sign on to:

Register with MARS

My MARS

Edit Profile

Welcome to MARS

Mason Archival Repository Service exists to be a stable, well-managed, permanent archive for digital scholarly and research materials of enduring value produced by Mason faculty, staff, and students.
Read more about MARS...

Scholarly Communication workshop

The MARS Librarian, Dorothea Salo, is holding three sections of a **workshop on scholarly communication**. These will take place February 22, March 28, and April 20 at 1 pm in Fenwick Library. Learn how MARS fits into the landscape; **sign up today** or **send email to RSVP**!

Communities in MARS

Choose a community to browse its collections.

- **Event Proceedings**
- **MARS Pathfinders**
- **School of Law**
- **School of Public Policy**
- **University Libraries**
- **Volgenau School of Information Technology and Engineering**

Common concerns

- "But I signed over my copyright!"
  - Don't do that next time!
  - Many journals permit self-archiving anyway

- "But if I self-archive, no one will publish it!"
  - Check with your favorite venues; many won't care
  - Self-archive on acceptance

- "But who will read and trust it?"
  - It can still undergo peer review
  - Research is unanimous: GREATER CITATION IMPACT FOR WORK FREELY AVAILABLE ONLINE, irrespective of venue

Suber's "Six Things"

1. What OA journals exist in your field?
2. OA journals are not the whole story of OA. There are also OA archives or repositories.
3. OA archiving only takes a few minutes.
4. Most non-OA journals allow authors to deposit their postprints in an OA repository.
5. Journals using the Ingelfinger Rule are a shrinking minority.
6. OA enlarges your audience and citation impact.

The Law of Unintended Consequences

We're moving from a world where everything existed in physical form to...

"...if it's not online it might as well not exist."
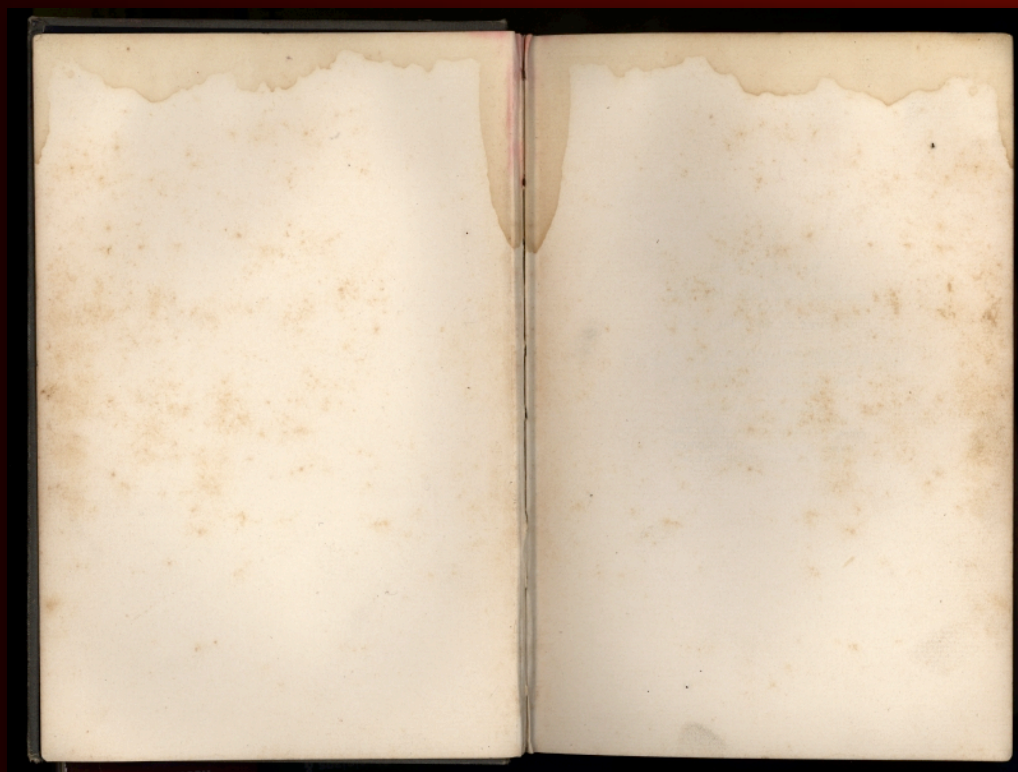
Impact factors

Steve Lawrence, a scientist at NEC Research Institute, analyzed nearly 120,000 computer-science articles.

Articles with higher levels of impact or citations were more likely to be open-access, and vice versa.

The strength of this correlation steadily increased over a decade.
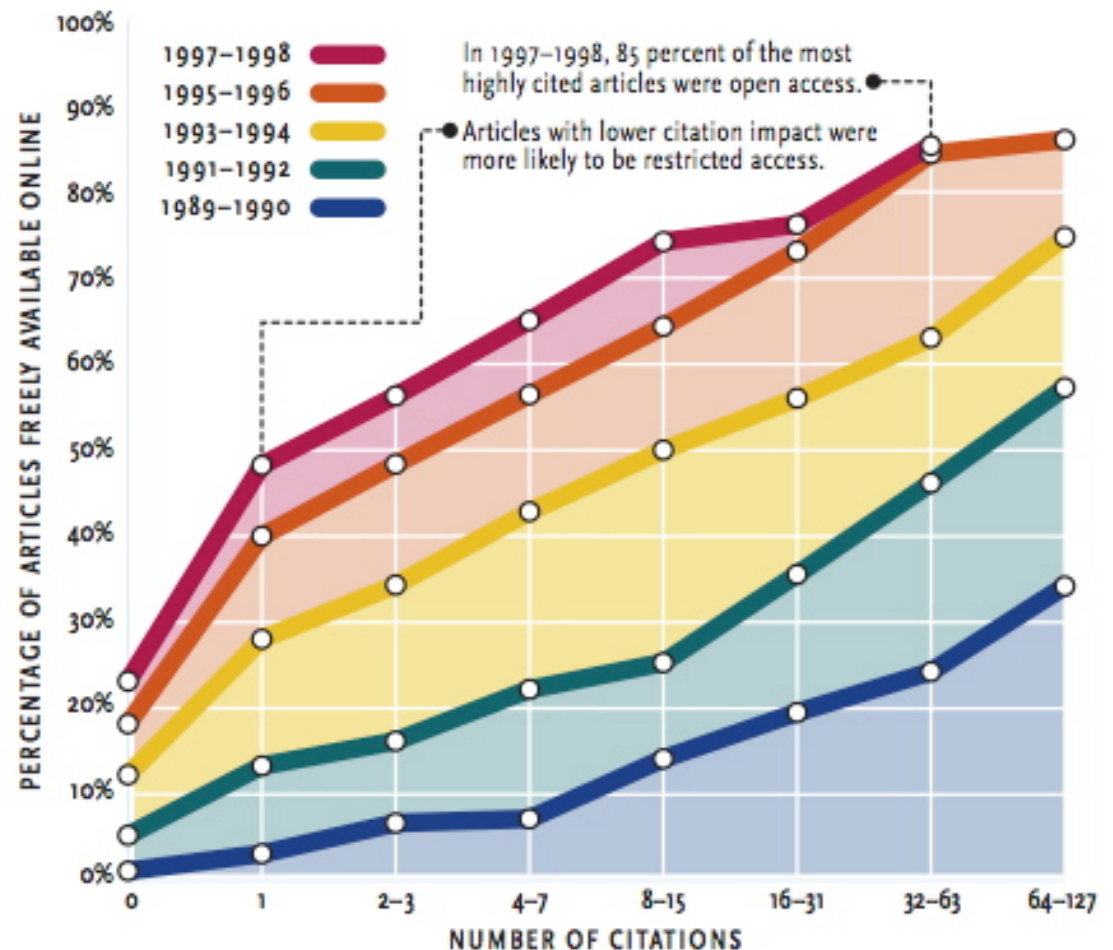
Chicken or egg?

- Davis & Fromerth 2006
  - Open access doesn't increase citations
  - Better articles by better people made OA to begin with
  - Small sample size; results actively disputed

- Even so... shouldn't you join the best in your field?

Photo credit: http://www.flickr.com/photos/brookenovak/78790938/

Love your OA journal!

- Vivian Siegel: PLoS Biology submissions were slow... until its huge impact factor became public, when submissions DOUBLED!

- Researchers submitting without knowing that PLoS Biology was OA!

  - faster publication

  - better author services

  - author charges comparable to for-profit journals

- Lesson: OA can compete on more than ideology

The Future

The humanities

- The "scholarly monograph" will fade
    - Monographs with wider appeal will still find publishers
    - Abstruse works may be published POD or all-electronic

- More innovative digital projects
    - In cooperation with libraries? We have the tech skills and the humanities backgrounds!

- Tenure/promotion requirements will change

The hard sciences

- More science funders will insist on OA

- Researchers will continue bypassing the formal publication system

- If the US does not step up to the OA plate, Europe, Australia, and Asia will eat its lunch

- OA journals will (mostly) thrive

- Will universities start charging for-profit publishers for editing and review services?

Academic libraries

- Will become publishers

- Will suffer rough transition from toll-access to OA

- Will experiment with better discovery services

- IRs may tip... or not

  - May end up limited to specialized uses, e.g. e-theses

  - May consolidate across state systems or consortia
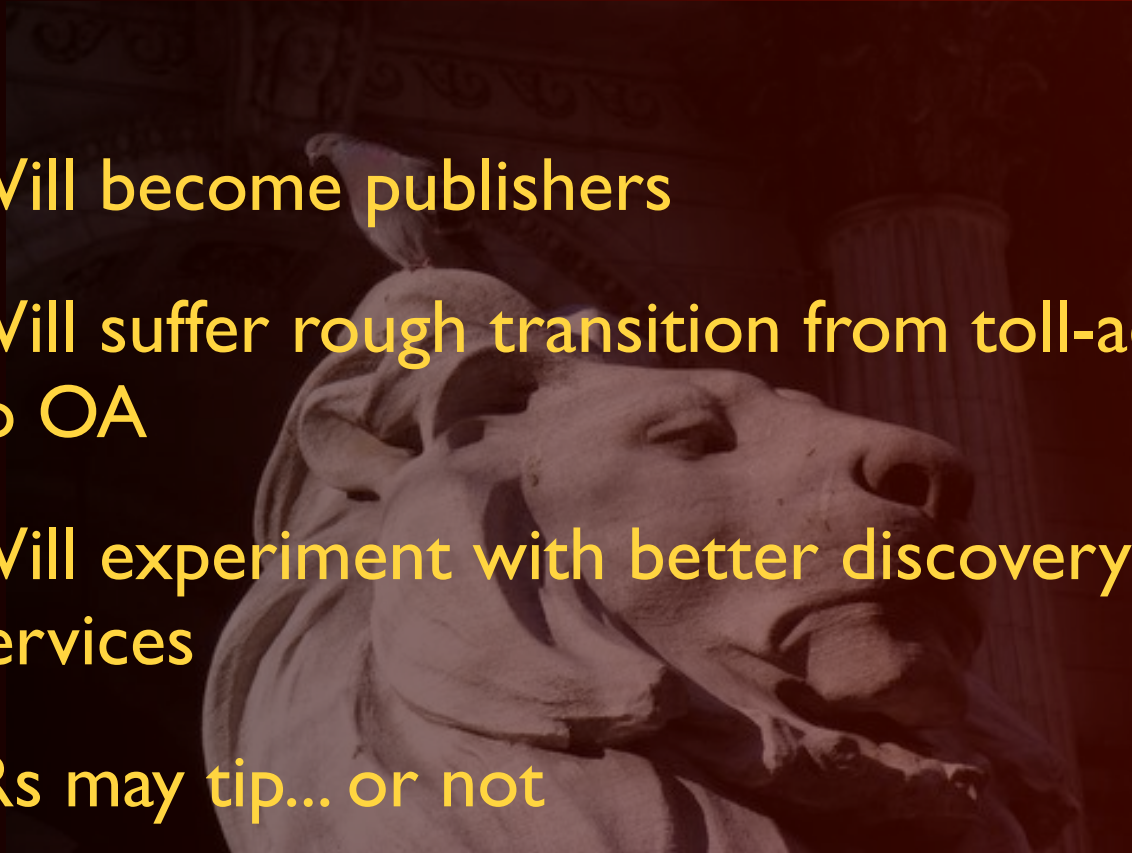
Large journal publishers

- Will experience price and impact-factor pressure

- Will continue to lobby governments and spread misinformation to researchers

- Will experiment with business models

- May panic
  - Draconian restrictions on self-archiving and e-reserves
  - Will hasten scholars' move to other venues

Scholarly societies

- Won't suffer as much as they think they will

- Will still publish journals
  - With library help?
  - OA?

- Will find other ways to create member value

- Will continue partnerships, aggregations

Peer review

- Will continue
  - In for-profit journals
  - In OA journals

- Will operate alongside post facto measures like impact factors

- May become post facto altogether (e.g. Faculty of 1000)

- May cease to be anonymous

- May become "commenting" on the article-of-record

What to do

"Faculty copyright retention is a precondition for us to help disseminate (manage, and preserve) our institution's scholarly output."

—John Ober,
University of California,
21 January 2006

Insist your publishers fly right

- After all, they're not paying you

- Don't sign over copyright!

- Check their policies

  - What do they charge for access?

  - Do they allow self-archiving?

  - Have they planned for subscribers' electronic access in case of business difficulties?

- When all else fails, revolt!

  - Join the best of the best

  - Support your discipline, not publishers' shareholders

Publish OA

- Find and submit work to OA journals in your discipline

- Ask your funders to pay author charges

- Nudge your favorite journals to consider OA

- Ask your department to make a statement in favor of OA publication

Be a MARS Pathfinder!

- <http://mars.gmu.edu/>

- Register with MARS

- Email dsalo@gmu.edu to get deposit access

- Deposit your research!
  - Preprints/postprints, working papers
  - Conference slides
  - Podcasts or video
  - Datasets

Convince your colleagues

- Seven mentions before faculty investigate IRs
  - Be one (or more!) of the seven
  - Lead by example
  - Invite Dorothea Salo to faculty meetings!

- Join Cornell, California, and many other faculty senates:
  - Reject the Big Deal
  - Call for faculty to retain article copyrights

- Need an article on e-reserve? Ask the author to self-archive it instead.