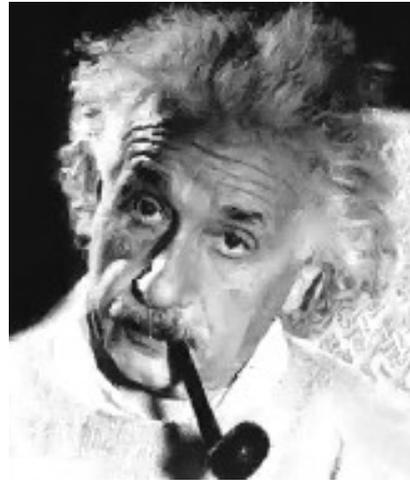# What is Open Access to Research?

Carnegie Mellon University
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What's the difference between rock songs and research articles?

- Songs and articles are both under copyright...
- P2P networks and OA both provide free online access...
- Musicians and scholars both want to make a living...

Scholarly journals don't pay authors for their journal articles.

And haven't for 350 years.

- *Philosophical Transactions of the Royal Society of London*, founded in 1665 by Henry Oldenburg

- *Journal des Savants,* founded in 1665 by Denys de Sallo

Researchers write journal articles for impact, not for money.

- Books are different.
- Royalty-free literature is rare and special.

"An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment....The new technology is the internet."

The Budapest Open Access Initiative
February 14, 2002

http://www.soros.org/openaccess/

- Willingness without the medium =
  Scholarship in the age of print

- Medium without the willingness =
  Music and movies in the age of the internet

Open-access literature:

1. Digital
2. Online
3. Free of charge
4. Free of most copyright and licensing restrictions

Refining the definition

- Digital and online
  …but compatible with print editions

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  ...but compatible with priced enhancements
- Free of most permission barriers
  ...but flexible about which to remove

Scope of OA

- In principle, any digital content
- In practice, some kinds easier than other kinds
  - Starting with journal articles, which authors voluntarily (*eagerly*) publish without payment

Low-hanging fruit

1. Royalty-free literature
   - Journal articles, theses and dissertations, public law

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-   Lowest-hanging fruit = both

Higher-hanging fruit

- Royalty-producing literature
  - Like books
- Non-publicly-funded research
  - Unfunded research
  - Privately funded research: some higher, some lower
- Copyright reform
  - First-sale for digital content, restore fair-use rights, reduce copyright term, protect public domain

Peer review

- In most journals and most fields,
    - Referees not paid
    - Editors not paid
    - (Just like authors)
- Peer-reviewed literature is low-hanging fruit.
- OA is not about bypassing peer review.
    - Wikipedia ≠ poster-child of OA.

Delivering OA

- Repositories or archives ("green" OA)
  - No peer review
  - Institutional or disciplinary
  - Preprints and postprints

Delivering OA

- Repositories or archives ("green" OA)
  - No peer review
  - Institutional or disciplinary
  - Preprints and postprints
- Journals ("gold" OA)
  - Peer review
  - OA from birth or OA by conversion

Delivering OA

- **None of the above**
  - personal web sites
  - blogs
  - wikis
  - ebooks
  - email lists
  - YouTube videos
  - podcasts, webcasts
  - RSS feeds
  - P2P networks …

Funding OA: Repositories (1)

- Free and open source software
  - Interoperability free with the software
  - Open Archives Initiative (OAI) Protocol for Metadata Harvesting (PMH)
- Server space
- Part a technician's time
  - Launch, configure, back-up

Funding OA: Repositories (2)

- *Optional*: assistance to faculty
  - Help with deposits, permissions, digitization
- *Optional*: functions beyond OA to research
  - Access to courseware, conference webcasts, library collections, admin records…

Funding OA: Journals (1)

- **Fee-based journals**
  - Best-known but least-used model
- **No-fee journals**
  - Many different models, little-studied

Funding OA: Journals (2)

- Fee-based journals
  - Publication fees
  - Often paid by sponsor (funder, employer)
    - Often waived in case of economic hardship
    - Seldom paid by authors out of pocket
  - Principle: Cost of OA dissemination is part of the cost of research.
  - FUD: "author pays" journals

Funding OA: Journals (3)

- No-fee journals
  - Direct or indirect institutional subsidies
  - Advertising, auxiliary services, membership dues, or reprints
  - Print or premium edition
  - Separate line of non-OA publications
  - Endowments (Stanford Encyclopedia of Philosophy)

OA publishing costs less

- Saved expenses
  - Print
  - Subscription management
  - Access control, authentication
  - Licensing
  - Marketing
- New expenses
  - Collecting fees or subsidies

Funding OA: Journals (4)

- OA publishers
  - For-profit / non-profit
  - BioMed Central / Public Library of Science
- Hindawi and MedKnow
  - For-profit OA publishers who turned profitable in 2006
  - Hindawi: all fee-based
  - MedKnow: all no-fee

Funding OA: Journals (5)

- Long-term sustainability not in doubt
  - Costs less than current system
  - TV and radio sustainable
  - Different models already show profits or surpluses
  - Future savings from cancellation or conversion of subscription journals
  - Scales with exponential growth of knowledge

Funding OA: Journals (6)

- But transition bumpy
  - Supporting both old and new journals during transition
  - Redirecting money already committed to journal support
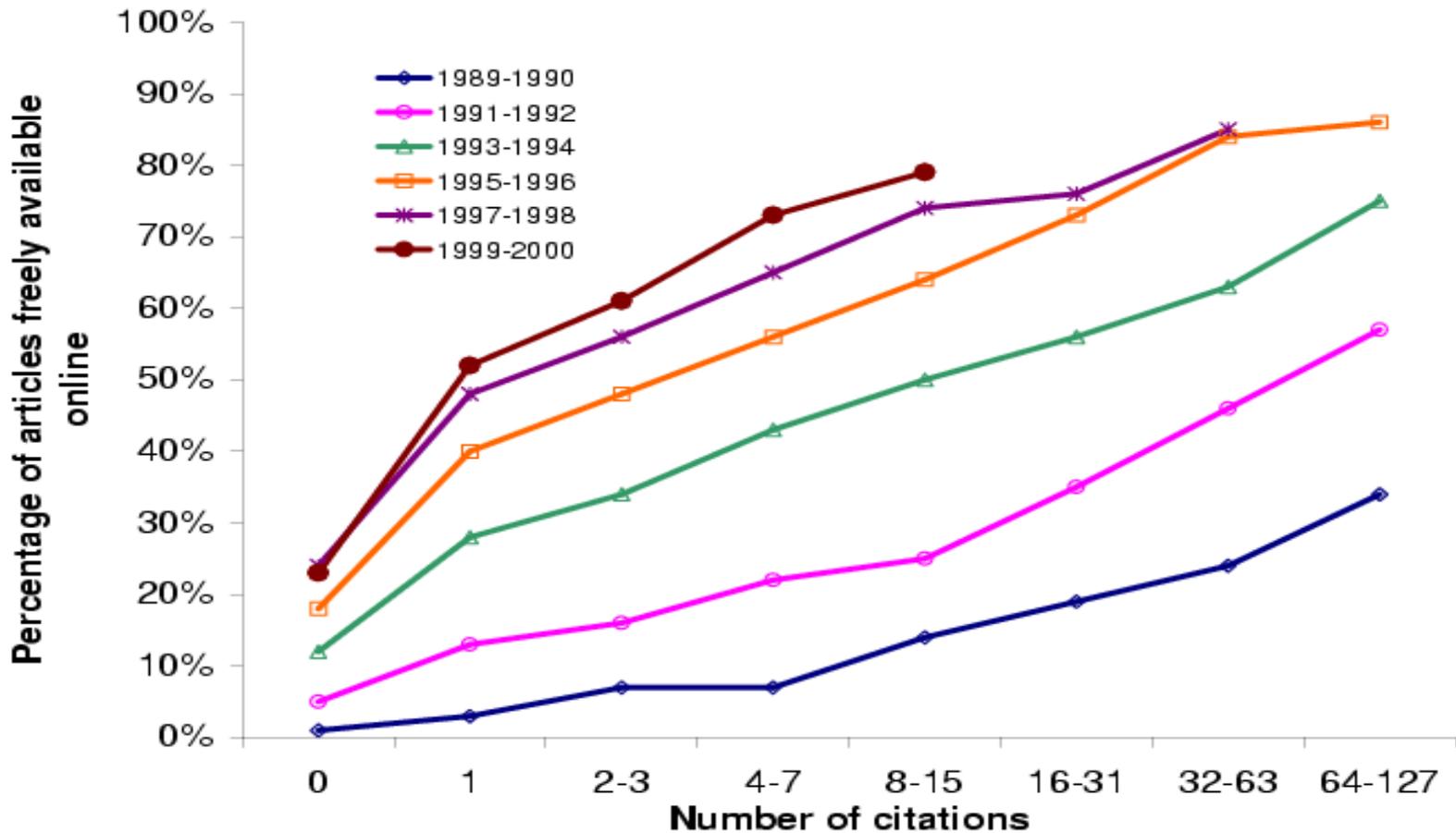 - Changing institutional practices

Repositories and journals are complementary

	OA repositories	OA journals
Registration (time stamp)	sooner	later
Certification (peer review)	no	yes
Awareness (spreading the word)	yes	yes
Archiving (preservation)	yes	no

Open access increases impact

OA and impact: Lawrence
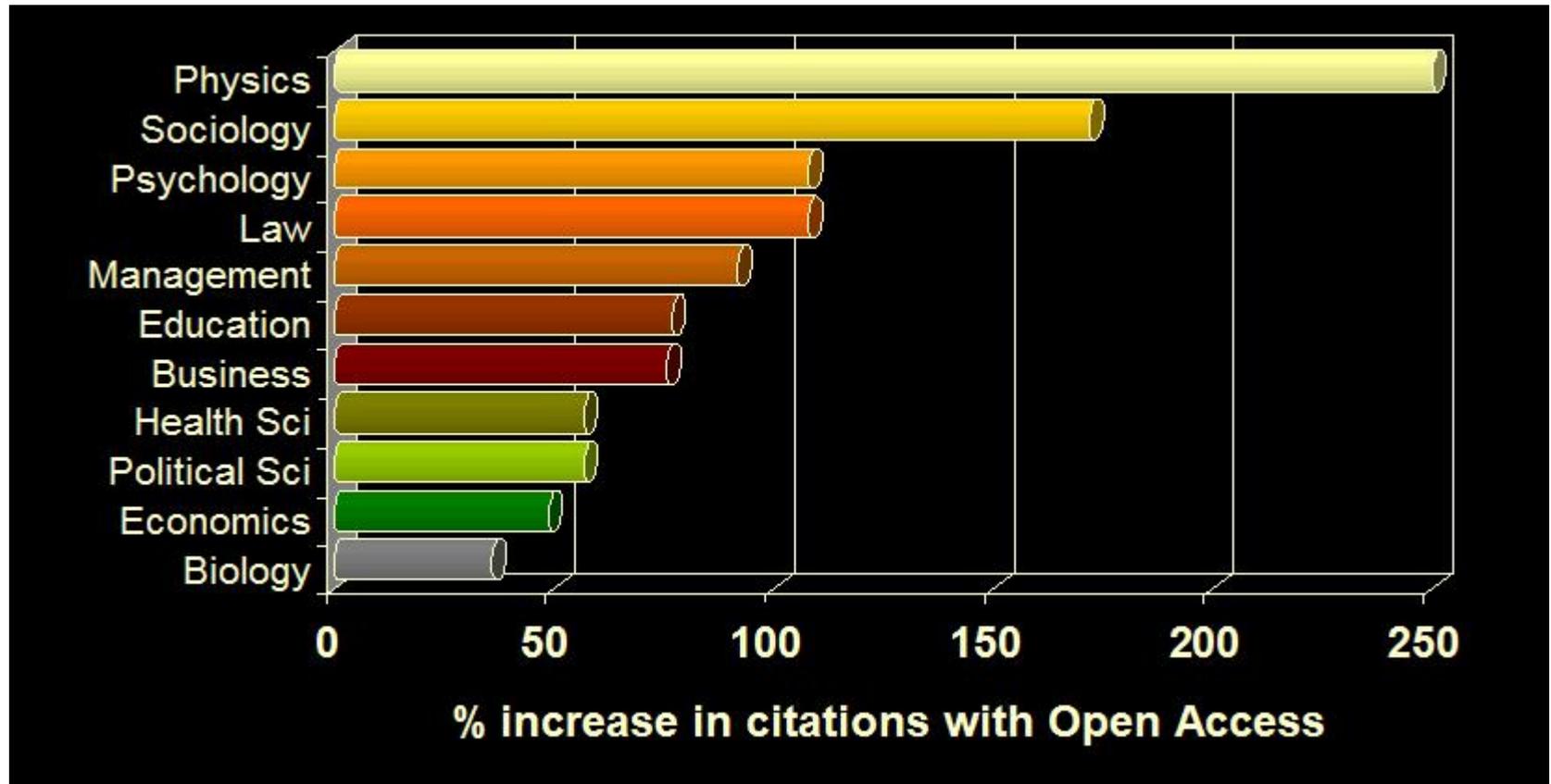
- Background on previous graphic
  - Source: Steve Lawrence, "Online or Invisible?" *Nature*, vol. 411, No. 6837 (2001) p. 521
  - http://www.neci.nec.com/~lawrence/papers/online-nature01
  - based on 119,924 conference articles in computer science from a standard online bibliography (http://dblp.uni-trier.de/)
  - citation counts and online availability were estimated using ResearchIndex / CiteSeer
  - self-citing articles excluded

OA and impact: post-Lawrence

- More disciplines
  - Advantage shown in every field studied (10+)
- More refinement
  - Advantage even for articles from same issue of same journal
  - Greater impact *and* earlier impact
- Impact advantage = 40-250%
- Hitchcock bibliography of studies
  - http://opcit.eprints.org/oacitation-biblio.html

OA impact advantage

Data from Stevan Harnad and co-workers; graphic from Alma Swan.

OA and copyright

- OA is lawful
  - Hence, no need to abolish, reform, or violate copyright (but…)
  - Hence, no vigilante, infringing, piratical OA
  - Hence, OA ≠ Napster for research

Two legal bases for open access:

Public domain	Copyright-holder consent
No owner	Owner
No rights retained	Some rights retained
All rights waived or expired	Some rights waived
Not always voluntary	Always voluntary
No permission needed	Permission given
Best for old work	Best for new work

Consent to what?

- Consent to the unrestricted reading, downloading, copying, sharing, storing, printing, searching, linking, crawling, and processing of the full-text
  - Commercial re-use? Derivative works?
- Consent in advance, not just on request

Consent how?

- Best to use an explicit license
  - Make clear what uses are permitted and what uses are not
- Best if license language is
  - Human-readable
  - Lawyer-readable
  - Machine-readable
- Pointless and perverse to waive rights, permit more uses, without telling users

Licensing and labeling

- Readers should know what they are allowed to do with your work.
  - Don't make them err on the side of non-use
  - Don't make them pay for permission.
  - Don't make them ask permission.
  - Don't make them fear liability.
  - Don't make them less conscientious about rights.

Copyright tactics (1)

- Keep copyright in the hands of those who will consent to OA.

  - Authors more likely to consent than publishers.

- But NB:

  - Most journals already consent to green OA.

  - If authors retain copyright and *don't* consent to OA, then we are worse off.

Copyright tactics (2)

- Authors should try to retain key rights
  - Right of postprint archiving
  - Right of copying, distribution, and use
  - NIH strategy: require green OA, require authors to retain right to comply, let authors transfer all other rights
- Author addenda
  - From SPARC, MIT, Science Commons, OhioLINK, CIC…

Copyright tactics (3)

- Faculty: Important to ask
  - Many journals will negotiate if asked
  - They need to know what authors want
  - No harm in asking
- Administrators: Important to recommend, assist, educate
  - Many faculty don't understand copyright issues, sign harmful contracts
  - Lend the institution's weight to the faculty member's request

On copyright: Faculty may not know…

1. Authors are the copyright holders until they transfer away their rights.

2. Transferring full copyright to a publisher gives the OA decision to the publisher.

3. Many journals will alter the standard contract when asked.

4. Asking for better terms is risk-free.

5. Experts can help (e.g. author addenda).

On OA: Faculty may not know…

1. Which OA journals exist in their field…
2. Some OA journals charge fees and some don't.
3. There are OA archives, not just OA journals.
4. Deposit in an OA archive takes just a few minutes.
5. OA archiving is compatible with non-OA publication.
6. Most non-OA journals allow postprint archiving.
7. Journals using the Ingelfinger Rule are a shrinking minority.
8. OA significantly increases citation impact.

OA history: Journals

- OA journals
  - Charging no fees (New Horizons in Adult Education, 1987)
  - Charging publication fees (BMC, Jan 2002)
- Today (February 8, 2008)
  - Directory of OA Journals = 3,146 journals
    - 19% growth over previous year
  - 67% are no-fee (Hooker, Dec 2007);
  - 425 societies publish 450 full OA journals; 21 societies publish 73 hybrid OA journals; 83% are no-fee (Suber and Sutton, Nov 2007)

OA history: Repositories

- **OA repositories**
  - By field: ERIC (1966), IU Bio-Archive (1989), arXiv (Aug 1991), PubMed Central (Feb 2000)
  - By institution:, VTT Technical Research Centre of Finland (July 1997), HAL (Nov 1998)
  - For ETDs: Caltech 1996
  - Open Archives Initiative (Oct 1999), EPrints (Sep 2000), DSpace (Nov 2002)
- **Today** (February 8, 2008)
  - ScientificCommons = 898 repositories
  - Registry of OA Repositories (ROAR) = 998
  - Directory of OA Repositories (OpenDOAR) = 1,074
    - 22% growth over previous year

OA history: Policies

- OA mandates
  - Funding agencies
    - Private (Wellcome Trust, Oct 2005)
    - Public (Research Councils UK, Jun 2007)
  - Universities (QUT Jan 2004, Minho Jan 2005, U Zurich Jul 2005)
- Today (February 8, 2008)
  - Funder mandates = 21
    - Australia, Austria, Belgium, Canada, China, EU, France, Italy, Switzerland, UK, US
  - University and department mandates = 25
    - Australia, Belgium, Canada, France, India, Japan, Portugal, Russia, Sweden, Switzerland,Turkey, UK

Resources

- Timeline of the open access movement
  - www.earlham.edu/~peters/fos/timeline.htm
- Policies
  - BMC table (funder policies)
    - www.biomedcentral.com/info/authors/funderpolicies
  - Juliet (funder policies)
    - www.sherpa.ac.uk/juliet/
  - ROARMAP (funder and university policies)
    - www.eprints.org/openaccess/policysignup/

NIH policy (1)

- Demanded by Congress Dec 2007
- Released Jan 2008
- Supersedes voluntary policy of May 2005
- Will free up 80,000 articles/year
- Will cost $2-4 million/year
  - 0.01% of agency budget
  - One-tenth of NIH subsidy to subscription journals ($30 million/year)

NIH policy (2)

- Terms
  - Deposit in PubMed Central
  - Deposit immediately upon acceptance in journal
  - Journals may deposit on behalf of authors
  - PMC copy released to public within 12 months of publication
  - Applies to author's peer-reviewed manuscript
  - Authors must retain right to comply with policy
  - Allows grant funds to be used for OA (or TA) publication fees

NIH policy, common misunderstandings

- Doesn't require publication in OA journals
- Doesn't bypass peer review or journal pub.
- Doesn't amend copyright law or violate copyrights
- Doesn't apply to the published editions
- Doesn't apply to data files
- Doesn't require 12 month embargo
- Doesn't tell publishers what to accept, how to conduct peer review, what business models to use
- Doesn't regulate publishers
- Doesn't affect publisher or library copies

Go forth and share

- Faculty:
  - Submit your work to an OA journal, *or*
  - Deposit your peer-reviewed manuscript in an OA repository
- Librarians and administrators:
  - Help faculty
  - Launch an institutional repository
  - Adopt a policy to fill it

Thank you

Home

www.earlham.edu/~peters

OA Overview

www.earlham.edu/~peters/fos/overview.htm

OA Blog

www.earlham.edu/~peters/fos/fosblog.html

OA Newsletter

www.earlham.edu/~peters/fos/newsletter/archive.htm

What you can do

www.earlham.edu/~peters/fos/do.htm