For the Public Good

Research Impact and the Promise of Open Access

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Scholarly Publishing: A Snapshot
A Global Business

STM* revenues: $28 billion

- Journals = 40% ($11b)
- Books = 16% ($5b)
- Other (Tech info, databases, tools) = 44%

Market Share

- United States - 55%
- Europe/Middle East - 28%
- Asia/Pacific - 14%
- Rest of world - 4%
- China
  - Second largest producer of research papers
  - Market share small but growing

* STM* is an abbreviation for scientific, technical, and medical but it is also used to denote the sum total of scholarly publishing, including the social sciences, arts, and humanities. Source: Mabe & Ware, The STM Report (2015)
Scholarly Publishing: A Snapshot
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U.S. Recorded Music Sales (CDs, Streaming, etc)

U.S. Movie Box Office (Gross)

U.S./Global STM Revenues

Billions of Dollars

0  5  10  15  20  25  30
Scholarly Publishing: A Snapshot

The Players

- Researchers
  - As both authors and readers

- Publishers
  - Scholarly societies
  - Academic/University presses
  - Commercial publishers

- Libraries
  - 68-75% of journal revenues from library subscriptions

- Research funders
  - NIH, NSF, HHMI, Research Councils UK, European Research Council
Scholarly Journals

It is estimated that the total number of journal titles worldwide now exceeds 30,000

“Facts” and figures:

- Global annual journal revenue: $11 billion
- No. of articles published per year: 2.5 million
- No. of journal publishers: 5,000+
  - Of these, four account for 40% of market: Elsevier, Springer, Wiley, Taylor & Francis
- Number of active researchers in world today: 7 - 9 million
- Global spending on R&D more than doubled from 1996 to 2012 (NSF, 2012)

Estimated annual global research article output at 3% annual growth
Scholarly Journals

Journals remain the primary vehicles for the formal communication of scientific research. Why is this so?

Consider the functions that journals perform in the scientific community:

- Dissemination
- Registration of discovery
- Quality control (peer review)
- Key indicator for career advancement

The Promise of Open Access

An Unprecedented Public Good?

“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, for the sake of inquiry and knowledge. The new technology is the internet. The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds. Removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge.”

The Budapest Open Access Initiative
February 14, 2002
Budapest, Hungary
http://www.budapestopenaccessinitiative.org/read
In 2013 the White House Office of Science & Technology Policy directed federal agencies with more than $100M in R&D expenditures to develop plans to make the published results of federally funded research freely available to the public within one year of publication.
The Promise of Open Access

A Growing Infrastructure

PubMed Central is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health’s National Library of Medicine (NIH/NLM)

- 4 million articles archived in PMC
- 1,939 full participation journals
The Promise of Open Access

A Growing Infrastructure

Bill & Melinda Gates Foundation
The Promise of Open Access

A Growing Infrastructure

CHORUS provides a sustainable solution for agencies and publishers to deliver public access to published articles reporting on funded research in the U.S.
The Promise of Open Access
Still a Long Way to Go

Scholarly Articles Published in OA vs Non-OA Journals

- 71% Non-OA
- 12% Published in "Gold" OA Journals
- 5% OA via delayed access
- 12% "Green" OA via self-archiving

Source: Mabe & Ware, The STM Report (2015)
The Case for Open Access

Some Rationales for OA

• Cost—savings on printing, paper, postage, subscriptions, warehousing, etc.
• Control—"take back" scholarship from commercial publishers
• Expanding the pool of beneficiaries—more people with more opportunities to solve more problems
• Sharing—more collaboration, interdisciplinarity, interoperability, searchability, etc.
• Transparency/reproducibility
• Accelerated research—faster publication and sharing means research can advance more quickly

Some Barriers to OA

• Cost—OA costs as much or more than traditional publishing, not to mention the significant cost of flipping from toll-access to OA
• Reward/incentive structure of academia—"take back" scholarship from commercial publishers