OA: Impartial Overview

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Apolitical perspective on questions raised by Open Access initiatives.

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Open Access (OA)

- **inevitable? possible? sensible? promising? threatening?**

- **OA "supports the principle that the published output of scientific research should be available, without charge, to everyone" (UK House of Commons Science and Technology Committee, 2004)**

- **self-evident from public policy standpoint? $\Rightarrow$ legislated?**

- **endorsed by Nobel laureates, library associations, and US Chamber of Commerce.**

- **OA $\neq$ "free access"**

  - ▷ **OA: authors retain copyright and give license under to permit future uses (frequently prohibited when copyright transferred)**

  - ▷ **OA: can be deposited in central server, available in searchable "information space" in perpetutity**

- **published research: share knowledge + author recognition**

Financial Models

- **naive? hopeless? obvious?**

- **Current publishing revenues:**

  subscriptions, author fees, advertising

  ▷ **free access undercuts subscription revenue?**

- **OA shifts burden to authors (and authoring institutions):**

  ▷ **author fees, advertising, institutional and grant support**

  ▷ **sustainable?**

  ▷ **"No author left behind"**

  fee waivers for authors w/o financial support

- **Why us? Why now?**

  ▷ **New technology enables new model for scholarly publication**

What's the problem?

- **concern that current system not working (serials crisis?)**

- **libraries struggle with shrinking budgets and soaring journal prices**
  rose more than 3x faster than inflation from 1980–2000

- **libraries worldwide canceling journal subscriptions**
  libraries in peril $\Rightarrow$ scientific research dissemination jeopardized?

- **commercial publishers have unreasonably large profits?**

- **publishers: real costs to ensure quality?**

- **need more competition?**

Ignorance is bliss: the average author is much more concerned to discover that per article publication costs might be as high as a few thousand $$, than to learn that more than twice that is actually paid.

- **Will better educated authors alter their behavior?**

Finances

- **globally $8B/year for 1.5–2M STM articles/year**

    $\Rightarrow \sim$**$4500/article aggregate revenue (researchers unaware)**

- **Large hierarchies in revenues ($1k – $15k / article)**

- **and large hierarchies in costs (Jul 04 data):**

    $\triangleright$ **APS: editorial = $1000/ published article, + production = minumum $1800/article**

    $\triangleright$ **science=$12000, nature = $18000, ACS = $2500**

    $\triangleright$ **PNAS: 1/6 acceptance rate, $3600/article, $2800 w/o print**

    $\triangleright$ **J Cell Biology = $8000/ published article, 15–20% acceptance rate (just editorial and production, not print)**

    $\triangleright$ **selective journals cost more to produce?**

    $\triangleright$ **Blume: more peremptory editorial rejection to reduce costs**

Will OA reduce costs? or just shift point at which funds enter system?

Are all disciplines created equal?

OA costs $< 1\%$ of research budget?

NIH: $\sim$60,000 NIH funded articles, research budget $\sim$\$20B

$\Rightarrow$ **public funding $>$ \$300k/article**

Typical "well-funded" discipline:

Theoretical HEP: DOE + NSF funding $<$ \$40M/year,

$>$ few thousand articles / year (primary US authors)

$\Rightarrow$ **public funding $<$ \$20k/article**

And the rest . . . ?

(e.g. J. Ewing: $>$ 2/3 of mathematicians have no grant funding at all)

Initiatives

- **Journals (BMC, PLoS, ...)**

- **Institutional archives (Dspace, CCSD, ...)**

- **Disciplinary archives (arXiv, PMC, ...)**

- **World initiatives**

  ▷ **HINARI (Health InterNetwork Acess to Research Initiative, www.healthinternetwork.org)**

  ▷ **INASP (International Network for the Availability of Scientific Publications, www.inasp.info)**

  ▷ **AGORA (Access to Global Online research in Agriculture, www.aginternetwork.org)**

Changes?

- **Subscription-based journal publishers relax access restrictions**

- **Some new OA journals accepted by scientists**

- **Gov'ts becoming involved , some may mandate some form of OA.**

  ▷ **NIH "Draft Proposal for Enhanced Public Access to NIH Research Information": all NIH-funded research freely accessible 6 months after original publication, deposited in PMC**

  ▷ **other funding agencies?**

- **lower profit margins?**

- **Priorities: cost or functionality?**

- **Change peer review methodology?**