A Paradigm Shift in Scientific Scholarly Communication: Toward Public Access and Use of Research

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OUTLINE

- National Institutes of Health (NIH)
  - NIH Public Access Policy
- Critical Discourse Analysis
- Analysis
  - Text and themes
  - Discourse practices
  - Social practices
- Conclusion
- Afterward: Plan S

NIH Public Access Policy, 2008

"The Director of the National Institutes of Health ("NIH") shall require in the current fiscal year and thereafter that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication: Provided, that the NIH shall implement the public access policy in a manner consistent with copyright law."

The NIH Public Access Policy implements Division F, Section 217 of PL 111-8 (Omnibus Appropriations Act, 2009)

National Institutes of Health (NIH)

World's largest public funder of biomedical research

Made of 27 institutes and centres

Receive their funding from Congress and administrate their own budgets

Operating budget:

U.S. $29 billion (2008)

U.S. $37 billion (2018)

National Institutes of Health (NIH)

- NIH-funded research is essential to improving health
- Public access to information resulting from this research is vital because it
  - Engages public in biomedical research
  - Demonstrates productivity resulting from increasing NIH budget
  - Enables information integration of biomedical literature and databases

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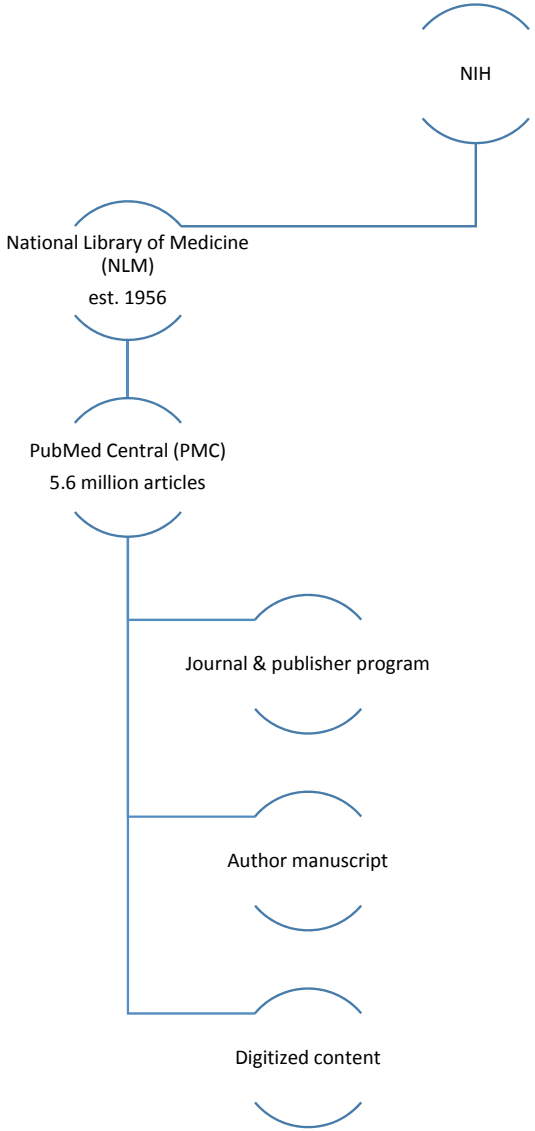
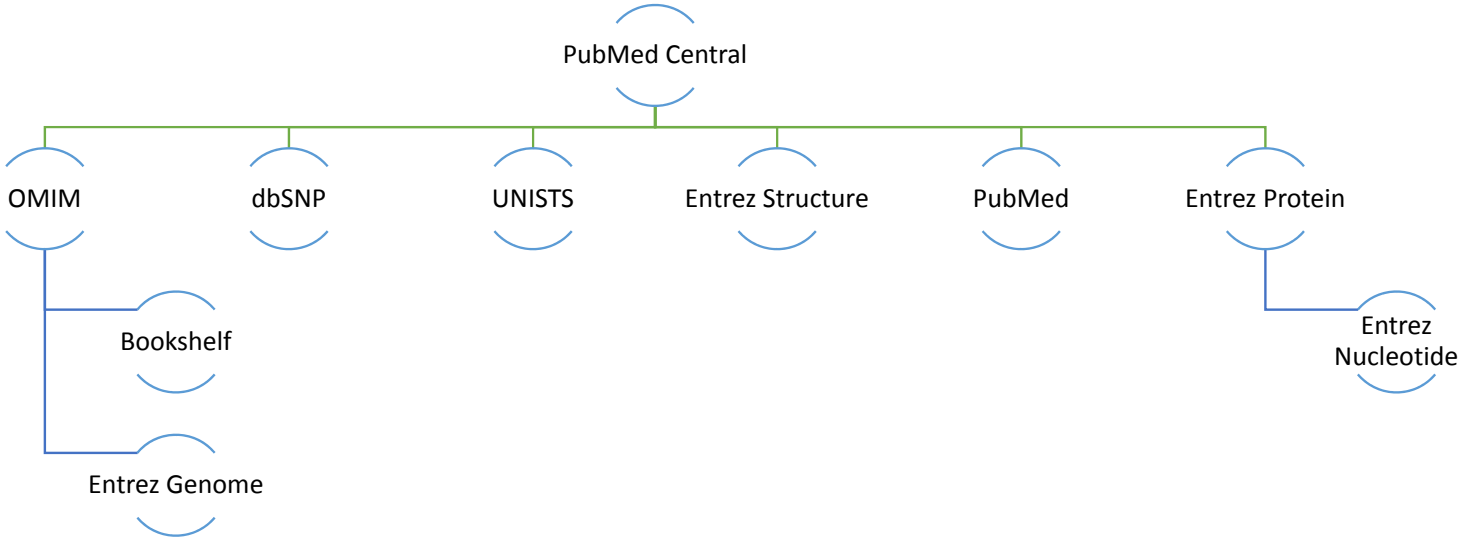
NIH Institutes and Centres

Source: https://efferencecopy.net/natural-language-processing-of-nih-training-grants/



National Library of Medicine (NLM)

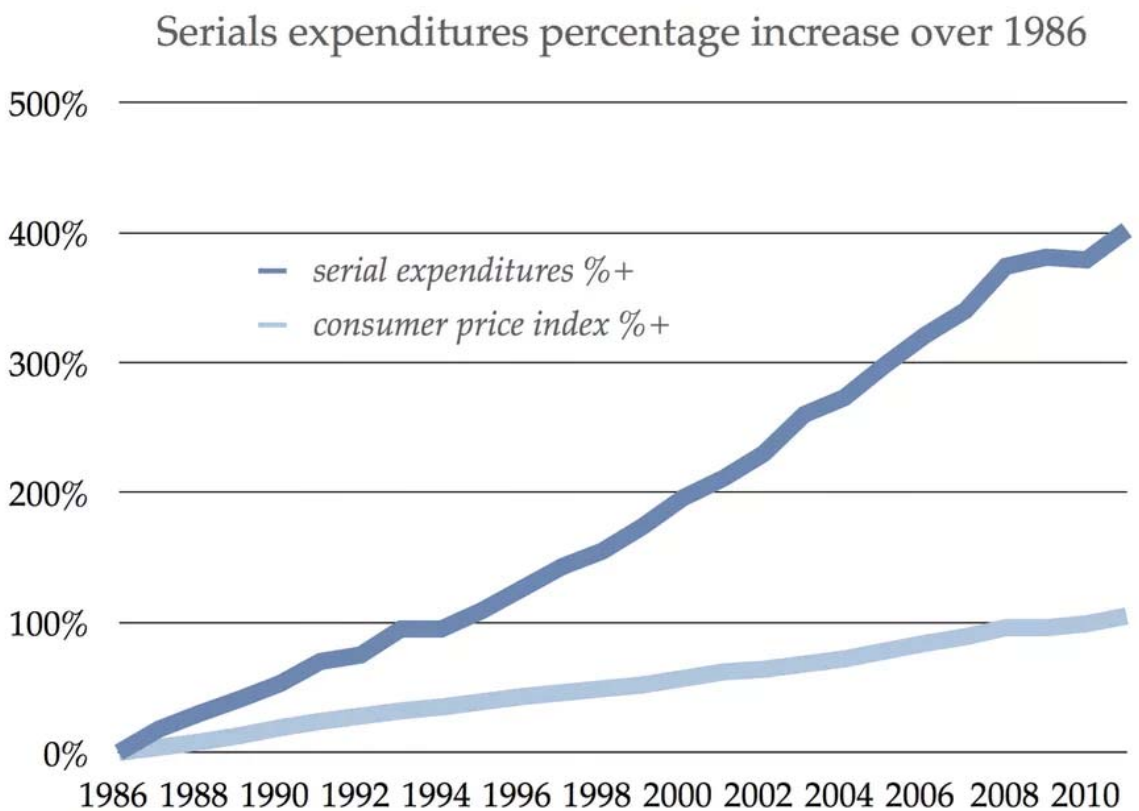


PubMed Central (PMC)

Access to Scientific Knowledge: A Historical Perspective

- Scientific scholarly information sharing
  - 1980s
    - Few open access journals: plain text of articles were freely shared using mailing list
    - Journal publishing market dominated by commercial enterprises and scientific societies
  - 1990s
    - Concern expressed over the rising cost of journal subscriptions
    - Developments in information technologies, results in the emergence of electronic journals (e-journals)
  - 2000s
    - Emerging open access movements
    - Budapest Open Access Initiative introduced the concept of “open access”

Journal Prices by Scientific Disciplines



(Shieber, 2013)

Interest in Biomedical and Health Sciences Research

- Communities with a vested interest in biomedical and health sciences research and place a high premium on the currency, accuracy and quality of research
    I. Academic researchers, students, libraries
    II. Professional interests of doctors and healthcare providers
    III. Corporate forces of researchers in pharmaceutical and healthcare industries

The NIH Director and Public Access

"The advent of the electronic age and the rise of the Internet offer an unprecedented opportunity to change scientific publishing in ways that could improve on virtually all aspects of the current system. The NIH has addressed this opportunity by proposing a new system, E-biomed, that has many advantages over the existing means of disseminating research findings: open access, greater speed, reduced cost, and enhanced depth of presentation. We now welcome constructive comments from the scientific community, with the intention of putting a suitably revised plan into operation in the near future."

NIH Director Dr. Harold Varmus proposed the creation of "E-Biomed" (1999)

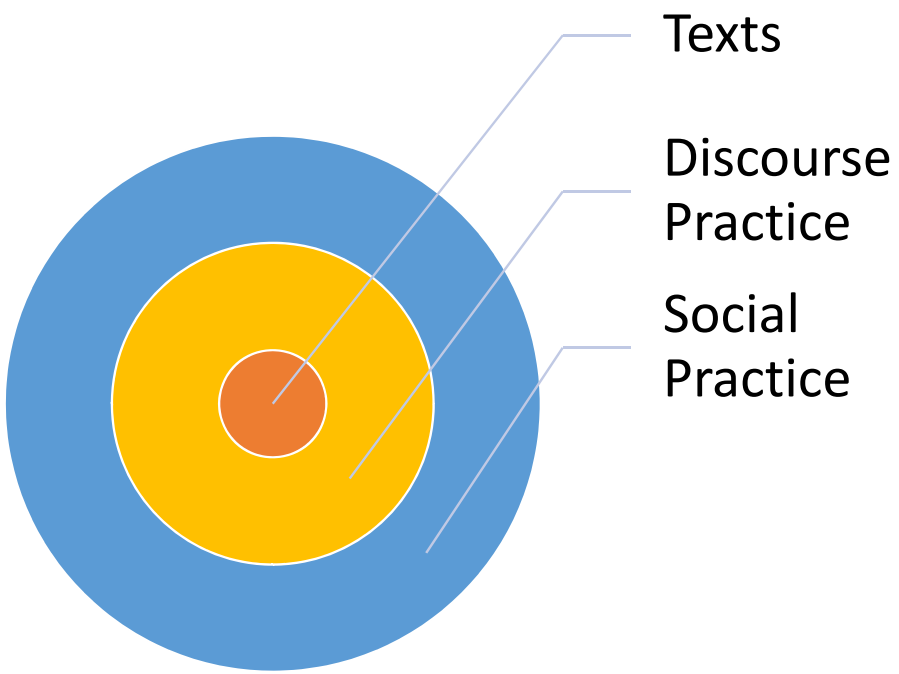
Funding Agencies on Open Access

- Policy frameworks on access and use:
  - Britain: Welcome Trust, 2003
  - United Kingdom: House of Commons, 2005-2007
  - Australia: Australian Research Council, 2006
  - Canada: Canadian Institutes of Health Research, 2007
  - United States: Howard Hughes Medical Institute, 2007
  - EU: European Research Council, 2007

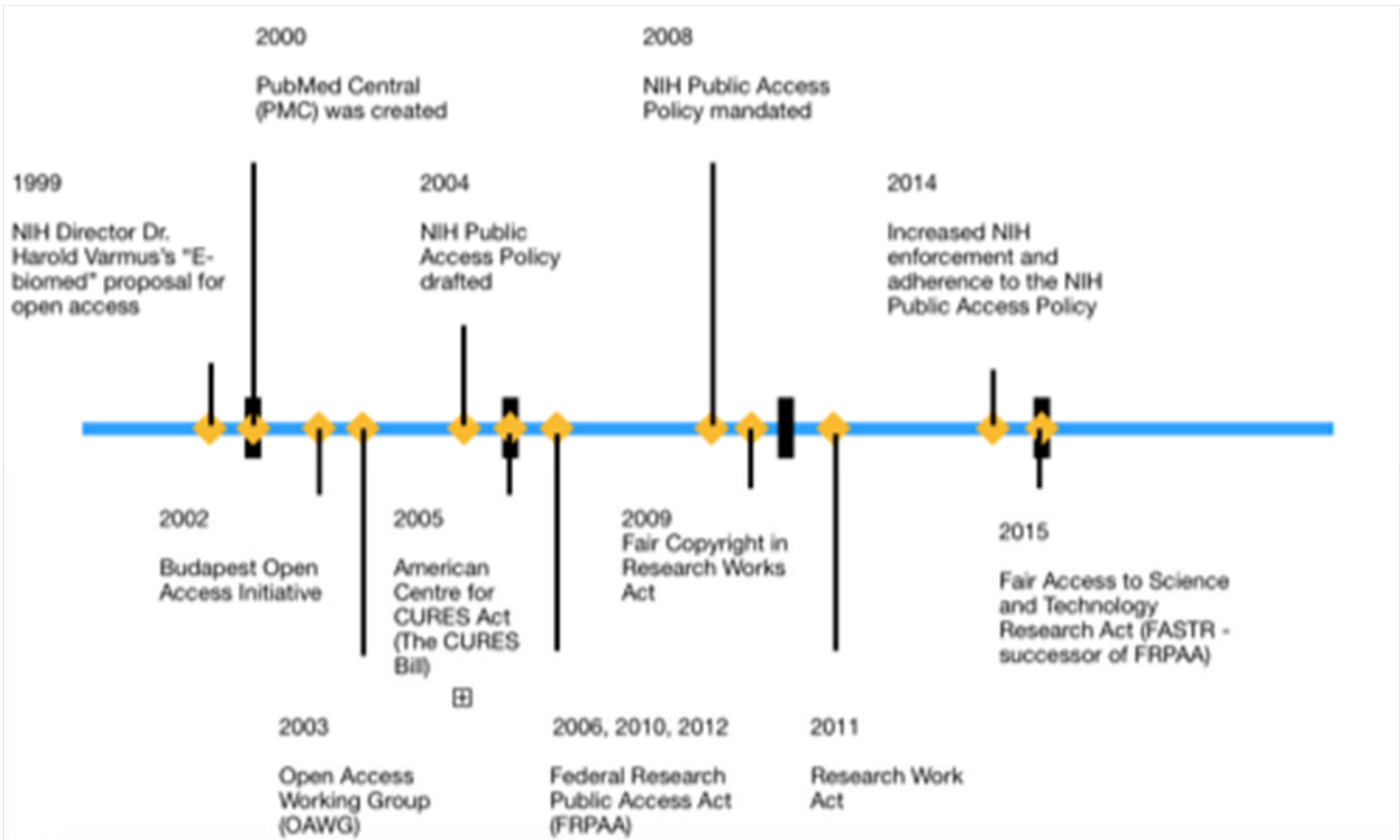
Methods: Critical Discourse Analysis

- Fairclough (2013)

"social life as interconnected networks of social practices of diverse sorts (economic, political, cultural, family, etc." which provides "an oscillation between the perspectives in social structure and the perspective of social action and agency"



A) Texts and Themes in the NIH Public Access Policy



2004 Proposed Policy

- Requested but did not require electronic submission of final, peer-reviewed manuscript copy
- Manuscripts would be achieved in PMC
- The manuscript would be made available through PMC six months after publication

Legislative Initiatives

Congress Representative Ernest Istook encouraged the NIH

- "to examine how the consolidation of for-profit biomedical research publishers, with their increased subscription charges, has restricted access to vital research information to not-for-profit libraries"

House Appropriations language

- "The Committee is very concerned that there is insufficient public access to reports and data resulting from NIH-funded research. This situation, which has been exacerbated by the dramatic rise in scientific journal subscription prices, is contrary to the best interests of the U.S. taxpayers who paid for this research." (July 8, 2003)

Result

- Compliance among NIH grantees was only 10%

Supporting Initiatives

- Policies calling for expanded access to results of publicly funded research
  - 2005: American Center for CURES Act (The CURES Bill)
  - 2007: Federal Research Public Access Act (FRPAA)
    - Reintroduced in 2010 and again in 2012
    - Succeeded by the Fair Access to Science and Technology Research Act (FASTR) in 2015

NIH Public Access Policy, 2008

- The NIH Public Access Policy came into effect in April of 2008
  - *"require in the current fiscal year and thereafter that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication"*
  - *"to be made publicly available no later than 12 months after the official date of publication"*

https://publicaccess.nih.gov/policy.htm

B) Differences in Discourses on the NIH Public Access Policy

I. Funding agencies and regulatory bodies
II. Librarians and library organizations
III. Researchers and users of research
IV. Academic strata
V. Commercial and society publishers

Testimony of NIH Director Dr. Elias Zerhouni, 2005

- *“Congress, patient groups and others let us know that the current system is just not performing sufficiently...We are adding, not detracting, from current publishing practices. The status quo just isn't acceptable in the world of modern communications...It wouldn't serve the country if NIH did not display its research.”*
- *"Until today, there has been no policy on public access to NIH science … We felt strongly that a change was needed, that the status quo was not good enough, and that the interests of the public were not served."*
- *“We are requesting, not requiring. We have no plans to punish anybody who doesn't comply with the policy...There will be record-keeping, though, since compliance represents an alternative to required progress reporting”*
- *“There's a culture change involved here. No one's done this before”*

Librarians and library organizations

American library community

Scholarly Publishing and Academic Resources Coalition (SPARC)

Open Access Working Group (OAWG)

Alliance for Taxpayer Access (ATA)

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Scholarly Publishing and Academic Resources Coalition (SPARC)

Developed by the Association of Research Libraries in 1998

Led by librarians expressing the desire to reform

Mission:

"to correct imbalances in the scholarly publishing system"

Open Access Working Group (OAWG)

Initiated by SPARC in 2003	Growing OAWG membership including seven major U.S. library organizations, Open Society Institute, Public Library of Science, Science Commons
Objective	build broad-based recognition that the economic and societal benefits of scientific and scholarly research investments are maximized through open access to the results of that research
Actions	Letter to NIH Director (2004) Memorandum to UK House of Commons committee (2005) Alliance for Taxpayer Access (2004)

Alliance for Taxpayer Access (ATA)

Created by SPARC and OAWG in 2004

- *"Access to scientific and medical publications has lagged behind the wide reach of the Internet into U.S. homes and institutions. Subscription barriers limit U.S. taxpayer access to research that has been paid for the public funds. Taxpayer access removes these barriers by making the peer-reviewed results of taxpayer-funded research available online, and for no extra charge to the American public."*

Guiding Principles

- Taxpayer Rights
- Open Access
- Increase ROI
- Accelerate Discovery

Academic Strata

Association of American Medical Colleges

Association of American Universities

University Provosts

Student groups

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Publishers and Association

Initiatives lead by the Association of American Publishers (AAP)

- Professional/society publishers
- Professional scholarly publishing (PSP)
- patientINFORM
- DC Principles Coalition (DCPC)
- American Association of University Presses (AAUP)

"Pit Bull of PR" memo

- campaign's cost at between $300 000 and $500 000.
- Consulting firm Dezenhall encouraged the Association of American Publishers (AAP) to use aggressive tactics
  - *"public access equals government censorship"*
  - *"scientific journals preserve the quality/pedigree of science"*
  - *"paint a picture of what the world would look like without peer-reviewed articles"*
  - *"government [is] seeking to nationalise science and be a publisher"*

Fair Copyright in Research Works Act

- introduced in 2011 to prohibit open access mandates for federally funded research and revert the NIH Public Access Policy
- Elsevier later withdrew support for the Act

Competing Discourses

- access
- archive
- advance science

- quality of peer review
- copyright issues
- IP violation

Analysis: Socio-cultural Practices

LIBRARY COMMUNITY AND POLITICS

COMPLIANCE

COMMERCIAL PUBLISHERS

Conclusion: The Route to Open Access

Sustainability of the economics of the subscription and publishing models

Dissemination of research is inherent part of the research and scholarly communication process

Funders of researcher should underwrite dissemination of research results

Benefit individual scholars, institutions, scholarly communication, and the general researching public

What's next?

Access and use

Content licensing

Purchasing and payment models

Publish

Peer review methods

Publishing platforms (including self-archiving)

Share

Data sharing (open data, open science)

Institutional repositories, publication funds

Evaluate

Journal quality assessment

Copyright advisory

Afterward: Plan S

- Supported by the European Commission and the European Research Council created cOAlition S
- Science Europe and cOAlition S launched Plan S in September of 2018
  - An initiative to accelerate the transition to full open access
- Mandate
  - “Plan S requires that recipients of research funding from cOAlition S organisations make the resulting publications available immediately (without embargoes) and under open licences, either in quality Open Access platforms or journals or through immediate deposit in open repositories that fulfil the necessary conditions.”

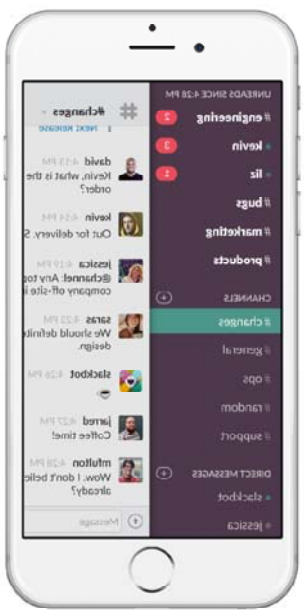
https://www.scienceeurope.org/our-priorities/open-access

Additional Resources

- Declarations on Open Access:
  - Budapest Open Access Initiative (2002)
  - Bethesda Statement on Open Access Publishing (2003)
  - Berlin Declaration on Open Access (2003)
- *Open Access* by Peter Suber (2012)
- SPARC (https://sparcopen.org)
- NIH Public Access mandate (https://publicaccess.nih.gov/policy.htm)
- ACRL scholarly communication toolkit (https://acrl.libguides.com/scholcomm/toolkit/openaccess)
- Open Access Directory (http://oad.simmons.edu/oadwiki/Main_Page)
- *Scientific scholarly communication* by Pali U.K. De Silva & Candance K. Vance (2017)
- Pl an S (https://www.scienceeurope.org)

Discussion

Join the conversation using the link below



http://tiny.cc/OpenAccess

slack

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Questions/Comments

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