

# Scholarly Publishing Innovations and Evolution:

## *Views of the Stakeholders*

Moderator: H. Frederick Dylla, American Institute of Physics

*Introduction: The Scholarly Publishing Enterprise*

John Vaughn, Association of American Universities

*The View of Research Universities*

Crispin Taylor, American Society of Plant Biologists

*Perspective of a Small Non-Profit Publisher*

T. Scott Plutchak, University of Alabama at Birmingham

*The Library Landscape*

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# The Scholarly Publishing Enterprise

## The last 300+ years:

- Science as a profession
- The journal has endured as the primary communication for science.
- Exponential growth in research funding has driven parallel growth in journals.

## The last 20 years:

- Internet technology has changed dissemination methods and enriched the complexity of content.
- The open culture has driven access models.
- Scientific journals were early adaptors of the web.

# The Scientific Journal Endures

PHILOSOPHICAL  
TRANSACTIONS:  
GIVING SOME  
ACCOMPT  
OF THE PRESENT  
Undertakings, Studies, and Labours  
OF THE  
INGENIOUS  
IN MANY  
CONSIDERABLE PARTS  
OF THE  
WORLD

Vol. I.  
For Anno 1665, and 1666.

In the SAVOY,  
Printed by T. N. for John Martyn at the Bell, a little with-  
out Temple-Bar, and James Allestry in Dock-Lane,  
Printers to the Royal Society.

The screenshot shows the PLoS Biology website in a Windows Internet Explorer browser window. The browser's address bar displays the URL <http://www.plosbiology.org/home.action>. The website header includes the PLoS Biology logo, a search bar, and navigation links such as "Home", "Browse Articles", "About", "For Readers", "For Authors and Reviewers", "Journals", "Hubs", and "PloS.org". A "Recently Published" section lists several articles, including "Host Niches and Defensive Extended Phenotypes Structure Parasitoid Wasp Communities" and "Omega-3 Fatty Acids and Inflammation: Novel Interactions Reveal a New Step in Neutrophil Recruitment". An "August 2009 Issue" section features a cover image of a tree and a vertical banner that reads "Tell Congress you support the Federal Research Public Access Act".

# What's Changed in the Journal Business?

## **Past (1665)**

Peer review

Print format

Distribution

Volumes / issues /  
articles

Linear text

References

Archive (library)

Business model  
(entrepreneur)

## **Present (2014)**

Peer review

Online format

Discovery

Volumes / issues /  
articles

Linear text plus

Reference links (DOI)

Archive (shared)

Business models  
(many)

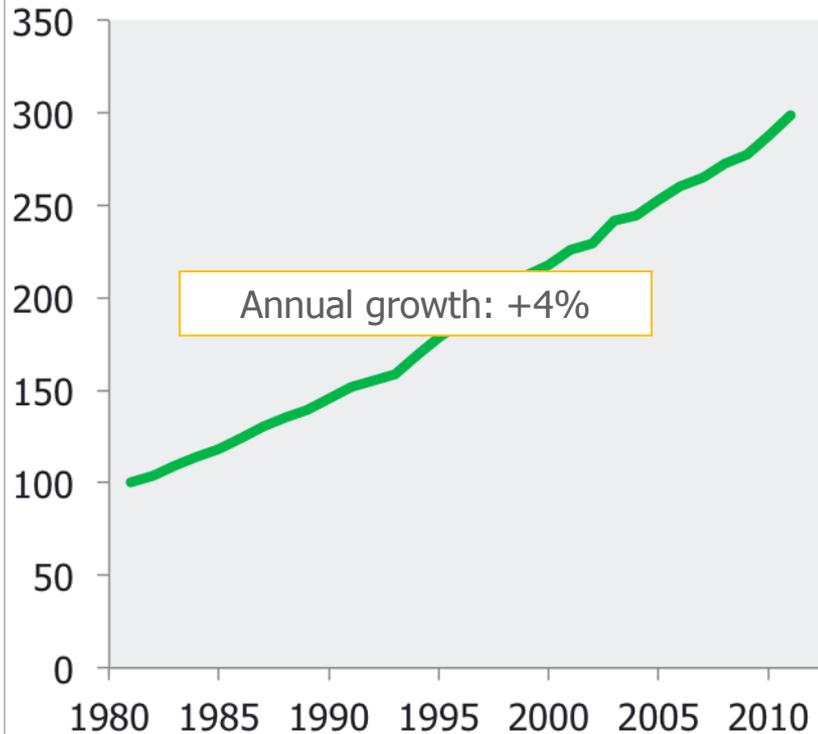
# Scholarly Publishing Today

Scientific, Technical and Medical communities around the world are united through publishing



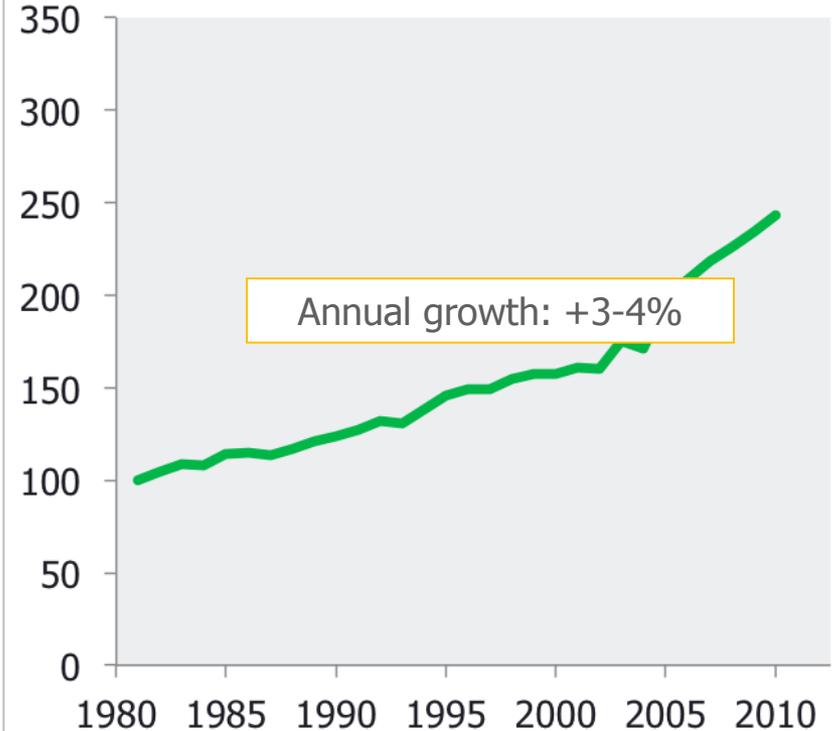
# Growth in R&D Spending Drives Number of Researchers and Research Activity

**Number of researchers – OECD countries**  
Indexed values; 100 = Number of researchers in 1981



Global number of researchers:  
7 million in 2010

**Number of research articles published**  
Indexed values; 100 = Number of articles in 1981



Number of research articles:  
>1.5 million in 2010

# What is Open Access Publishing?

- Free availability on the public internet
- Permitting users to read, download, copy, distribute, print, search, or link to the full texts of these articles
- Crawl them for indexing
- Licenses to allow use and re-use without financial, legal, or technical barriers
- Accessible online without cost to readers, but not costless to produce. So, funding needed by authors, institutions, funders or others.

## Budapest Open Access Initiative

- [Home](#)
- [BOAI10 Recommendations](#)
- [Translations](#)
- [Background](#)
- [Read the original BOAI declaration](#)
- [Translations](#)
- [FAQ](#)
- [View signatures](#)
- [Sign the the original BOAI](#)
- [BOAI Forum](#)
- [Resources](#)
- [What you can do to help](#)
- [Contact us](#)

### Read the Budapest Open Access Initiative

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.

For various reasons, this kind of free and unrestricted online availability, which we will call **open access**, has so far been limited to small portions of the journal literature. But even in these limited collections, many different initiatives have shown that open access is economically feasible, that it gives readers extraordinary power to find and make use of relevant literature, and that it gives authors and their works *vast and measurable* new *visibility, readership, and impact*. To secure these benefits for all, we call on all interested institutions and individuals to help open up access to the rest of this literature and remove the barriers, especially the price barriers, that stand in the way. The more who join the effort to advance this cause, the sooner we will all enjoy the benefits of open access.

The literature that should be freely accessible online is that which scholars give to the world without expectation of payment. Primarily, this category encompasses their peer-reviewed journal articles, but it also includes any unreviewed preprints that they might wish to put online for comment or to alert colleagues to important research findings. There are many degrees and kinds of wider and easier access to this literature. By "open access" to this literature, 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; crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. 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.

While the peer-reviewed journal literature should be accessible online without cost to readers, it is not costless to produce. However, experiments show that the *overall costs* of providing open access to this literature are far lower than the costs of traditional forms of dissemination. With such an opportunity to save money and expand the scope of dissemination at the same time, there is today a strong incentive for professional associations, universities, libraries, foundations, and others to embrace open access as a means of advancing their missions. Achieving open access will require new cost recovery models and financing mechanisms, but the significantly lower overall cost of dissemination is a reason to be confident that the goal is attainable and not merely preferable or utopian.

To achieve open access to scholarly journal literature, we recommend two complementary strategies.

**1. Self-Archiving:** First, scholars need the *tools and assistance* to deposit their refereed journal

# Definitions

## Open Access:

- non-subscription access to journal articles via the Internet; free to readers

## Green OA:

- articles in subscription journals, made freely available after an embargo period
- posting of pre-publication manuscripts, author accepted manuscripts, or published journal articles to institutional or subject repositories, or file sharing sites
- either by the publisher (normally to help authors to comply with mandates) or the author (with or without the publisher's consent)

	No Subscription	Subscription
Article Processing Charge	Gold	Hybrid
No Article Processing Charge	Subsidised	Subscription

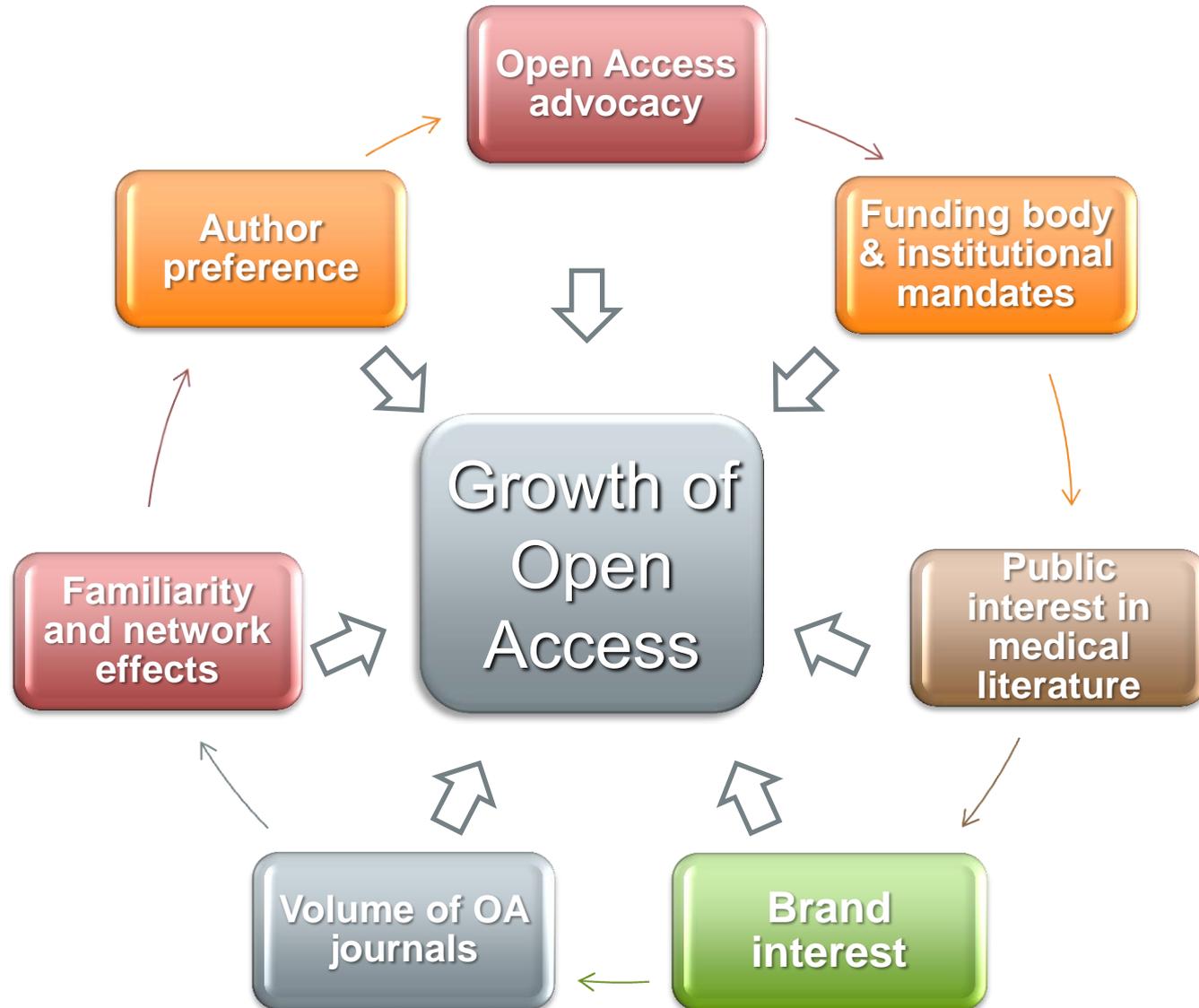
## Gold OA:

- Articles made freely available upon publication on the publisher's site
- Frequently uses author payment model
- includes fully OA journals as well as author-pays articles in hybrid journals

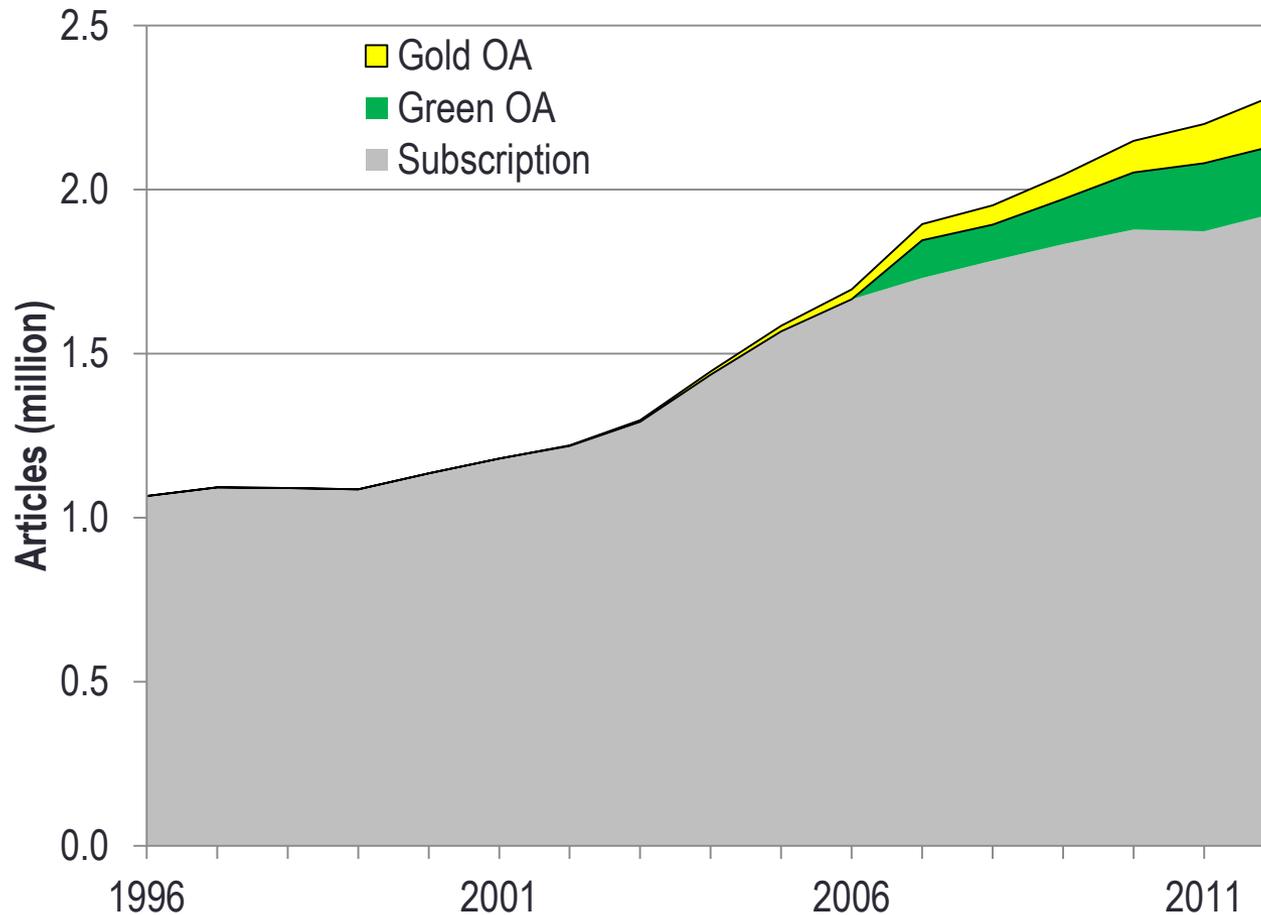
## Hybrid journals:

- journals which include both subscription-access and author-pays open-access articles
- known as “sponsored articles”, “open choice”, “author choice,” etc.

# Open Access Drivers

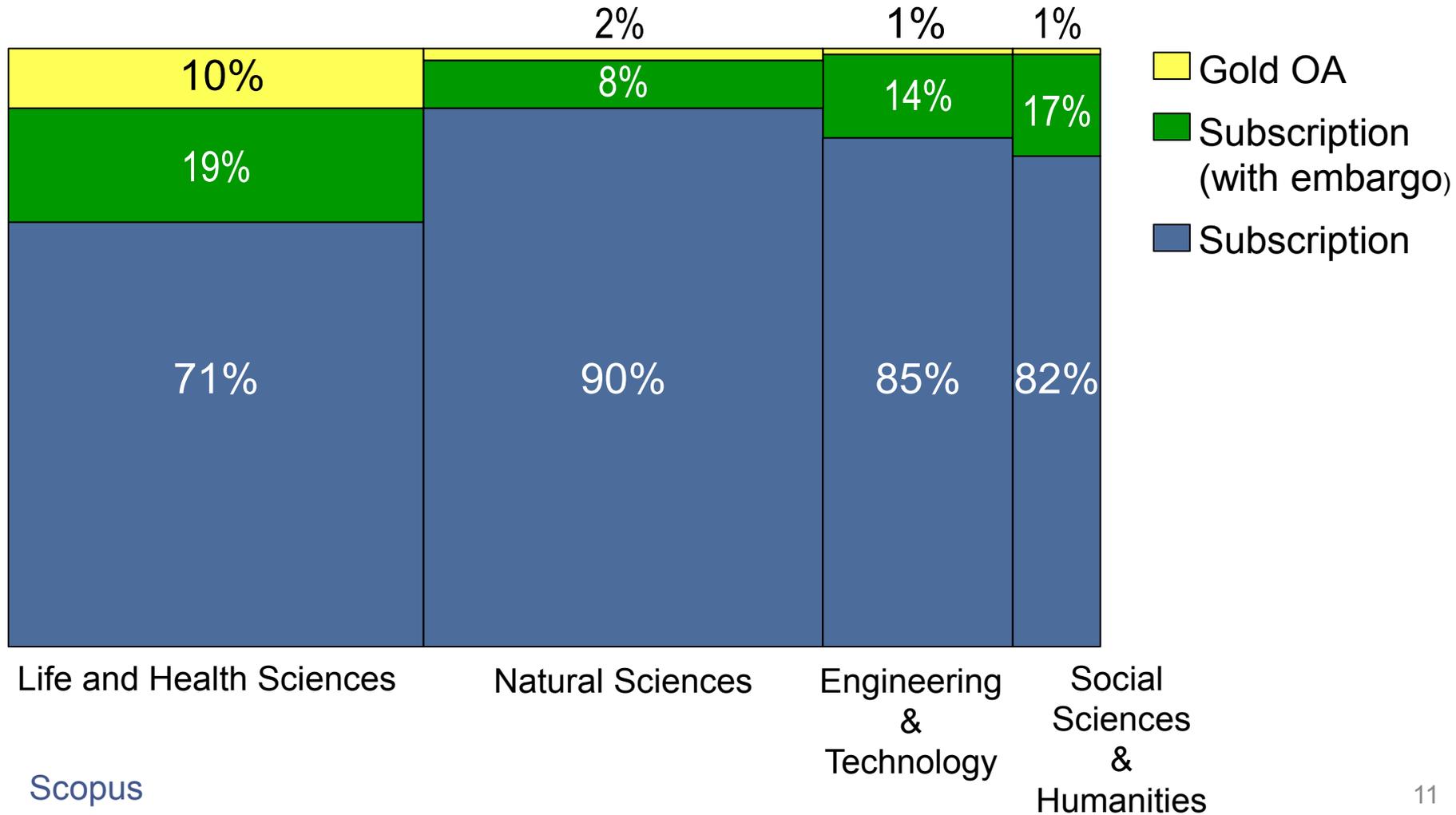


# Growth of Open Access 1996 - 2012



- Gold (“Author Pays”) articles made up 7% of total in 2012
- The level of uptake varies by field – highest in Life and Health Sciences

# Open Access Update By Discipline



# The Common Ground:

- Economic pressures are stressing all sectors in the research community-collaborative solutions for providing public access are essential
- Scholarly publications are too important for scholarship to allow a disruptive and unsustainable transition in the business models.
- The US Government through vehicles such as the **Scholarly Publishing Roundtable, America COMPETES 2010, and the OSTP 2013 Directive** have catalyzed multi-stakeholder discussions and solutions for public access.