A Broad Look at Open Access
From the BioMed Central Perspective

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Open is everywhere these days

Open Conference Systems
Open Journal Systems
Open Repositories

...how did arrive here?
The world (and our expectations) have been changing for a long time

1969: We went to the moon: a new world view

1982: TCP/IP protocol was established providing a functional backbone to the internet (by 1990 there are 300,000 hosts)

Mid-1980s: The arrival of commercially viable laptop computers

1989: The Berlin Wall falls: a new geopolitical view

1990: One million cell phone users in the US

November 2009: 10 billion+ web searches and over 6.75 billion YouTube streams (Nielsen NetRatings)

Today: More than 800 million Facebook users (75% outside the US): 70 languages on Facebook, over 250 million photos downloaded daily
## WORLD INTERNET USAGE AND POPULATION STATISTICS

June 30, 2012

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<tbody>
<tr>
<td>Africa</td>
<td>1,073,380,925</td>
<td>4,514,400</td>
<td>167,335,676</td>
<td>15.6 %</td>
<td>3,606.7 %</td>
<td>7.0 %</td>
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<tr>
<td>Asia</td>
<td>3,922,066,987</td>
<td>114,304,000</td>
<td>1,076,681,059</td>
<td>27.5 %</td>
<td>841.9 %</td>
<td>44.8 %</td>
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<tr>
<td>Europe</td>
<td>820,918,446</td>
<td>105,096,093</td>
<td>518,512,109</td>
<td>63.2 %</td>
<td>393.4 %</td>
<td>21.5 %</td>
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<tr>
<td>Middle East</td>
<td>223,608,203</td>
<td>3,284,800</td>
<td>90,000,455</td>
<td>40.2 %</td>
<td>2,639.9 %</td>
<td>3.7 %</td>
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<tr>
<td>North America</td>
<td>348,280,154</td>
<td>108,096,800</td>
<td>273,785,413</td>
<td>78.6 %</td>
<td>153.3 %</td>
<td>11.4 %</td>
</tr>
<tr>
<td>Latin America / Caribbean</td>
<td>593,688,638</td>
<td>18,068,919</td>
<td>254,915,745</td>
<td>42.9 %</td>
<td>1,310.8 %</td>
<td>10.6 %</td>
</tr>
<tr>
<td>Oceania / Australia</td>
<td>35,903,569</td>
<td>7,620,480</td>
<td>24,287,919</td>
<td>67.6 %</td>
<td>218.7 %</td>
<td>1.0 %</td>
</tr>
<tr>
<td><strong>WORLD TOTAL</strong></td>
<td><strong>7,017,846,922</strong></td>
<td><strong>360,985,492</strong></td>
<td><strong>2,405,518,376</strong></td>
<td><strong>34.3 %</strong></td>
<td><strong>566.4 %</strong></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

Demographic (Population) numbers are based on data from the US Census Bureau and local census agencies. Internet usage information comes from data published by Nielsen Online, the International Telecommunications Union, GfK, local ICT Regulators and other reliable sources.
Percent of Population With Internet Access

Source: 2010 International Telecommunications Union.
A Key Driver

- Grants
- Research
- Reputation
- Citation
- Published Articles

Tenure
A lot of publishing

“The last published edition of the World List of Scientific Periodicals contained more than 50 000 titles in science and technology. It is variously estimated that between 1 and 3 million new scientific articles are published each year.”

Garfield, Eugene; International Journal of Epidemiology, vol 35, issue 5

According to an analysis of by Simon Fraser University:

• Based on Ulrich’s search for active, academic / scholarly, peer reviewed journals (total 53,097), deduplicated by adding up entryed for print journals (under format = 23,442) and electronic-only 3,304

• How many active, academic / scholarly periodicals (journals or other types)? 47,845.
Putting a Lot of Pressure on Libraries

• According to the R&D Magazine’s “2011 Global R&D Funding Forecast”, “... growth in R&D spending has resumed following recession-induced cuts in advanced economies, while growth in emerging nations continues unabated”. Total global spending on R&D is expected to increase in 2011 by 3.6% to almost $1.2 trillion.

• Outsell forecasts a compound annual decline of 2.2% in academic library spending on content for the period 2009-2012, although it forecasts a healthier situation for corporate libraries (compound annual growth of 0.8%). Together, global academic and corporate library spend on content amounted to $8.1 billion in 2010, or about 0.7% of R&D spend.

Morgan, Cliff; Wiley-Blackwell Publishing News: Growth in Research & Development (R&D) Spend Compared With Library Budgets; May 11th, 2011

Raising Concerns Among Researchers

- What will happen to when research libraries can’t afford to subscribe to all the important journals (i.e., the ones that contain my articles)?
- How can my research reach more professional colleagues, especially in the developing world (who might cite my work in their own)?
- Why can’t I retain copyright to my own works?
- How can I have greater access, more quickly, to research being done in my field?
Who We Are

• The pioneer of peer-reviewed open access publishing, est. 2000.
• A publisher of 255 open access journals (plus 132 SpringerOpen journals)
• Host of 163,231 resultant OA articles
• Developer and provider of Open Repository, a hosted IR service
• Supported by 457 institutional members representing 51 different countries.
But What Is Open Access?

• Authors retain rights to their research: Creative Commons licensing
• Upon publication, articles are freely accessible without subscription barriers to anyone with uncensored internet access: other researchers, professionals, individual citizens in both developed and developing countries
• All submissions go through the usual peer-review evaluation process
• Articles can (or must) be deposited in appropriate repositories for wider distribution (i.e. PubMed Central, university institutional repositories, etc.) and freely shared
• Discoverable via major utilities: Google Scholar, Scopus, etc.
• Publisher operating revenues are derived from the assessment of one-time article processing charges
APC’s: Who Pays?

What OA Is (and Is Not)

Is

• A new business model
• Serious scholarship
• An alternative to subscription publishing, not a replacement
• Growing: estimated recently as 7.7% of new peer-reviewed articles
• Expanding beyond the life sciences and medicine
• Gaining support from grantors

Is Not

• A different editorial model
• Vanity publishing
• Onerously expensive
• Putting small societal publishers out of business
• Unfair to authors from developing countries
• The “solution” for every discipline
• The only way forward
Some Performance Measures

• BMC: 10 million+ site visits to our content every month: over 30 million page views
• Huge growth in submitted articles (25%+/year)
• Improving impact factors: i.e.: Genome Biology (10.3), Particle & Fiber Toxicology (9.18), Biotechnology for Biofuels (5.55) BMC Medicine (6.68)
• OA journal growth: (DOAJ) now over 9237 OA journals (not all peer-reviewed), over 1M OA articles (160,000 from BMC), from 119 countries
Early and Later Adopters
Established & Emerging Mandates

NIH
National Institutes of Health
Turning Discovery Into Health

Office of Science and Technology Policy

RESEARCH COUNCILS UK

AusGOAL
Australian Governments Open Access and Licensing Framework

wellcome trust
Some Permutations

• PLoS One, SpringerPlus: only validate the methodology
• arXiv, F1000Research: preprint posting with open peer review
• PeerJ: author membership to cover article costs
• Sage (and others): focus on social sciences
• Open Library of Humanities
• MOOCs
How Universities Support Open Access

• Centralized OA funding
• Institutional directives or mandates to deposit articles in their repository
• Institutional memberships, which lower or pay for article processing charges
• Education and assistance in understanding copyright and ownership of articles
In conclusion...

- Open access publishing is providing a meaningful option to researchers and libraries outside of the traditional subscription model of publishing.
- With the entrance of traditional publishers and government/funder mandates, one can assume that the model is sustainable and here to stay.
- Because of funding issues, OA may work better in some disciplines than in others.
- OA will continue to grow and morph into new forms.
- OA is one of many viable responses to the challenges we face in disseminating the results of research.
Thank you

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