Science is Open: An Introduction to Open Access

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SCIENTIFIC PROCESS: RESEARCH CYCLE

Conceptualising and networking

Proposal writing and design

Collecting and analysing

Infrastructuring: tools, services and standards

Documenting and describing

Publishing, reporting and peer review

Translating and engaging

Source: Open to All? Case studies of openness in research. RIN / NESTA, September 2010
OPEN ACCESS: DEFINITIONS

- Open access publications
  - scientific information is made freely available from web repositories (internet servers for digital archiving)
  - it can be read, downloaded, copied, printed, searched, text mined…
  - without financial, legal or technical barriers

- Types of open access information
  - peer-reviewed scholarly publications
  - other publications (Ph.D. theses, reports, conference papers, posters…)
  - research data
OPEN ACCESS: ORIGINS

- Rise of the internet
  - unprecedented possibilities for dissemination of information
  - potential for easier and cheaper access

- Traditional subscription-based scientific journals
  - publishing has a cost
  - but: considerable price increase („journal crisis“) is ongoing
  - e.g. annual subscription rate for „Biochimica et biophysica acta“: 20.526 €*

*KIT Library 2014/15
OPEN ACCESS: BERLIN DECLARATION

- Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities
  - milestone of the open access movement
  - signed on 22 October 2003 by the Helmholtz Association and other research organisations

“(…) Our mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society. New possibilities of knowledge dissemination not only through the classical form but also and increasingly through the open access paradigm via the Internet have to be supported. We define open access as a comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community. (…)”
JOURNAL CRISIS: THE COST OF KNOWLEDGE

- in 2012, the British mathematician Timothy Gowers initiated a boycott movement against the publisher Elsevier
- Elsevier is criticised for profits exceeding 35 % as one of the causes for the journal crisis
- boycotters have announced not to publish or review papers in Elsevier journals any more
- to date more than 15,000 scientists have signed the declaration „The cost of knowledge“
OPEN ACCESS: „GREEN“ ROAD

- „secondary“ open access to publications in closed-access, subscription-based journals
- scientists (or their libraries) deposit copies of their peer-reviewed published articles in a document server („repository“)
- See listing of publishers‘ copyright policies: SHERPA/RoMEO
  http://www.sherpa.ac.uk/romeo/
- 80 % of journals allow „self-archiving“
OPEN ACCESS: „GREEN“ ROAD

- final manuscripts, more rarely layouted versions
- institutional or subject-based repositories
- open access immediately or after a grace period (for publishers being able to recoup their investments)

- many Helmholtz Centres run their own repositories, usually as an add-on to the publication data base:
  http://os.helmholtz.de/open-science-in-der-helmholtz-gemeinschaft/open-access-der-gruene-weg/
REPOSITORY CONTENTS: EXAMPLE

OPEN ACCESS: „GOLD“ ROAD

- „born“ open access: publications in dedicated open access journals
- peer-reviewed articles are made available free of charge immediately on publication
- articles published under a Creative Commons licence
- the journal usually charges a publication fee
- subscription-based journals may have „hybrid“ models (authors have an option to pay for immediate open access of their published article, **but**: double payment by library subscription?)
SCIENTIFIC JOURNALS: COST MODELS

Subscription-based journal

Submission → Peer review → Acceptance → Publication → Subscriber

Open access journal

Submission → Peer review → Acceptance → Publication → All readers

Subscription charge

Publication charge
OPEN ACCESS: SEARCH ENGINES & TOOLS

- **BASE**
  - [http://www.base-search.net/](http://www.base-search.net/)

- **Google Scholar**
  - [http://scholar.google.com/](http://scholar.google.com/)

- **oaDOI: alternative DOI resolver**
  - [http://oadoi.org/](http://oadoi.org/)
OPEN ACCESS: BENEFITS

- wide dissemination of research results
- increased scientific discussion
- raised public perception of science
- better return on investment by public research funding
OPEN ACCESS POLICY OF THE HELMHOLTZ ASSOCIATION, 2016

- publications must be deposited in repositories
- deposited publication must be made openly accessible within 6 months (12 months in the humanities and social sciences; books: 12 or 24 months, respectively)
- bibliographic metadata must be available
- research data underlying the publication should be made accessible

http://oa.helmholtz.de/open-science-in-der-helmholtz-gemeinschaft/open-access-richtlinien/open-access-policies.html
# HELMHOLTZ CENTRES: OPEN ACCESS CONTACTS

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RESEARCH DATA: „INTELLIGENT OPENNESS“

„Realising the benefits of open data requires effective communication through a more intelligent openness: data must be accessible and readily located; they must be intelligible to those who wish to scrutinise them; data must be assessable so that judgments can be made about their reliability and the competence of those who created them; and they must be usable by others.“

OPEN ACCESS: FURTHER READING

- Berlin Declaration on Open Access
  https://openaccess.mpg.de/Berlin-Declaration

- Getting your feet wet: an introduction to open access
  http://www.rin.ac.uk/system/files/attachments/open_access_booklet_screen_0.pdf

- Suber, P. 2016: How to make your own work open access

- Listing of publishers‘ copyright policies
  http://www.sherpa.ac.uk/romeo/

- Scientist meets publisher
  http://www.youtube.com/watch?v=GMIY_4t-DR0

- Information platform open-access.net
  http://open-access.net/DE-EN/

- Helmholtz Open Science Newsletter (in German)
  http://os.helmholtz.de/bewusstsein-schaerfen/newsletter/
Thank you for listening!

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