



How can researchers regain control of their publications, improve their quality and disseminate them to all ?

Marie Farge

CNRS-INSMI, ENS Paris and CAPSH

*October 16th 2022
BRCP Annual Conference,
Wien Universität*



Principle

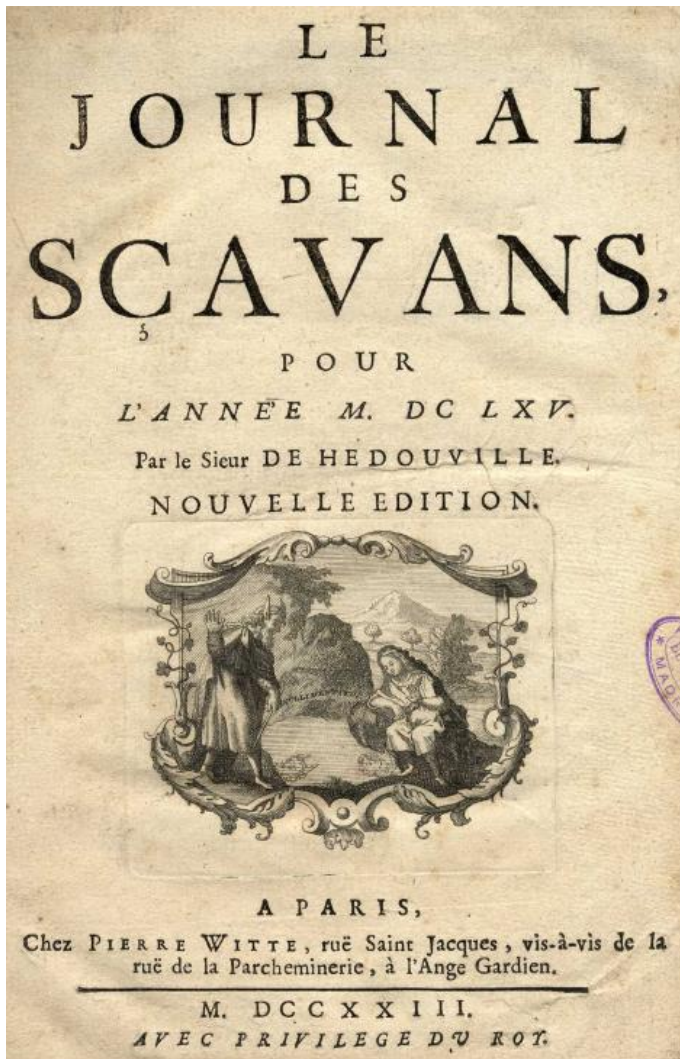
Ideas are not of the same nature as material products,
since when you give an idea you do not lose it.
Therefore knowledge is not a product to be traded,
but a commons to be shared.
If not shared, an idea is lost forever !
⇒ Sharing ideas is a positive-sum game.

In 2009 Elinor Ostrom got the
Nobel prize in economic sciences for:
*'her analysis of economic governance,
especially the commons, showing how
common resources can be managed successfully
by the people who use them, rather than
by governments or private companies'*.

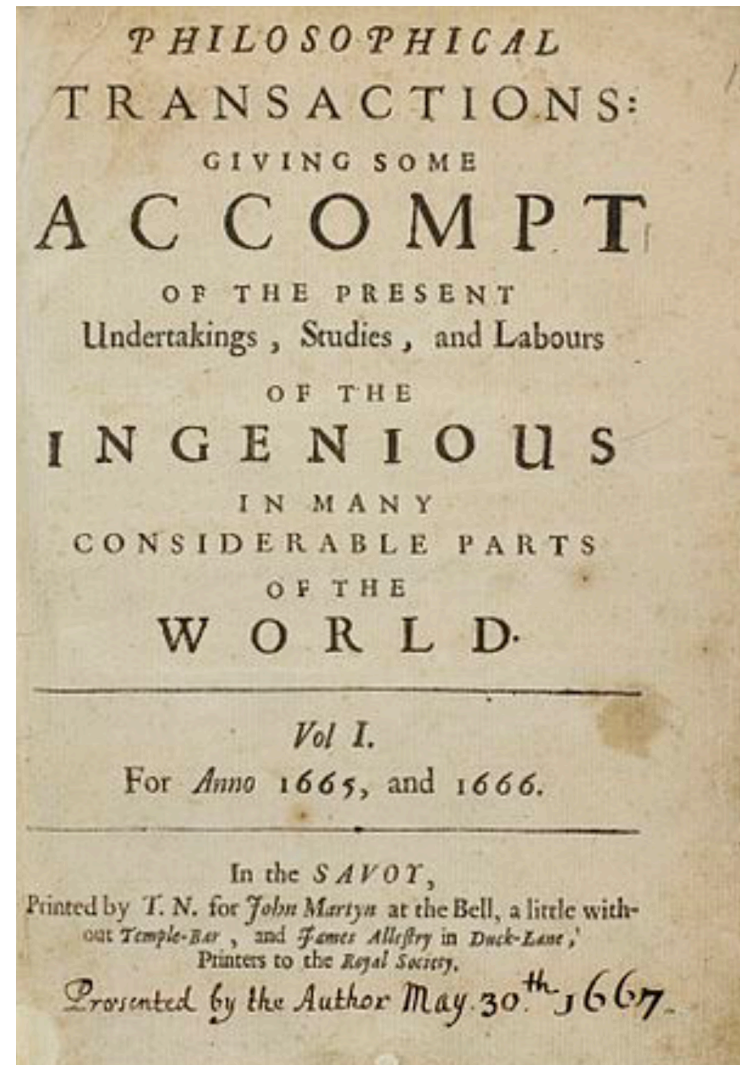


*Charlotte Hess and Elinor Ostrom,
Understanding knowledge as a Commons,
MIT Press, 2006*

Researchers created their own journals



Paris, January 5th 1665



London, March 6th 1665



Researchers designed their own tools

- In 1978, the computer scientist *Donald Knuth* (Stanford University) published the Open Software *TeX* for typesetting research articles, in particular for mathematical formulas.
- In 1990, the physicist and computer scientist *Tim Bernes-Lee* (CERN) created the Open Protocol *http* of *WWW* without patenting it in order that it could be adopted by anyone.
- In 1991, the physicist *Paul Ginsparg* (Los Alamos National Laboratory) created the Open Platform *ArXiv* to share preprints for exact sciences, the submission rate today is above 10 000 articles/month.
 - In 1994, the economist *Michael Jensen* (Harvard University) created the Open Platform *SSRN* to share preprints for social sciences, the largest repository in 2013 but *Elsevier* bought it in 2016.
- In 1998, the education scientist *John Willinsky* (Simon Fraser University) released the Open Software *OJS* to manage editing and peer-reviewing, used today by more than 10 000 research journals.



1958, UNESCO declaration

At its 1958 Annual Meeting, UNESCO pledged to promote the exchange of scientific publications on a free and non-commercial basis.

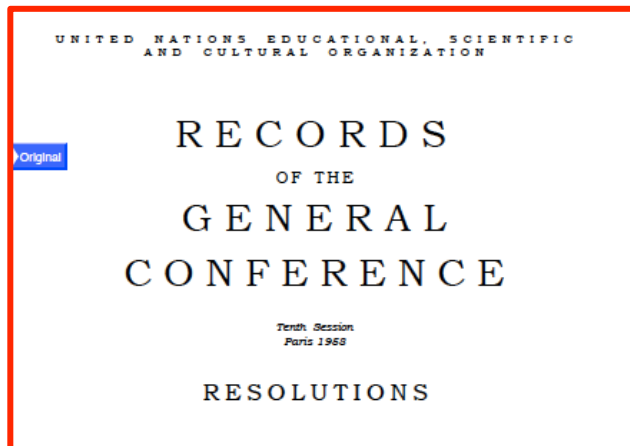
ARTICLE 1

Exchange of Publications

The Contracting States undertake to encourage and facilitate the exchange of publications between both governmental bodies and non-governmental institutions of an educational, scientific and technical, or cultural nature, which are non-profit-making in character, in accordance with the provisions of the present Convention.

referred to in Article 1 of the present Convention :

(a) publications of an educational, legal, scientific and technical, cultural and informational nature, such as books, newspapers and periodicals, maps and plans, prints, photographs, microcopies, musical works, Braille publications and other graphic material;



[http://openscience.ens.fr/
ABOUT_OPEN_ACCES/
DECLARATIONS](http://openscience.ens.fr/ABOUT_OPEN_ACCES/DECLARATIONS)



2003, Berlin declaration

Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities

Preface

The Internet has fundamentally changed the practical and economic realities of distributing scientific knowledge and cultural heritage. For the first time ever, the Internet now offers the chance to constitute a global and interactive representation of human knowledge, including cultural heritage and the guarantee of worldwide access.

Goals

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.

In order to realize the vision of a global and accessible representation of knowledge, the future Web has to be sustainable, interactive, and transparent. Content and software tools must be openly accessible and compatible.

http://openscience.ens.fr/ABOUT_OPEN_ACCESS/DECLARATIONS/



2003, research organisations signed it

German research organisations

Hans-Jörg Bullinger
President of the Fraunhofer Society

Karl Max Einhäupl
Chairman des Wissenschaftsrates

Peter Gaehtgens
President of the Hochschulrektorenkonferenz

Peter Gruss
President of the Max Planck Society

Hans-Olaf Henkel
President Leibniz Association

Walter Kröll
President Helmholtz Association

Ernst-Ludwig Winnacker
President German Research Foundation

Friedrich Geisselmann
Head of the Deutscher Bibliotheksverband

Dieter Simon
President, Berlin-Brandenburg Academy of Sciences and Humanities

international

Bernard Larrouturou
Director General, Centre National de la Recherche Scientifique (CNRS)

Jürgen Mittelstraß
President, Academia Europaea

Paolo Galluzzi
Director, Istituto e Museo di Storia della Scienza, Florence

Christian Bréchet
Director General, Institut National de la Santé
et de la Recherche Médicale (INSERM)

Yehuda Elkana
President and Rector, Central European University, Budapest

Jean-Claude Guédon
Open Society Institute

José Miguel Ruano Leon
Minister of Education, Cultura y Deportes Gobierno de Canarias

Jens Braarvig
Director, Norwegian Institute of Palaeography and Historical Philology



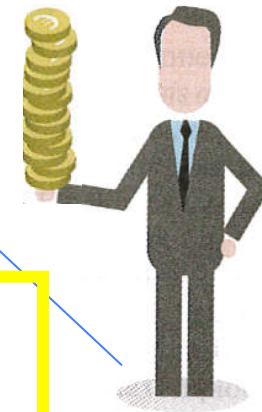
Today, the business model of publishers



Researchers work as editors and referees for free

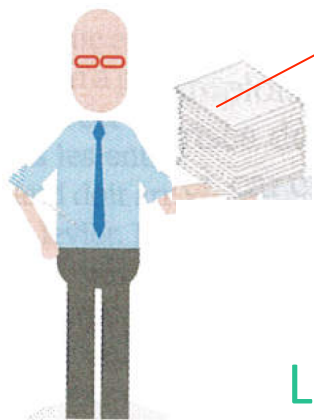
Researchers write articles, typeset them 'camera ready', review those of their peers and are editors of journals.

Taxpayers



Researchers and librarians are paid by taxpayers

After articles are accepted by reviewers and editors, **publishers ask authors to give them their copyright for free!** Journals are sold by subscription and **articles are in open access only if authors pay Article Processing Charges (APCs).**

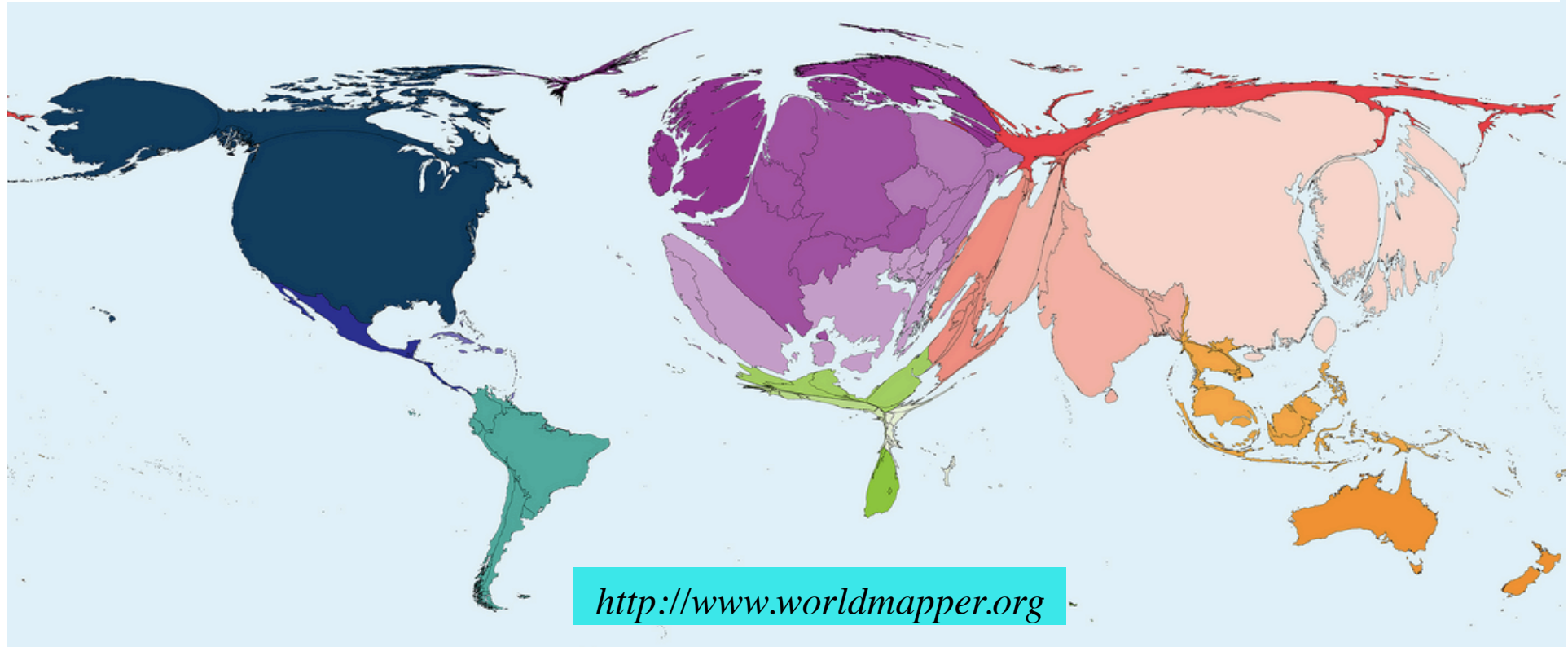


Publishers make huge profits

Librarians negotiate bundled contracts with publishers for subscriptions and prepaid APCs, pay for them, control access to articles and curate collections.

Gold Open Access is counter-productive

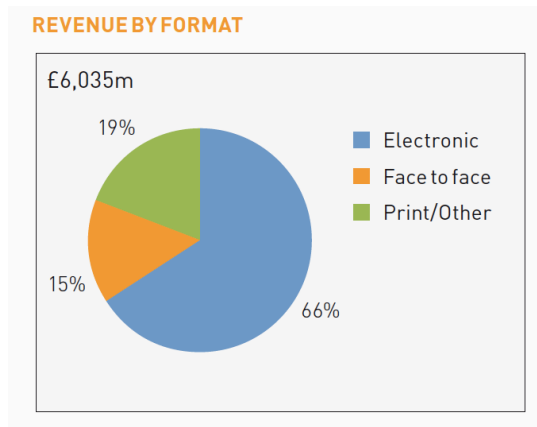
Number of research articles published in 2016 divided by the number of inhabitants per country



Publishers impose the *Gold Open Access* model, which flips subscription into *Article Publication Charges (APCs)* one has to pay to publish.
⇒ research institutions will get bankrupted or stop publishing!

The oligopoly of academic publishers

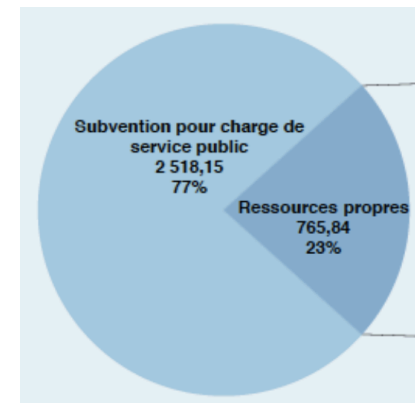
Four private commercial companies
control academic publishing :
Elsevier (REED), Springer Nature,
Wiley-Blackwell and Taylor&Francis (Informa).



8.4 Billions €
turnover of *Reed-Elsevier (RELX)*
in 2017

<http://www.elsevier.com>

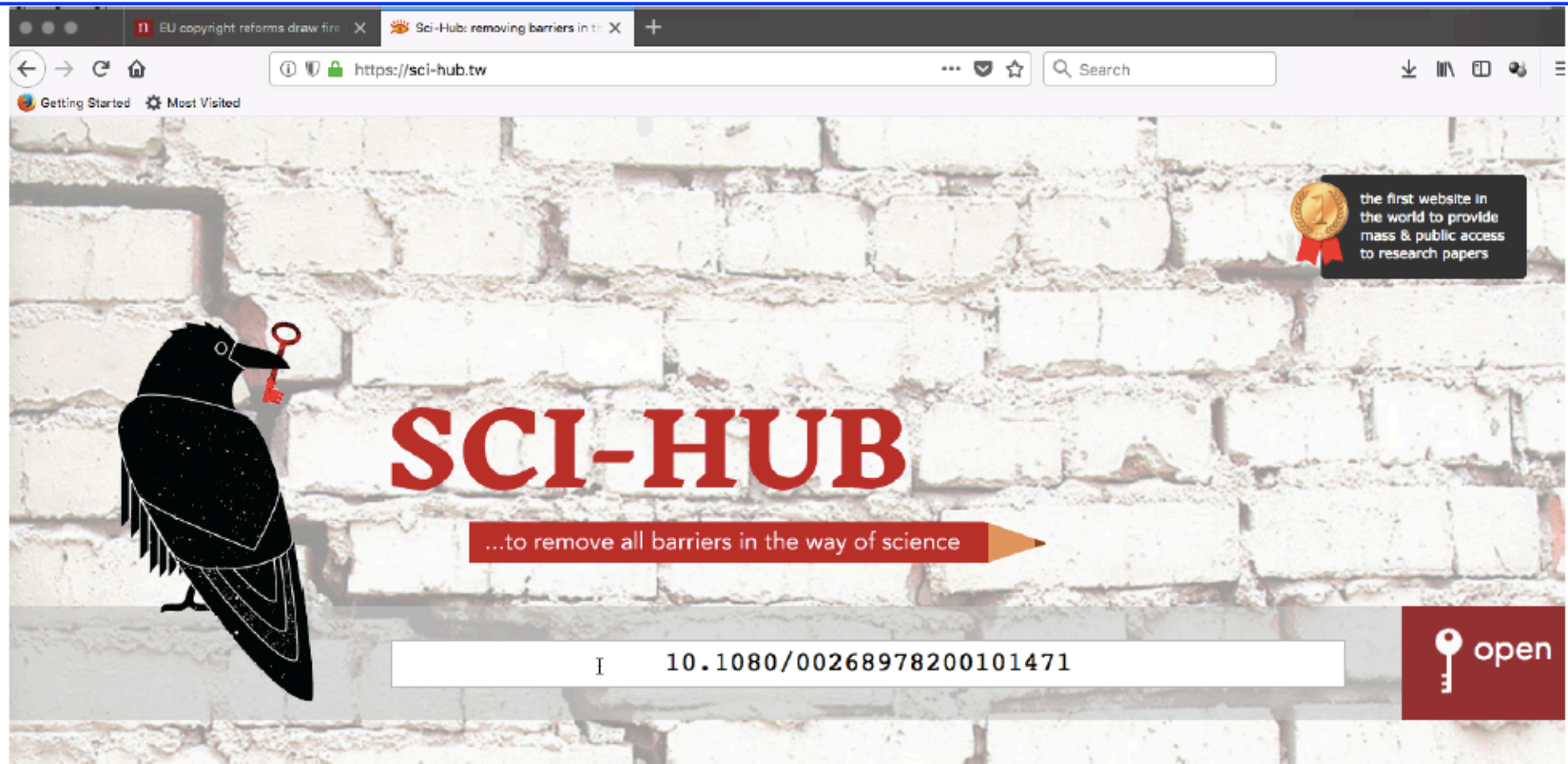
>>



3.3 Billions €
budget of *CNRS*
in 2017

<http://www.cnrs.fr/fr/le-cnrs>

2011, a revolutionary platform



Allez sur le site où l'article est bloqué par un péage,
recopiez son *DOI* (*Digital Object Identifier*),
puis aller sur *Sci-Hub* et entrez son *DOI*

<http://openscience.ens.fr/OTHER/SCIHUB/>



2012, the 'Cost of Knowledge' revolt

In 2012 *Tim Gowers* and 33 mathematicians called for a boycott of *Elsevier*. They succeeded in stopping the *Research Works Act*, a bill introduced in the U.S. Congress due to *Elsevier's* lobbying to control open access.



Sir Tim Gowers,
Cambridge University,
Fields medal 1998

16556 Researchers Taking a Stand. [See the list](#)

Academics have protested against Elsevier's business practices for years with little effect. These are some of their objections:

1. They charge exorbitantly high prices for subscriptions to individual journals.
2. In the light of these high prices, the only realistic option for many libraries is to agree to buy very large "bundles", which will include many journals that those libraries do not actually want. Elsevier thus makes huge profits by exploiting the fact that some of their journals are essential.
3. They support measures such as SOPA, PIPA and the ~~Research Works Act~~, that aim to restrict the free exchange of information.

<http://www.thecostofknowledge.com>



2012, researchers proposed Diamond OA

'Neither author nor reader should have to pay to publish and a journal should no more belong to a publisher but to its editorial board. Peer-reviewing and publishing are done using public infrastructures where articles are archived and accessible online for free.'

June 29th 2012, Marie Farge, Note for Geneviève Fioraso, French Minister of Research, http://openscience.ens.fr/MARIE_FARGE/



Diamond Sutra, the oldest dated printed book, China, 11th May 868

British Library

Inspired by the Diamond Sutra printed in China in 868, I proposed calling this model Diamond OA to outbid the publishers' Gold OA model.

Wikipedia, Diamond Sutra
Wikipedia, Diamond Open Access

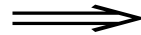


The Diamond Open Access model

1. Peer review and publication are done without authors and readers having to pay.

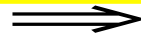
2. Authors retain their copyright and before submitting their article to a journal they deposit it with a CC-BY license, which allows anyone to publish it as long as the authors are credited as the copyright holders

<https://creativecommons.org/licenses/>



Their article is officially dated and in open access for free.

3. Editors collectively own the title and assets of academic journals, as they are responsible of the peer review of submitted articles. Editors and referees peer review free of charge as part of their academic duty.

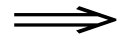


Publishers no longer own academic journals but can continue to provide services to journal editors, who have regained the power to choose on a competitive basis the publishers they prefer.



Researchers ask for publishing platforms

Funding agencies should provide for free to researchers non-profit platforms, developed using open source softwares, to peer review and disseminate their publications to all, with the help of librarians and publishers as contractors.



Everyone in the world would have **free access** (*i.e.*, open and gratis) to **peer-reviewed publications** (*e.g.*, articles, data, codes, videos, etc.) without researchers having to pay or give their copyrights.

The scientific committees of publishing platforms would also control the quality of peer review by selecting journals with good practices and reputable editors with limited mandates. This would provide researchers tools to experiment new ways of publishing their results (*e.g.*, open peer review).

2010, Diamond OA journals

1

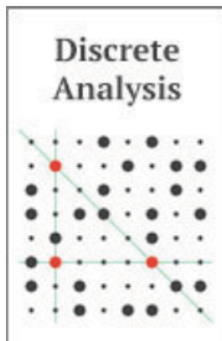


IPOL Journal · Image Processing On Line

[//www.ipol.im](http://www.ipol.im) ISSN : 2105-1232 DOI : 10.5201/ipol

Founded in 2010 by Jean-Michel Morel, IPOL has 41 editors. It is financed by CNES, ERC and 13 public institutions from 5 countries. Each article contains the **text**, the **algorithm** and the **source code**, which all are **peer reviewed**. The journal platform also provides **online demonstration facility** and an **archive of experiments**. IPOL thus ensures **open science and reproducible research**.

2



<http://discreteanalysisjournal.com> ISSN : 2397-3129

Founded in 2015 by Tim Gowers, DA has 12 editors. It is an **overlay journal on the open repository arXiv**. It is financed by Cambridge University (10\$/submission).



2017, Diamond OA platform Mersenne

The Mersenne project has been initiated to address a growing demand within the scientific community for scientific publication alternatives.

The Centre Mersenne is created as an alternative publishing venue:

- public and not-for-profit (no privatisation of the research outputs),
- open access (to foster the dissemination of research results),
- diamond open access (no fee for the reader to read and the author to publish),
- sustainable and affordable,
- created by researchers for researchers.

The Centre Mersenne has a dual purpose:

- to promote scientific publishing and foster dissemination of open access publications: existing journals as well as newly-created journals,
- to offer, at affordable price, all the necessary tools and professional services to editorial teams to help them manage their journal.



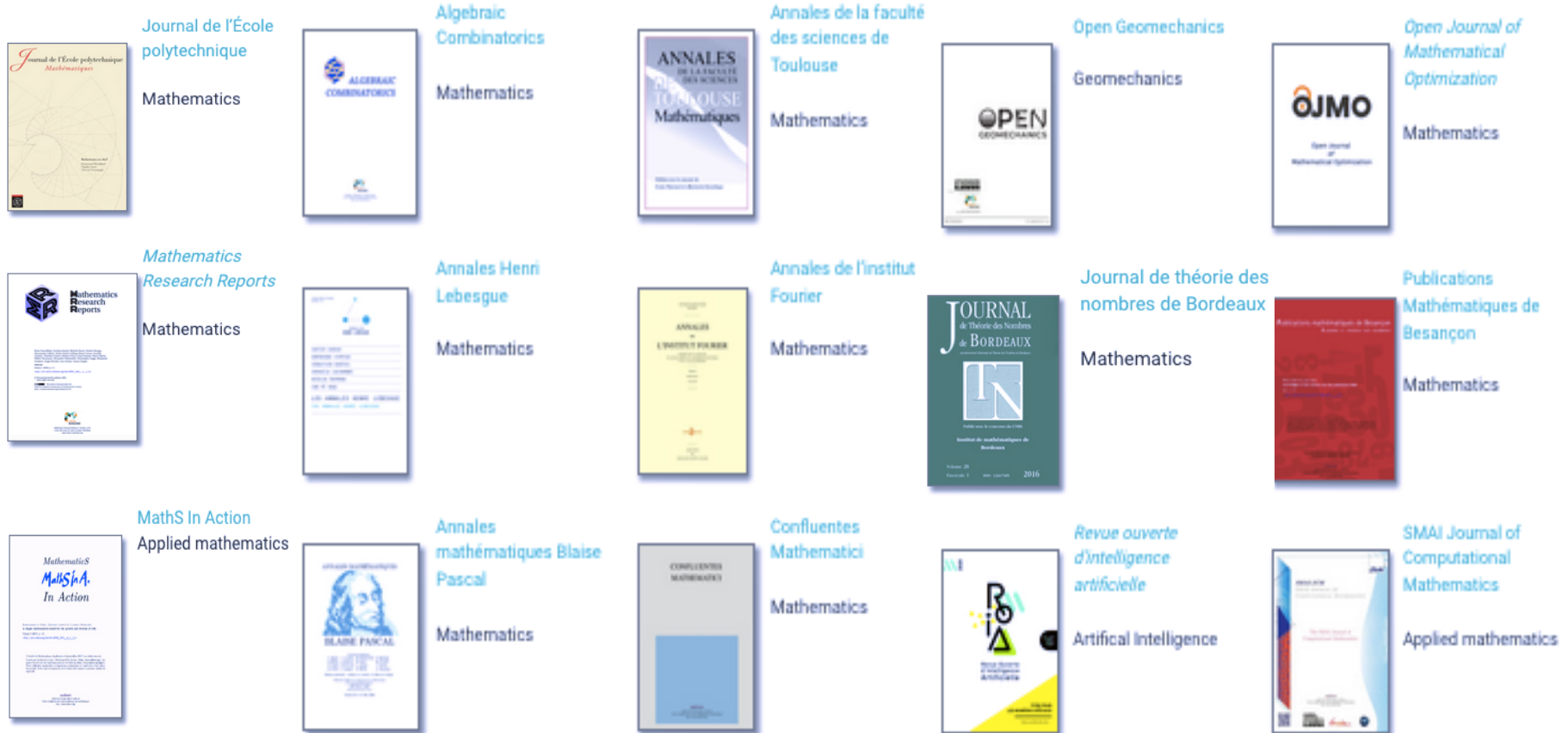
⇒ The production cost is on average 700 € per article and 35 €/pages, which is financed by French public research funding institutions :



<https://www.centre-mersenne.org>



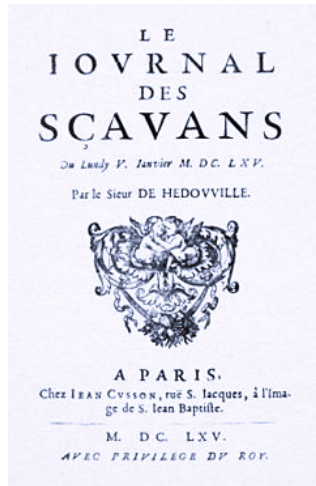
Journals published by Mersenne



Mersenne also publish other journals (e.g., CRAS and Peer Community Journal) together with conference proceedings, seminars and books.



Comptes-Rendus Acad. Sci. Paris



5th January 1665

In 1665, creation of the 'Journal des Sçavans'.
In 1835, it became the 'Comptes-Rendus de l'Académie des Sciences' (CRAS), which were published by Gauthier-Villars.
In 2000, Elsevier bought Gauthier-Villars.

'It would be an excellent advertisement for the 'Académie des Sciences de Paris' if its 'Comptes-Rendus' were published using the 'Diamond OA' model.'

Marie Farge, Note for Geneviève Fioraso, 2012

Since 2020, CRAS are published, no longer in Gold Open Access by Elsevier, but in Diamond OA by the platform Mersenne.



2014, *Dissemin* to boost *Green OA*

In September 2014 *Antonin Delpuch*
created the platform <http://dissem.in>
which is collectively developed in open source.



*'Spot your own paywalled papers.
Liberate them in one click!'*

The team *CAPSH / Dissemin*

<http://dissem.in> is supported by the non profit association CAPSH
(Committee for the Accessibility of Publications in Sciences and Humanities)
created on *September 5th 2015* by :

Antonin Delpuch

Graduate student, Computer Science
École Normale Supérieure
France

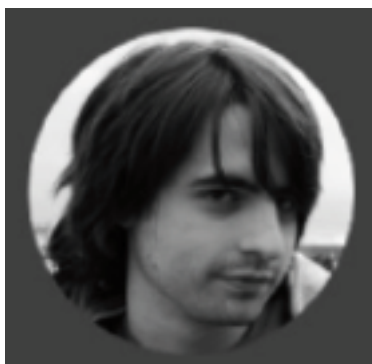
Creator and main developer
of the platform *Dissemin*



*"We need to take a stand against
more traditional publishers"*



Europe's Open Access Champion 2016



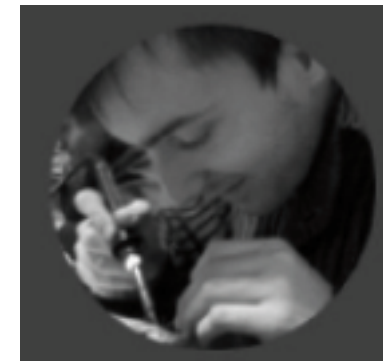
Antoine Amarilli



Pablo Rauzy



Marie Farge



Thomas Bourgeat

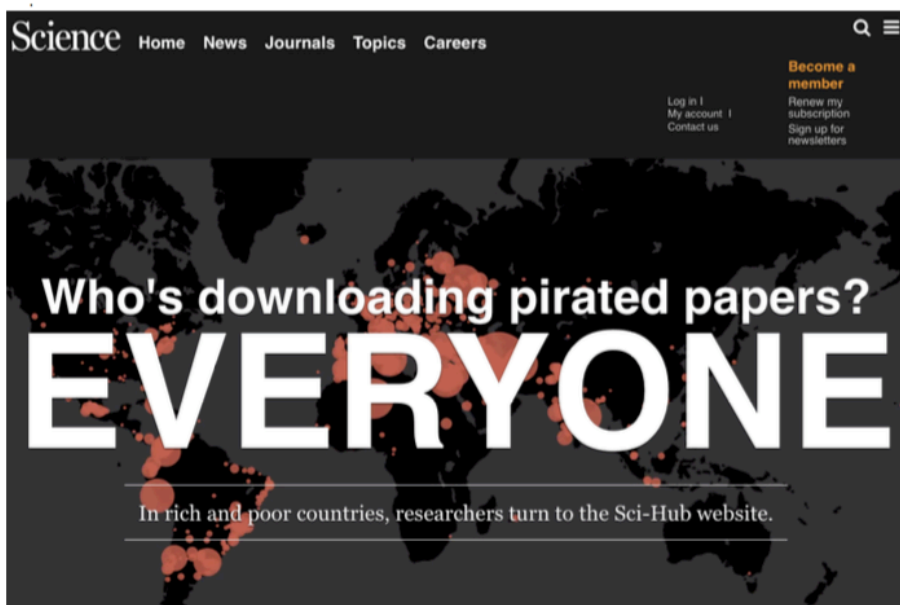


*<http://dissem.in>
<http://association.dissem.in>
<https://github.com/dissemin>
@disseminOA
team@dissem.in*



2015, Elsevier sued Sci-Hub and won

On June 21st 2017 Elsevier has won its lawsuit against Sci-Hub in a New York court: Alexandra Elbakyan must pay them 15 million dollars in compensation.



Who's downloading pirated papers? Everyone

By [John Bohannon](#)

Apr. 28, 2016 , 2:00 PM

Le 21 juin 2017, un tribunal de New York a condamné le site pirate Sci-Hub à payer 15 millions de dollars pour non respect du copyright. Sci-Hub est ce site qui donne accès illégalement à plus de 62 millions d'articles scientifiques. Ce site a été créé en 2011 par une chercheuse en neurosciences basée au Kazakhstan, Alexandra Elbakyan. Il n'y avait pas de représentant de Sci-Hub à ce procès. Environ 50 % des articles téléchargés sur Sci-Hub sont des articles de Elsevier, SpringerNature et Wiley-Blackwell.

<http://openscience.ens.fr/OTHER/SCIHUB>
[2015_09_15_Alexandra_Elbakyan_answers_to_Elsevier_Prosecution.pdf](#)



2016, Europe wants a legal *Sci-Hub*

On 4th April 2016 *Carlos Moedas*,
European Commissioner for Research, Science and Innovation,
launched the *Amsterdam Call* :



"We must create infrastructure. Europe's final transition must be one from fragmented datasets to an integrated European Open Science Cloud. By 2020, we want all European researchers to be able to deposit, access and analyse European scientific data through a European Open Science Cloud"

Commissioner Carlos Moedas, Amsterdam, 4 April 2016



In 2016-2017, I was member of the RISE (Research Innovation Science Expert) group **advising him on Open Science.**

http://openscience.ens.fr/DECLARATIONS/2016_04_04_EC_Amsterdam_Call_for_Action_on_Open_Science.pdf



Popularization level ↑

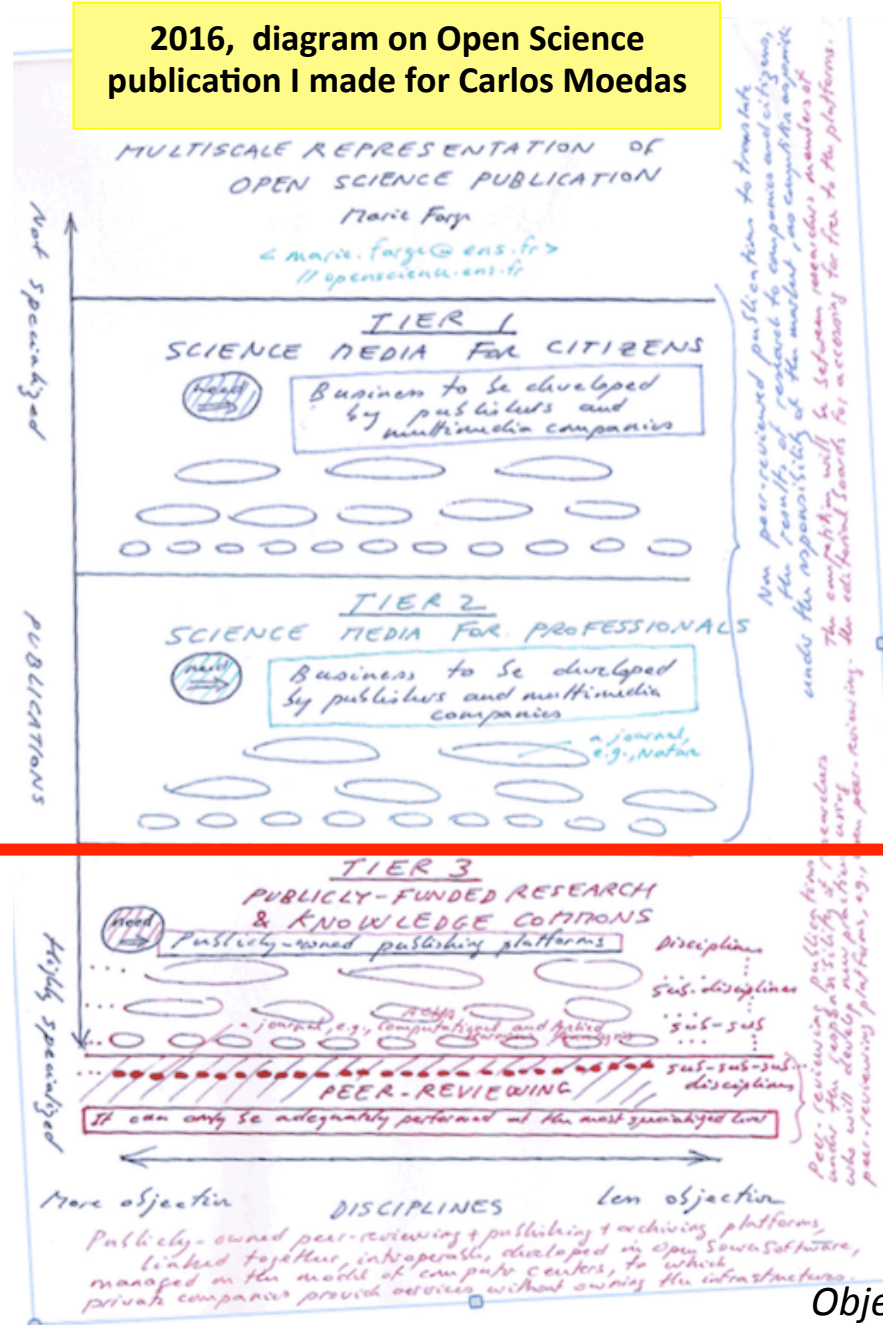
2016, diagram on Open Science publication I made for Carlos Moedas

Popularization of science for citizens

Scientific information for companies

Peer-reviewed articles done by and for researchers

Specialization level ↓



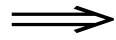
For profit playground of commercial publishers

Non for profit knowledge commons



Popularization level

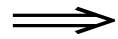
Multiscale representation of Open Science publication



It will encourage scientific vocations and help citizens to understand and appreciate research.

This should be a new playground for publishers and media

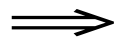
Popularization of science for citizens



It will reduce the delay for research results to produce innovations companies can sell

This should be a new playground for publishers and media

Scientific information for companies



With those platforms researchers will develop new practices for sharing their results and checking their reproductibility

Peer-reviewing + Publishing + Archiving for sharing scientific ideas, methods and results through the **Diamond OA platforms** which are **linked, interoperable, developed in Open Source.**

Knowledge Commons for researchers

They are publicly-funded infrastructures operated with the help of librarians, for which publishers can provide services.

Objectivity level

Specialization level



2017, OA peer-review and publishing

At the request of Carlos Moedas I wrote the chapter on open access to peer-reviewed research publications in a book published by the Commission in 2017.



Scholarly publishing and peer-reviewing in open access¹

Marie Farge,
CNRS and Ecole Normale Supérieure Paris
<marie.farge@ens.fr>

I argued that **research articles,** as well as peer review reports, should be made available **free of charge,** for both authors and readers, **to ensure** that the **results have been validated and could be reproduced.**

[http://openscience.ens.fr/MARIE_FARGE_ARTICLES/
2017_05_15_BOOK_CHAPTER_FOR_THE_EUROPEAN_COMMISSION](http://openscience.ens.fr/MARIE_FARGE_ARTICLES/2017_05_15_BOOK_CHAPTER_FOR_THE_EUROPEAN_COMMISSION)



Today, what should we do?

The publishers own the journals, the peer review reports and the bibliometric data that they use to control their `market' (*i.e.*, our work) and ensure their profits.

They impose their Gold OA and the prices they decide on us.

This leads to present overproduction of articles and of predatory journals.

We should preserve the peer-reviewed journals which are useful to us (those having good reputation and excellent practices) and submit our research articles to those they prefer.

But we should no more give our copyright to anyone!

Before submitting an article to a journal, we deposit our `Author Manuscript' (AM) in an open public repository, under a CC license, ideally on arXiv in CC-BY.

<https://www.coalition-s.org/>

http://openscience.ens.fr/ABOUT_OPEN_ACCESS/DECLARATIONS/



<http://openscience.ens.fr>

| [ICO] | <u>Name</u> | <u>Last modified</u> | <u>Size</u> | <u>Description</u> |
|-------|--|----------------------|-------------|--------------------|
| [] | 0_A_lire.pdf | 2018-03-02 21:58 | 103K | |
| [] | 0_A_lire.rtf | 2018-03-02 21:58 | 24K | |
| [DIR] | ABOUT_OPEN_ACCESS/ | 2021-02-22 18:12 | - | |
| [DIR] | COPYRIGHTS_AND_LICENSES/ | 2018-11-30 23:16 | - | |
| [DIR] | MARIE_FARGE/ | 2020-07-16 20:17 | - | |
| [DIR] | OPEN_ACCESS_MODELS/ | 2022-03-09 03:25 | - | |
| [DIR] | OTHER/ | 2021-04-08 02:50 | - | |

Apache/2.4.41 (Ubuntu) Server at openscience.ens.fr Port 80

http://openscience.ens.fr/MARIE_FARGE

| [ICO] | <u>Name</u> | <u>Last modified</u> | <u>Size</u> | <u>Description</u> |
|-------------|----------------------------------|----------------------|-------------|--------------------|
| [PARENTDIR] | Parent Directory | | - | |
| [DIR] | ARTICLES/ | 2022-09-11 21:25 | - | |
| [DIR] | CONFERENCES/ | 2022-10-07 10:29 | - | |
| [DIR] | INTERVIEWS/ | 2020-07-16 22:29 | - | |
| [DIR] | OTHER/ | 2022-09-24 13:37 | - | |

Apache/2.4.41 (Ubuntu) Server at openscience.ens.fr Port 80

marie.farge@ens.fr
<http://wavelets.ens.fr>

