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# All peer-reviewed scientific articles should be available in open access, but how?

**Marie Farge**

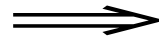
*Centre National à la Recherche Scientifique (CNRS)  
and Ecole Normale Supérieure (ENS), Paris*

*January 25<sup>th</sup> 2016  
Innsbrück Universität*

# Who has access to scientific articles ?

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Only researchers working in institutions and countries rich enough to afford the very costly subscriptions and Article Processing Charges imposed upon them by publishers.



Researchers working in companies, or in developing countries, high-school teachers, and all citizens who finance public research cannot read scientific articles.

## ***Principle of intellectual commons :***

Scientific ideas and data are not material products.

They are only fruitful if they are exchanged (explained, discussed, criticised, improved, reproduced, used...).  
Indeed, when you share your ideas and data you don't lose them.

Ideas are not goods to be traded, but intellectual commons to be exchanged and protected.

# How are peer-reviewed articles produced ?



*Scientists*

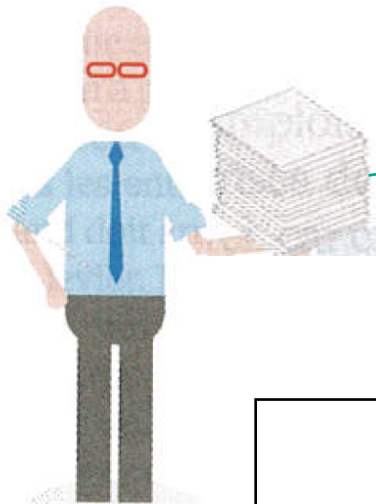
Scientists write papers, prepare them in final format, review papers of their colleagues, and are editors of scientific journals.



*Founding agencies*

After papers have been accepted by reviewers and editors, publishers put them online, insure their visibility, occasionally print them, and sell them.

this is paid by taxpayers



*Publishers*

Librarians negotiate subscription contracts, pay them, control access to the journals and curate the collections.

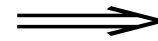
# Scientists give their copyright for free!

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30-40% profit !

Before publishing the accepted papers,  
publishers require scientists to give them  
their copyright for free.

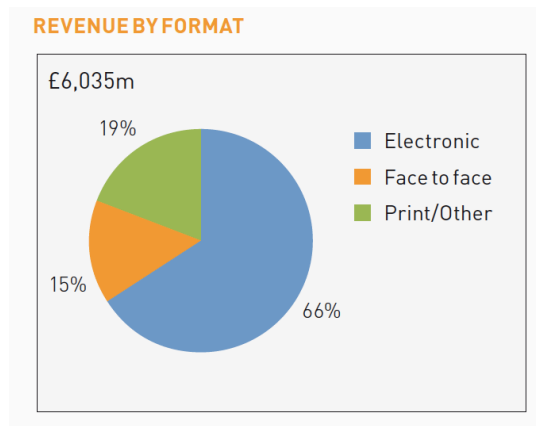


Publishers own the intellectual property,  
of the text, figures and data contained in papers  
(for more than 100 years), they are thus able to  
sell articles at the prices and conditions  
they set, with confidential contracts.

Publishers also own scientific journals,  
plus all derivative products (such as databases),  
plus the bibliometric statistics used to evaluate  
research projects and scientists' careers.

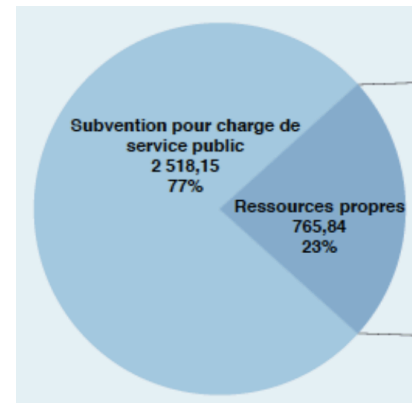
# 3 companies control scientific publishing

Reed-Elsevier, Springer-Macmillan and Wiley-Blackwell



Reed-Elsevier revenue in 2013:  
8.5 Billions €

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CNRS budget in 2012:  
3.3 Billions €

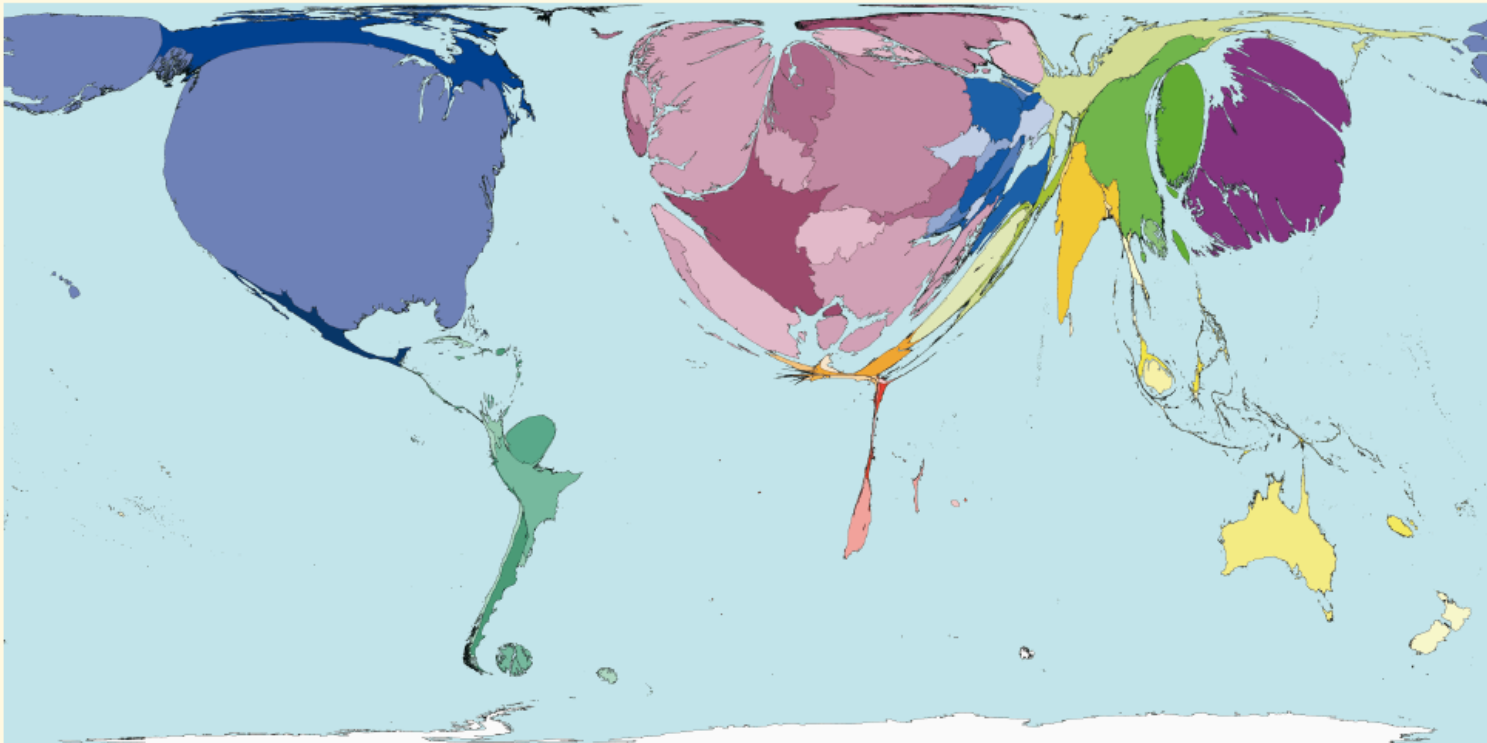
Revenue of Elsevier for peer-reviewed journals in 2013: 2.7 Billions €  
Profit: 0.8 Billions € and Profit margin: 39% (+6% compared to 2012)

<http://www.reedelsevier.com>

<http://www.dgdr.cnrs.fr>

Publishers now impose the **Gold Open Access publishing model**, where **authors should pay** them costly **Article Processing Charges**.

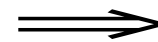
# Density of published papers per country



<http://www.worldmapper.org>

1	→	1	→	1	→	Centre National de la Recherche Scientifique*
2	→	1	→	1	→	Chinese Academy of Sciences*
3	→	1	→	1	→	Russian Academy of Sciences*
4	→	1	→	1	→	Harvard University
5	→	2	→	1	→	Helmholtz Gemeinschaft*
6	→	3	→	2	→	Max Planck Gesellschaft*
7	→	2	→	1	→	University of Tokyo

<http://www.scimagoir.com>



With the **Gold Open Access** model  
researchers might get **bankrupted**  
or **stop publishing!**

# How could scientists recover control?

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1

Scientists should keep their copyright and make their papers available in open access under a Creative Commons license CC-BY.

2

Journals should be owned by their editorial board, *i.e.*, the college of scientists in charge of the peer-reviewing, while editors and referees will continue to do this for free.

3

Funding agencies should no longer pay subscriptions and Article Processing Charges directly to publishers as long as market is oligolistic with secret clauses.

# Diamond Open Access Model

... neither author nor reader has to pay and the journal does not belong to the publisher but to the editorial board. The dissemination of the peer-reviewed articles is done through unit services whose role is to make them accessible for free.'

*Marie Farge, Note to the French Minister of Research, 29<sup>th</sup> June 2012*

[http://wavelets.ens.fr/BOYCOTT\\_ELSEVIER/DIAMOND\\_OPEN\\_ACCESS](http://wavelets.ens.fr/BOYCOTT_ELSEVIER/DIAMOND_OPEN_ACCESS)



*The Diamond Sutra:  
« the earliest complete survival  
of a dated printed book »  
published in China  
on 11<sup>th</sup> May 868*

*British Library, London*



# Publicly-owned publishing platforms

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1

Funding agencies should provide to scientific communities publicly-owned platforms, developed in open source software, for editing and publishing peer-reviewed articles, with the help of librarians and with publishers as subcontractors.

2

Such publishing platforms would offer to anyone for free scientific articles, data and codes, reusable under CC-BY licenses, without authors having to pay to publish their ideas and results.

3

Funding agencies would thus control the quality of peer-reviewing, by selecting the journals having good practices and reputable editors.

# Open Access publishing platforms

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 Brasil  
+  
 África do Sul  
 Argentina  
 Brasil  
 Chile  
 Colômbia  
 Costa Rica  
 Cuba  
 Espanha  
 México  
 Peru  
 Portugal  
 Venezuela  
+  
 Bolívia  
 Paraguay  
 Uruguay



Created in 1999,  
it publishes  
**1249 journals**  
(~600 000 articles,  
13. 10<sup>6</sup> citations)  
financed by Brazilian  
public agencies  
(FAPESP, CNPq, BIREME)  
and public agencies  
from 14 other countries.



Created in 1999,  
it publishes  
**420 journals**  
(~100 000 articles,  
2.8 10<sup>6</sup> visits/month)  
financed by French  
public agencies  
(CNRS, EHESS, BSN,  
Aix-Marseille and  
Avignon universities).

# Green Open Access



The Web platform [//dissem.in](http://dissem.in) has been designed to:

- find which articles can be downloaded in Open Access,
- help scientists to deposit their articles which are not,
- help institutions to make their own repository.

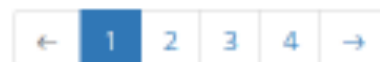
**Dissem.in** is a free **Open Source** software.

<http://dissem.in>

<http://dissem.in/institution/1/>

## Papiers écrits par Peter Sewell

Ce chercheur n'est pas associé à un profil ORCID. Les publications d-dessous correspondent au nom mais peuvent ne pas être pertinentes.



David Kaloper-Meršinjak, Hannes Mehnert, Anil Madhavapeddy, **Peter Sewell** 2015  
**Supplementary material for the publication "Not-quite-so-broken TLS: lessons in re-engineering a security protocol specification and implementation"**

[Télécharger](#) | Zenodo.



Mark Batty, Kayvan Memarian, Kyndylan Nienhuis, Jean Pichon-Pharabod, **Peter Sewell**  
**The Problem of Programming Language Concurrency Semantics**

[Mettre en ligne](#) | Springer Verlag, Lecture Notes in Computer Science, 2015.



Dominic P. Mulligan, Kathryn E. Gray, Scott Owens, Tom Ridge, **Peter Sewell** 2014  
**Lem**

[Télécharger](#) | Proceedings of the 19th ACM SIGPLAN international conference on Functional programming - ICFP '14, 2014.

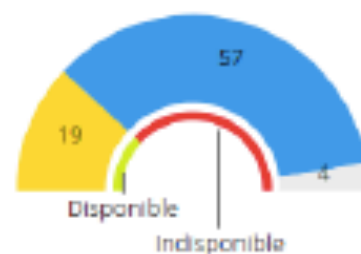


**Peter Sewell**  
**POPL 2014 program chair's report**

[Mettre en ligne](#) | ACM SIGPLAN Notices, 4(49), 2014.

## Personne

## Peter Sewell



- Accessible à partir de l'éditeur. (0)
- Accessible à partir de l'auteur (19)
- Pourrait être partagé par les auteurs (57)
- Politique inconnue ou complexe (4)
- Partage interdit par l'éditeur (0)

## Affiner la recherche

## Par type de document:

- Article dans une revue
- Communication dans une conférence
- Chapitre d'ouvrage
- Ouvrage
- Numéro d'une revue
- Actes de conférence
- Article d'encyclopédie
- Poster
- Rapport
- Thèse
- Banque de données
- Préprint
- Autre publication

# Dissem.in team

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CAPSH (Committee pour l'Accessibility  
to Publications in Sciences et Humanities)



<http://dissem.in> [equipe@dissem.in](mailto:equipe@dissem.in) [@disseminOA](https://twitter.com/disseminOA)

## 2 companies control bibliometrics

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- Thomson-Reuters with Web of Science and InCites,
- Elsevier with Scopus and SciVal.

*Thomson-Reuters, InCites, Whitepaper using bibliometrics:  
A guide to evaluating research performance with citation data  
[http://wokinfo.com/media/mtrp/UsingBibliometricsinEval\\_WP.pdf](http://wokinfo.com/media/mtrp/UsingBibliometricsinEval_WP.pdf)*

`Bibliometrics (sometimes called Scientometrics) turns the main tool of science, quantitative analysis, on itself.'

In order bibliometrics be scientific,  
**data and algorithms should be open,**  
tested and validated in an objective way,  
**but companies refuse this to keep control!**

# Some publishers manipulate bibliometrics

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Form sent by JFS (Journal of Fluids and Structures, Elsevier) to authors requiring them to cite several recent papers published in JFS. This is a dirty trick to increase the Impact Factor of the journal.

List of corrections that must be made

Please attend to the items ticked

1. Consult a recent issue of JFS, to see what the required style and format have to be
2. Indicate who is the corresponding author by an asterisk in the list of authors
3. Submit a double-spaced manuscript
4. Do not give titles (e.g. Assoc. Professor, Ph.D. student or whatever)
5. Add affiliation, immediately below list of authors; e.g. Department of ..., University ..., location, postal code, etc.
- ...
19. Preferably, symbols should be in italics in the figures too
20. Before the figures, there should be pages listing the figure captions, double-spaced also. Do not capitalize every word.
21. You must cite, and include in the references, some JFS papers, including some published recently (in 2010 and 2011).



# Journal Impact Factor is a wrong index

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To address this issue, a group of editors and publishers of scholarly journals met during the Annual Meeting of The American Society for Cell Biology (ASCB) in San Francisco, CA, on December 16, 2012. The group developed a set of recommendations, referred to as the *San Francisco Declaration on Research Assessment*. We invite interested parties across all scientific disciplines to indicate their support by adding their names to this Declaration.

<http://am.ascb.org/dora/>

The Journal Impact Factor is frequently used as the primary parameter with which to compare the scientific output of individuals and institutions. The Journal Impact Factor, as calculated by Thomson Reuters, was originally created as a tool to help librarians identify journals to purchase, not as a measure of the scientific quality of research in an article. With that in mind, it is critical to understand that the Journal Impact Factor has a number of well-documented deficiencies as a tool for research assessment. These limitations include: A) citation distributions within journals are highly skewed [1–3]; B) the properties of the Journal Impact Factor are field-specific: it is a composite of multiple, highly diverse article types, including primary research papers and reviews [1, 4]; C) Journal Impact Factors can be manipulated (or “gamed”) by editorial policy [5]; and D) data used to calculate the Journal Impact Factors are neither transparent nor openly available to the public [4, 6, 7].

Journal Impact Factor is an index publishers use to regulate market, but it pervades the way researchers share their results.



# Research as seen by Thomson-Reuters

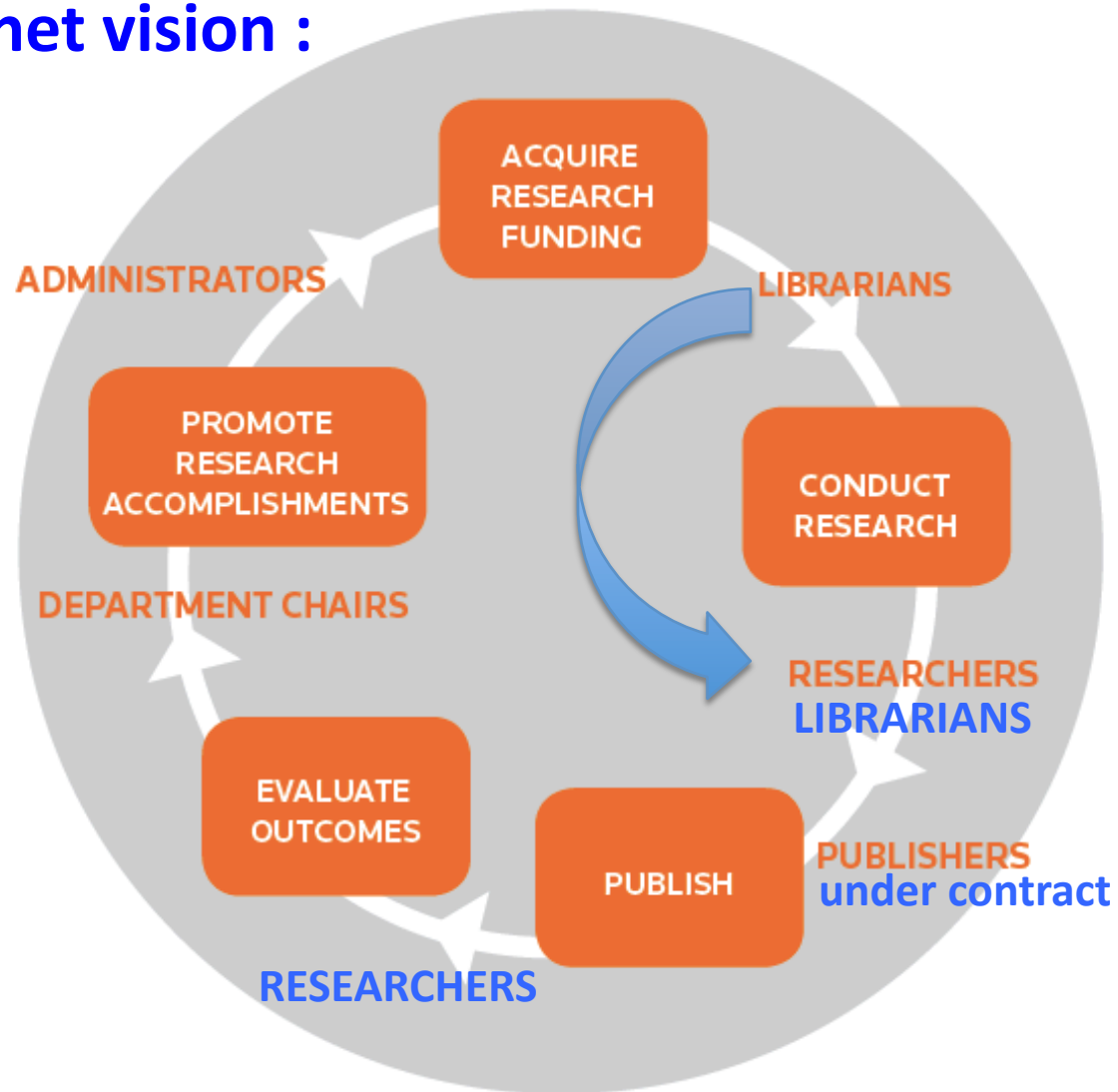
[http://wokinfo.com/media/mtrp/UsingBibliometricsinEval\\_WP.pdf](http://wokinfo.com/media/mtrp/UsingBibliometricsinEval_WP.pdf)



**This is a  
pre-Internet vision...**

THERE ARE VARIOUS ROLES IN THE RESEARCH PROCESS, EACH WITH INDIVIDUAL YET RELATED NEEDS

## A post-Internet vision :



Librarians and publishers under contract will help researchers to peer-review and publish papers online using publishing platforms that funding agencies will provide them as a free service.

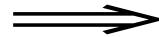
# Conclusion

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## ***Scientific publishing today :***

Investments for writing and peer-reviewing papers are public, but ownership of journals and articles, and profits from subscriptions and from article processing charges, are private.

Publishers should become service providers, to publicly funded and publicly owned publishing platforms, but no longer own the intellectual property of papers and journals.



## ***Scientific publishing tomorrow :***

All peer-reviewed scientific papers will be available in open access, with their content usable, to anyone and to any institution, and they will be protected as intellectual commons.

# For more information

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<http://wavelets.ens.fr>

In **Publications**, article n° 312:

*Avis sur les relations entre les chercheurs et les maisons d'édition scientifique, Comité d'Ethique du CNRS, 2011*

[http://wavelets.ens.fr/BOYCOTT\\_ELSEVIER](http://wavelets.ens.fr/BOYCOTT_ELSEVIER)

Declarations, blogs, newspapers, conferences, videos, interviews, mails related to the **movement *The Cost of Knowledge***, that launched a boycott of Elsevier in 2012, followed by 15 514 researchers worldwide.

[http://wavelets.ens.fr/OAC\\_ENS\\_2014](http://wavelets.ens.fr/OAC_ENS_2014)

*2<sup>nd</sup> Open Access Colloquium, ENS Paris, 2-3 July 2014*