



Comment faire évoluer le système de publication scientifique en faisant passer l'intérêt des chercheurs devant celui des maisons d'édition?

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12 Février 2019*



La connaissance est un bien commun

Les idées ne sont pas de même nature que les biens matériels car quand vous donnez une idée à quelqu'un vous ne la perdez pas.

Cela n'a donc pas de sens de vouloir commercialiser la connaissance, *a fortiori* spéculer sur elle, au contraire cela entrave son développement.

Une idée ne se développe que si elle est partagée, discutée, vérifiée.

Les articles de recherche sont des biens communs à protéger.

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

Elinor Orstrom a eu le Prix Nobel de sciences économiques en 2009 pour :

'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'.



Elinor Ostrom (1933-2012)



Elle était **professeure de sciences politiques** à l'université de l'Indiana (USA). Elle est la **seule femme a avoir reçu le Prix Nobel de sciences économiques**.



La publication des recherches académiques

‘Publier’ les résultats de la recherche signifie les ‘rendre publics’, pour être vérifiés, diffusés, utilisés et améliorés par d’autres.

La publication d’articles dans des revues à comité de lecture est la colonne vertébrale qui assure la validation collective des articles de recherche grâce à l’évaluation par les pairs.

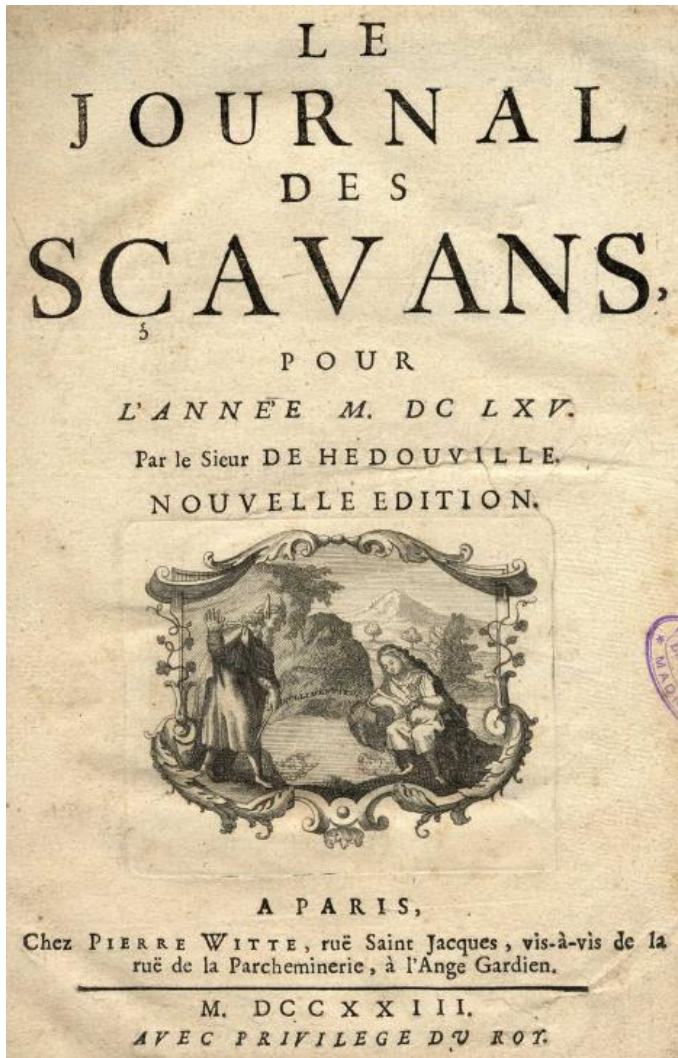
Les pairs sont des chercheurs spécialistes du sujet traité par la revue, qui vérifient que les résultats présentés dans chaque article soumis sont originaux, valides et suffisamment pertinents pour être publiés.

Ils corrigent des erreurs et suggèrent des améliorations avant d’accepter l’article.

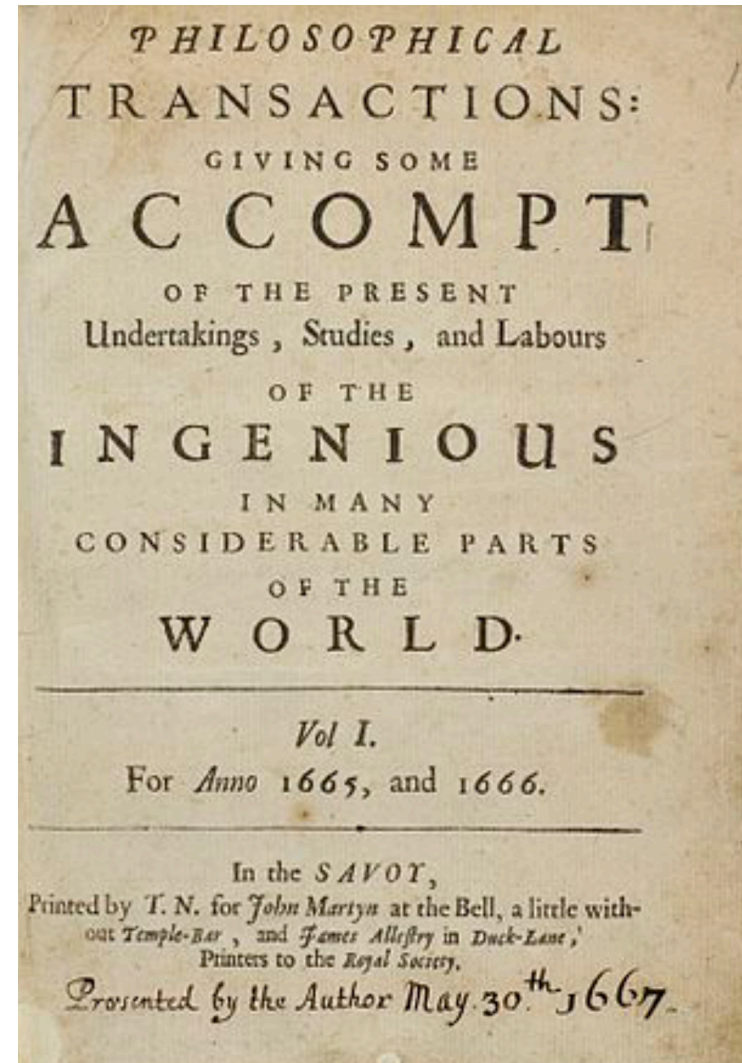
Afin de préserver leur objectivité, les pairs doivent être indépendants de la maison d’édition et non rétribués par celle-ci.



Les premières revues scientifiques



Paris, 5 Janvier 1665



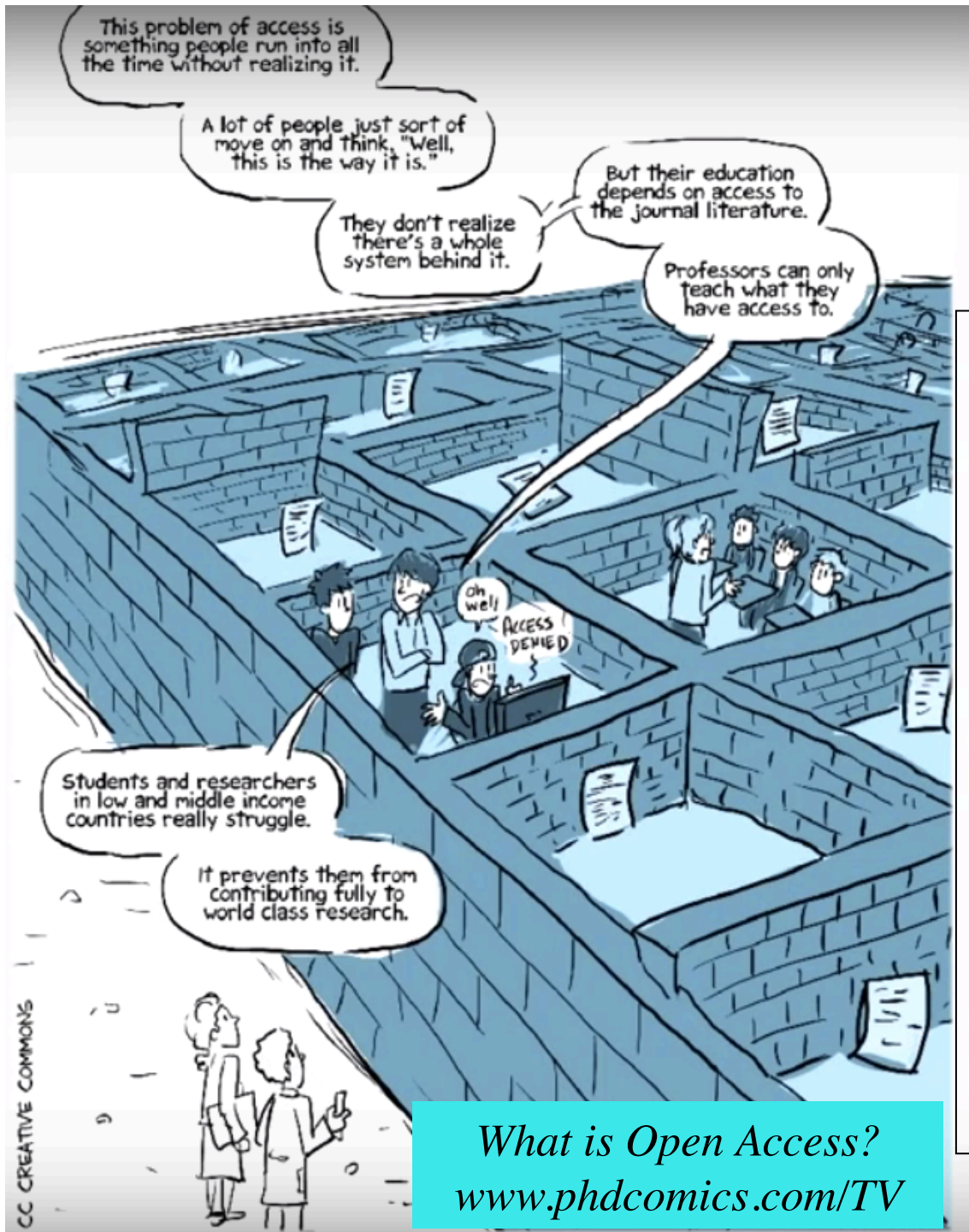
Londres, 6 Mars 1665



Aujourd'hui les revues sont à péage

Les chercheurs soumettent leurs articles en version électronique 'prêts à imprimer' et les évaluent gratuitement, mais **doivent payer les maisons d'édition pour les lire et/ou les publier.**

Depuis vingt ans, les principales revues de recherche ont été rachetées par **quelques sociétés** qui **contrôlent l'édition scientifique.**

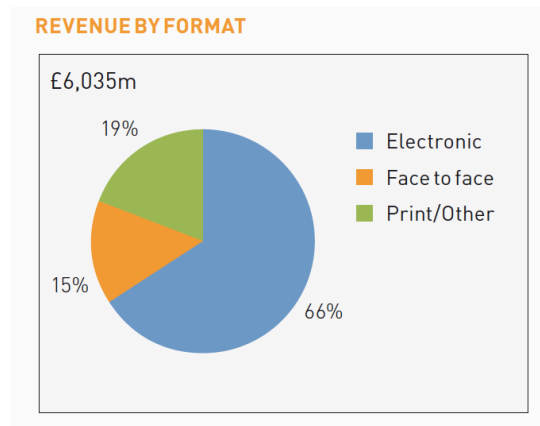


What is Open Access?
www.phdcomics.com/TV



Quatre 'publicheurs' dominant le marché

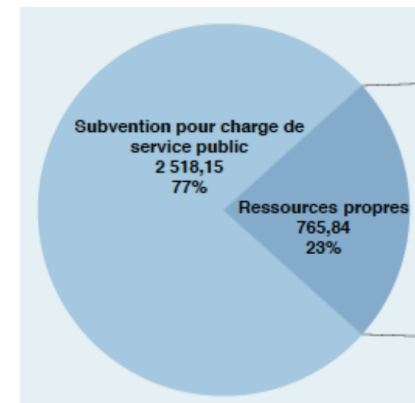
Quatre sociétés commerciales privées dominant le 'marché' des revues :
Elsevier, Springer Nature, Wiley-Blackwell et Taylor&Francis.



8.4 Milliards €
Chiffre d'affaire de
Reed-Elsevier en 2017

<http://www.elsevier.com>

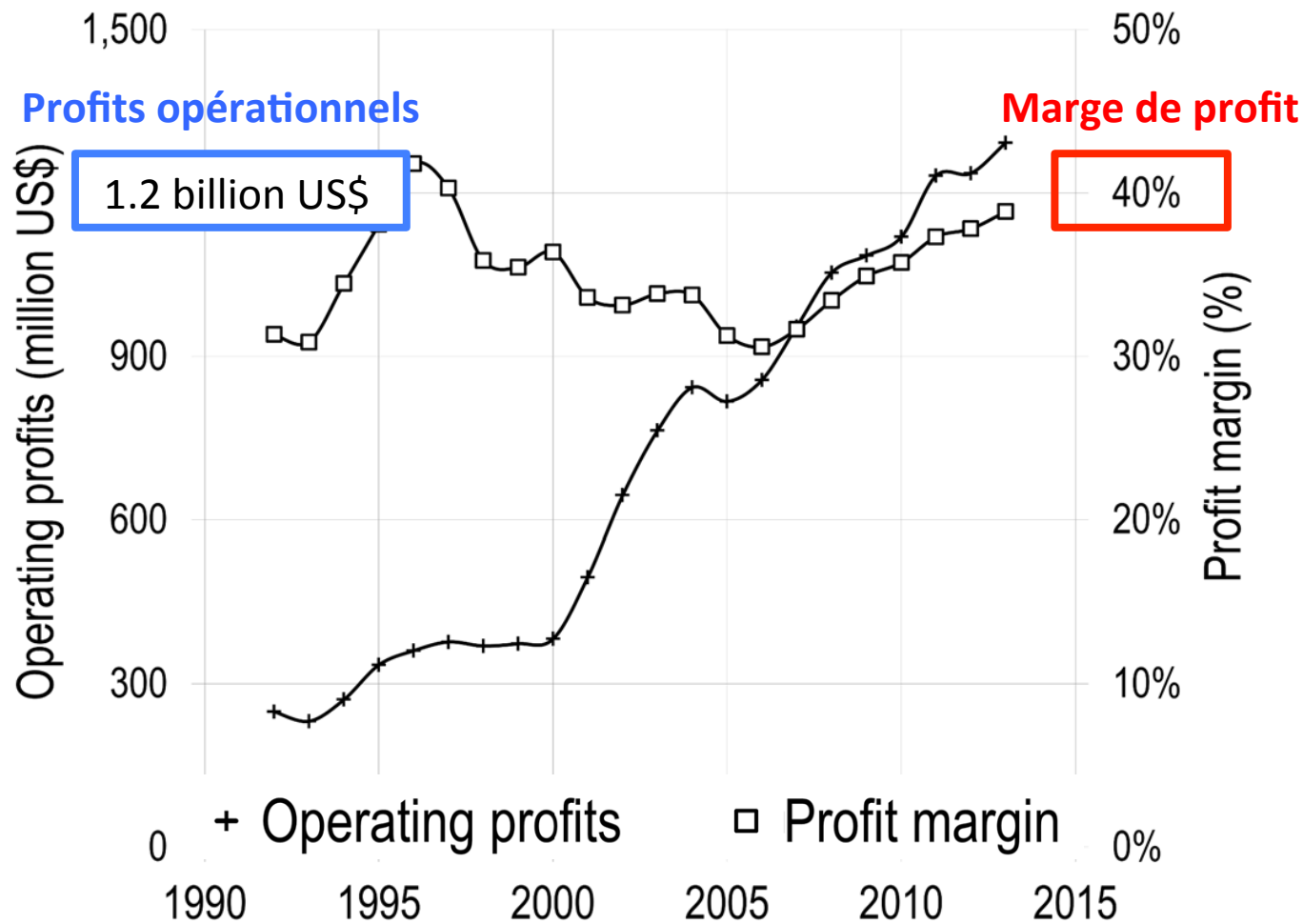
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3.3 Milliards €
Budget du *CNRS*
en 2017

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

Profits opérationnels et marge de profit de *Reed-Elsevier* pour sa division Scientifique, Technique et Médicale (STM) de 1990 à 2015



Vincent Larivière et al., The Oligopoly of Academic Publishers, PLOS one, 10th June 2015



Le modèle économique date de l'imprimerie

Aujourd'hui les publieurs possèdent les articles, car ils obligent les chercheurs à leur donner leurs droits d'auteur. Ils possèdent aussi les revues et les plateformes utilisées pour l'évaluation des articles, leur diffusion et la bibliométrie.

Ce modèle économique date de l'ère de l'imprimerie et n'a plus de sens à l'ère numérique, sinon celui d'augmenter les profits des quelques publieurs dominant le marché et de leurs actionnaires.

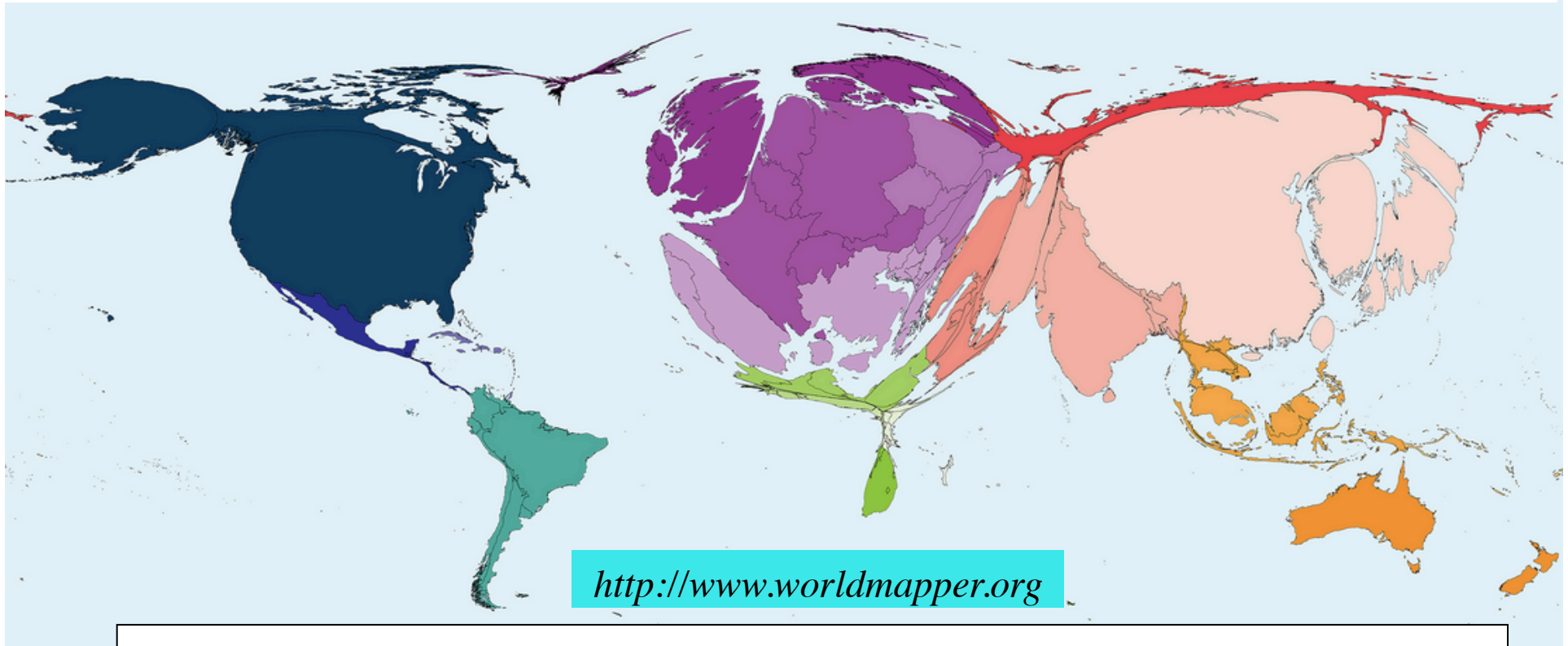
Les chercheurs doivent reprendre le contrôle des revues (dont ils assurent l'évaluation par les pairs) et des articles (qu'ils écrivent) afin de maximiser leur dissémination grâce à *Internet*.

*Pour en savoir plus, voir sur YouTube :
#DataGueule 63, Privés de savoir?*



La situation actuelle à l'échelle mondiale

Nombre d'articles de recherche publiés en 2016 divisé par le nombre d'habitants de chaque pays



Si les chercheurs doivent payer les publieurs pour publier leurs articles en accès libre (modèle *Gold Open Access*), la recherche française coure à la banqueroute!
Une solution serait d'empêcher les chercheurs de publier...

En 2012 quelques chercheurs se fâchent

En 2012 *Tim Gowers* et 33 collègues mathématiciens ont lancé le mouvement *The Cost of Knowledge* qui appelle à boycotter *Elsevier*, ce qui a permis de stopper le *Research Works Act* au Congrès américain, une proposition de loi déposée sous la pression du lobbying d'*Elsevier*.



Sir Tim Gowers,
Fields Medal 1998

17062 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/>



Ils veulent reprendre le contrôle du système

Il est indispensable que les chercheurs puissent développer une **troisième voie**, beaucoup moins coûteuse [...] Elle est appelée **Diamond OA** et se caractérise par le fait que **ni le lecteur ni l'auteur ne doivent payer** et que **le journal appartient, non plus à une maison d'édition, mais au comité éditorial** [...] un collège de chercheurs qui se charge de la publication des articles avec l'aide d'unités de service dont le rôle est d'assurer la publication des articles retenus'

Marie Farge, Note pour la ministre de la recherche, Juin 29th 2012
http://openscience.ens.fr/MARIE_FARGE/



Le *Diamond Sutra* est le premier texte imprimé connu, publié en Chine le 11 Mai 868

British Library, London



Ils dénoncent les abus des publikeurs

Ordre donné par *Elsevier* en 2012 à un chercheur, dont l'article venait d'être accepté par le comité de lecture de la revue *Fluids and Structures*, pour augmenter l'impact facteur de cette revue

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.
- ...
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).

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pour notre article accepté par le *Journal of Turbulence*, qui est un
journal par abonnement publié uniquement sous forme électronique

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Article (the "Article") entitled: Coherent structure extraction in turbulent channel flow using boundary adapted wavelets

Article DOI: 10.1080/14685248.2017.1284326

Author(s): Teluo Sakurai, Katsunori Yoshimatsu, Kai Schneider, Marie Farge, Koji Morishita, Takashi Ishihara

To publish in the Journal: Journal of Turbulence

Journal ISSN: 1468-5248

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Notre article a été publié en ligne le 6 *Février 2017*
et nous devons maintenant payer *Taylor&Francis* pour le lire!

The screenshot shows a web browser window with the URL www.tandfonline.com/doi/full/10.1080/14685248.2017.1284326. The page is for the *Journal of Turbulence*, Volume 18, 2017 - Issue 4. The article title is "Coherent structure extraction in turbulent channel flow using boundary adapted wavelets" by Teluo Sakurai, Katsunori Yoshimatsu, Kai Schneider, Marie Farge, Koji Morishita & Takashi Ishihara. The article was published online on 06 Feb 2017. The page also shows 64 views, 0 CrossRef citations, and 0 Altmetric. A red box highlights the publication date "Published online: 06 Feb 2017".

<http://www.tandfonline.com/doi/full/10.1080/14685248.2017.1284326>

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doi:10.1017/jfm.2018.396, Published by Cambridge University Press,
26 June 2018

J. Fluid Mech. (2018), vol. 849, pp. 676–717. © Cambridge University Press 2018

676

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doi:10.1017/jfm.2018.396

Energy dissipation caused by boundary layer instability at vanishing viscosity

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(Received 12 July 2017; revised 4 March 2018; accepted 16 April 2018)



J'ai dénoncé ceci auprès de l'éditrice de *CUP* en charge de *JFM*, qui a dû négocier pendant plusieurs mois avec les juristes de *CUP*.
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Un erratum a été publié dans le numéro de Décembre 2018 de *JFM*.

ERRATUM

Energy dissipation caused by boundary layer instability at vanishing viscosity – ERRATUM

Natacha Nguyen van yen, Matthias Waidmann, Rupert Klein, Marie Farge and Kai Schneider

doi:10.1017/jfm.2018.396, Published by Cambridge University Press,
26 June 2018

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Les journeaux appartiennent à leur comité éditorial composé exclusivement de chercheurs, qui continuent d'assurer bénévolement l'évaluation par les pairs.

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Les institutions publiques financent et possèdent les plateformes (d'évaluation, publication et bibliométrie) développées en logiciel libre.

Les bibliothécaires aident les chercheurs à publier leurs articles grâce aux plateformes et les maisons d'édition assurent divers services après avoir été mises en concurrence par appel d'offre.



Quelques plateformes publiques existent

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-  Chile
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-  Uruguai



Créée en 1999
par *Abel Packer*,
elle publie
1285 revues
en accès libre
et est financée sur
fonds publics:
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et BIREME.

<http://www.scielo.br>



Créée en 1999
par *Marin Dacos*,
elle publie
483 revues
en accès libre
et est financée sur
fonds publics:
CNRS, EHESS, BSN,
universités d' Avignon
et d'Aix-Marseille.

<https://journals.openedition.org/>



Exemples de 3 revues en *Diamond OA*

1.



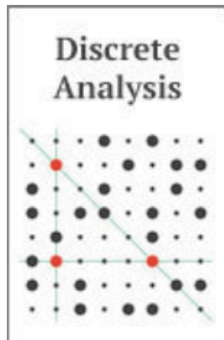
IPOP Journal · Image Processing On Line

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

Fondée en 2010 par *Jean-Michel Morel*, IPOP a 41 éditeurs. Cette revue est financée par le CNES, l'ERC et 13 institutions publiques.

Chaque article contient le **texte**, l'**algorithme** et le **code source**, qui tous sont **évalués par les pairs**. La plateforme de la revue offre la possibilité de tester l'algorithme sur ses propres données et d'**archiver les résultats obtenus**.

2.



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

Foundée en 2015 par *Tim Gowers*, la revue DA a 12 editors. C'est un **épi-journal qui s'appuie sur l'archive ouverte arXiv**. Le comité éditorial utilise le logiciel *Scholastica* (10€/article) **pour la révision par les pairs**.

3.

A new journal in combinatorics, 4 Juin 2018, <http://gowers.wordpress.com>



En 2018 création du Centre Mersenne

Plateforme d'évaluation par les pairs et de publication
en *Diamond OA* de revues académiques à comité de lecture
pour les articles mis en page sous *LaTeX*.

Elle a été créée en 2018 à Grenoble dans le cadre de la cellule *Mathdoc*,
qui est une unité de service CNRS-INSU et Université de Grenoble,
sous la direction de *Thierry Bouche*.

Principes directeurs:

- Qualité de l'évaluation par les pairs,
 - Service public non lucratif,
 - Archivage pérenne,
- Transparence sur les coûts et la sélection des revues.

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



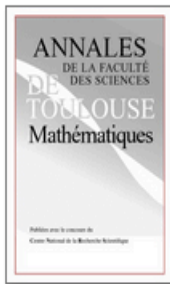
11 revues publiées par le Centre Mersenne



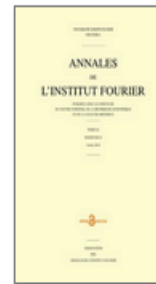
Algebraic Combinatorics
Mathématiques



Annales Henri Lebesgue
Mathématiques



Annales de la Faculté des Sciences de Toulouse
Mathématiques



Annales de l'Institut Fourier
Mathématiques



Annales Mathématiques Blaise Pascal
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Confluentes Mathematici
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Journal de l'École Polytechnique
Mathématiques



*Journal de Théorie des nombres
de Bordeaux*
Mathématiques



MathS in Action
Mathématiques appliquées



*Publications Mathématiques de
Besançon*
Mathématiques



*SMAI Journal of
Computational Mathematics*
Mathématiques appliquées

La meilleure solution en attendant mieux

Aujourd'hui les publikeurs imposent leur modèle *Gold OA*, où les chercheurs doivent payer pour publier leurs articles. Ceci est inadmissible du point de vue éthique et conduit à la création de nombreuses revues de mauvaises qualité, voire 'bidons'.

http://openscience.ens.fr/MARIE_FARGE2011_AVIS_COMITE_ETHIQUE_CNRS

La meilleure façon de gérer la transition est le modèle *Green OA*, où les chercheurs publient dans les revues qu'ils préfèrent et déposent leur version auteur (*preprint*) dans des archives publiques ouvertes.

http://openscience.ens.fr/MARIE_FARGE2017_BOOK_CHAPTER_COMMISSION

Certaines revues autorisent ce dépôt dès la date de publication. La *Loi Lemaire pour la République Numérique* du 7 Octobre 2016 rend ce dépôt légal, au plus six ou douze mois après la publication.



**LOI n° 2016-1321 du 7 octobre 2016
pour une République numérique (1)**

NOR : ECFI1524250L

L'Assemblée nationale et le Sénat ont adopté,

Le Président de la République promulgue la loi dont la teneur suit :

TITRE I^{er}

LA CIRCULATION DES DONNÉES ET DU SAVOIR

CHAPITRE II

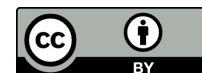
Economie du savoir

Article 30

Le chapitre III du titre III du livre V du code de la recherche est complété par un article L. 533-4 ainsi rédigé :

« *Art. L. 533-4. – I. –* Lorsqu'un écrit scientifique issu d'une activité de recherche financée au moins pour moitié par des dotations de l'Etat, des collectivités territoriales ou des établissements publics, par des subventions d'agences de financement nationales ou par des fonds de l'Union européenne est publié dans un périodique paraissant au moins une fois par an, son auteur dispose, même après avoir accordé des droits exclusifs à un éditeur, du droit de mettre à disposition gratuitement dans un format ouvert, par voie numérique, sous réserve de l'accord des éventuels coauteurs, la version finale de son manuscrit acceptée pour publication, dès lors que l'éditeur met lui-même celle-ci gratuitement à disposition par voie numérique ou, à défaut, à l'expiration d'un délai courant à compter de la date de la première publication. Ce délai est au maximum de six mois pour une publication dans le domaine des sciences, de la technique et de la médecine et de douze mois dans celui des sciences humaines et sociales.

*Journal Officiel
du 8 Octobre 2016*



Plateforme *Dissemin* pour libérer les articles

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



Cette plateforme a été **créée en 2014 par Antonin Delpuch**, quand il était étudiant en math-informatique à l'ENS Paris.

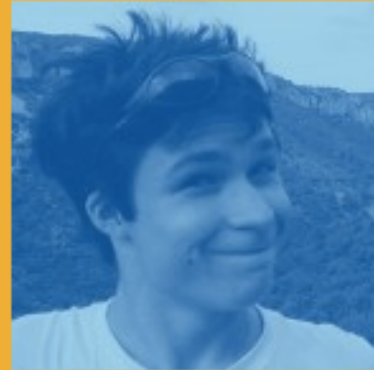


L'équipe CAPSH/dissemin.in

La plate-forme *dissem.in* est développée par l'association Loi 1901 **CAPSH** (*Comité pour l'Accessibilité aux Publications en Sciences et Humanités*) créée le 5 Septembre 2015 et domiciliée à Cluny (Saône-et-Loire).

Antonin Delpuch

Graduate student, Computer Science
École Normale Supérieure
France



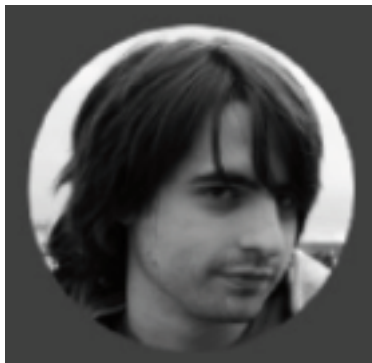
"We need to take a stand against more traditional publishers"



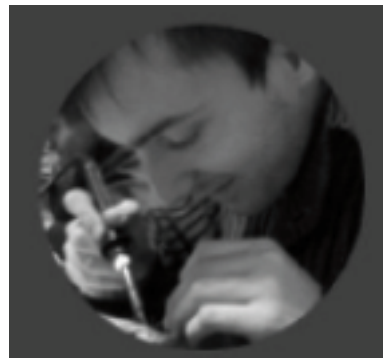
Antonin Delpuch

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Marie Farge



Pablo Rauzy



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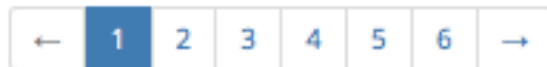
English



Papers authored by Marie Farge

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Les articles déjà
en accès libre
sont téléchargeables gratuitement :



Seung-Bu Park, Pierre Gentine, Kai Schneider, Marie Farge

2016

Coherent Structures in the Boundary and Cloud Layers: Role of Updrafts, Subsiding Shells, and Environmental Subsidence



American Meteorological Society, Journal of the Atmospheric Sciences, 2016.



Frank G. Jacobitz, Kai Schneider, Wouter J. T. Bos, Marie Farge

Structure of sheared and rotating turbulence: Multiscale statistics of Lagrangian and Eulerian accelerations and passive scalar dynamics



American Physical Society, Physical Review E, 1(93), 2016.



Marie Farge, Kai Schneider

2015

Wavelet transforms and their applications to MHD and plasma turbulence: a review



Cambridge University Press (CUP), Journal of Plasma Physics, 06(81), 2015.

Researcher

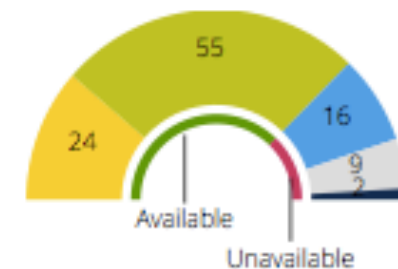
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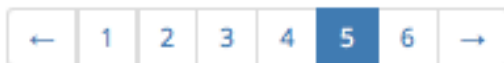
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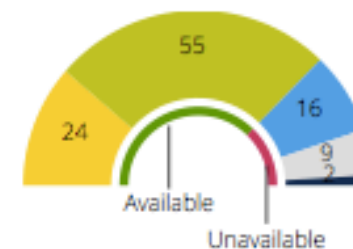
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Journal article by Marie Farge, Kai Schneider, Giulio Pellegrino, Alan A. Wray, Robert S. Rogallo


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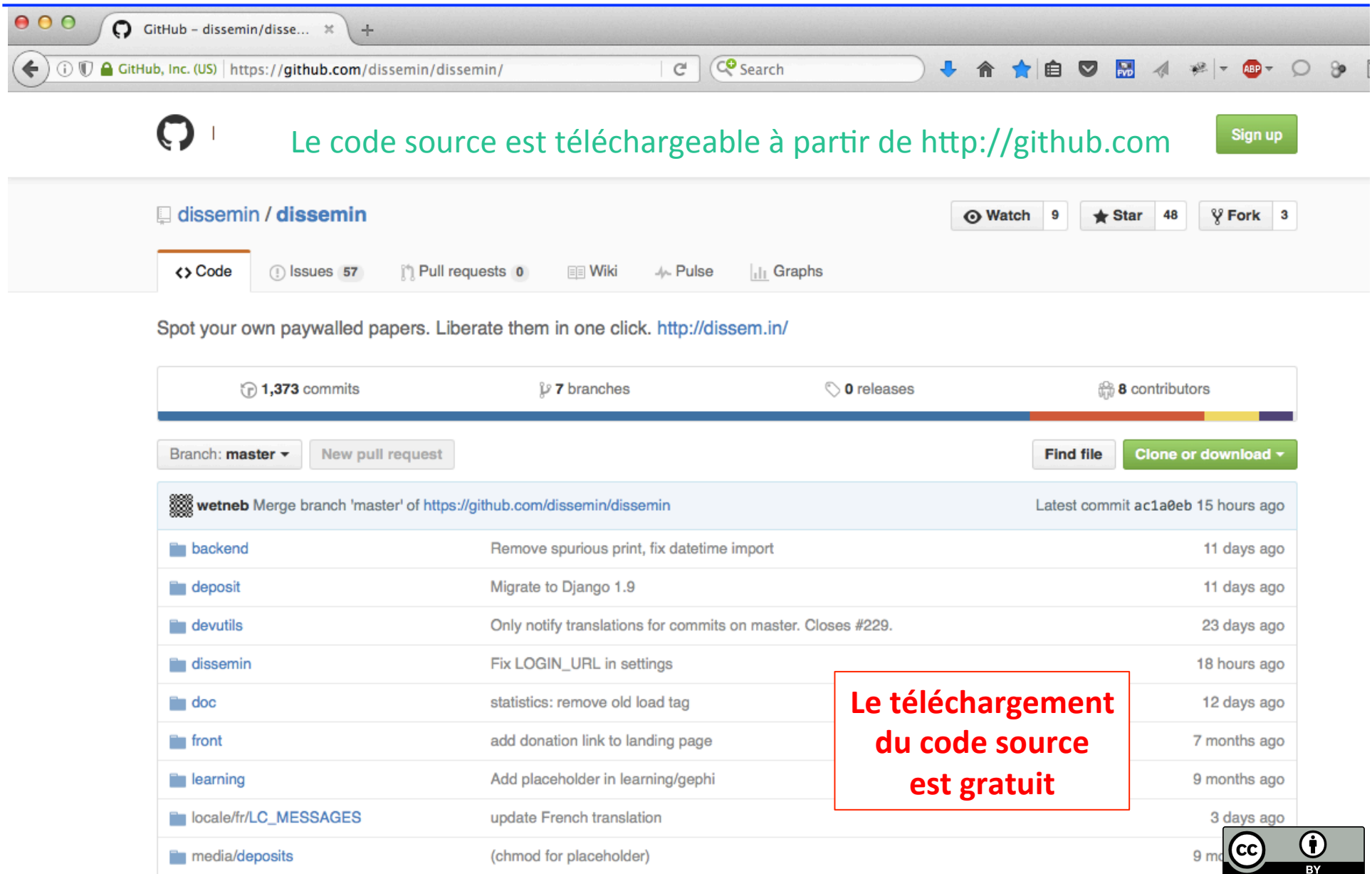
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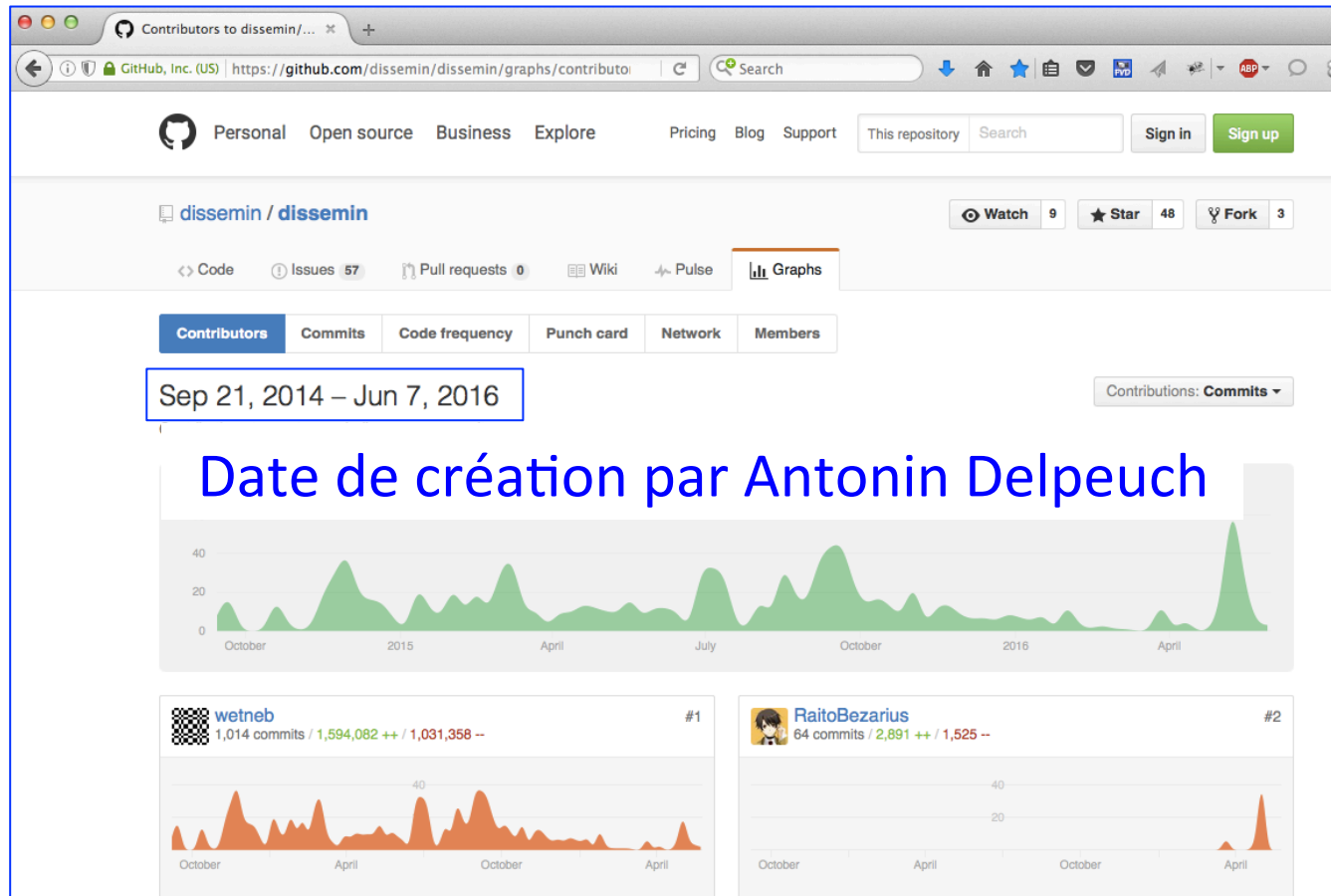
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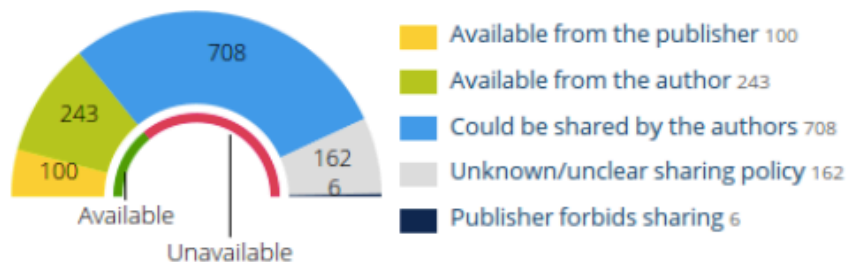
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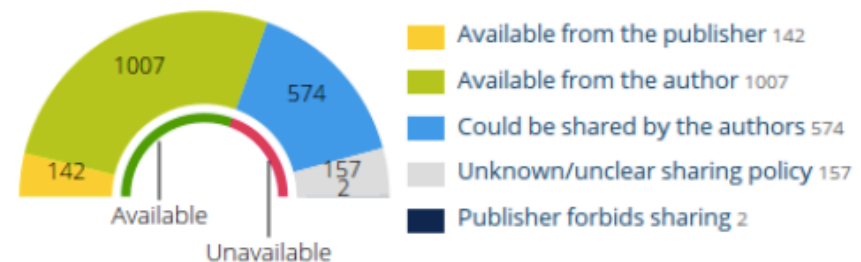
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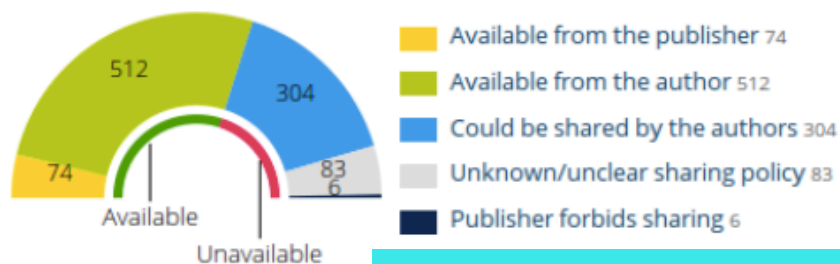
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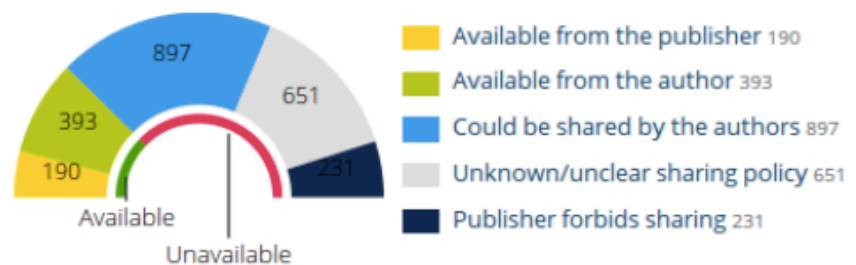
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Gonosomal Algebra

Richard Varro

(Submitted on 22 Mar 2015)

We introduce the gonosomal algebra. Gonosomal algebra extend the evolution algebra of the bisexual population (EABP) defined by Ladra and Rozikov. We show that gonosomal algebras can represent algebraically a wide variety of sex determination systems observed in bisexual populations. We illustrate this by about twenty genetic examples, most of these examples cannot be represented by an EABP. We give seven algebraic constructions of gonosomal algebras, each is illustrated by genetic examples. We show that unlike the EABP gonosomal algebras are not dibaric. We approach the existence of dibaric function and idempotent in gonosomal algebras.

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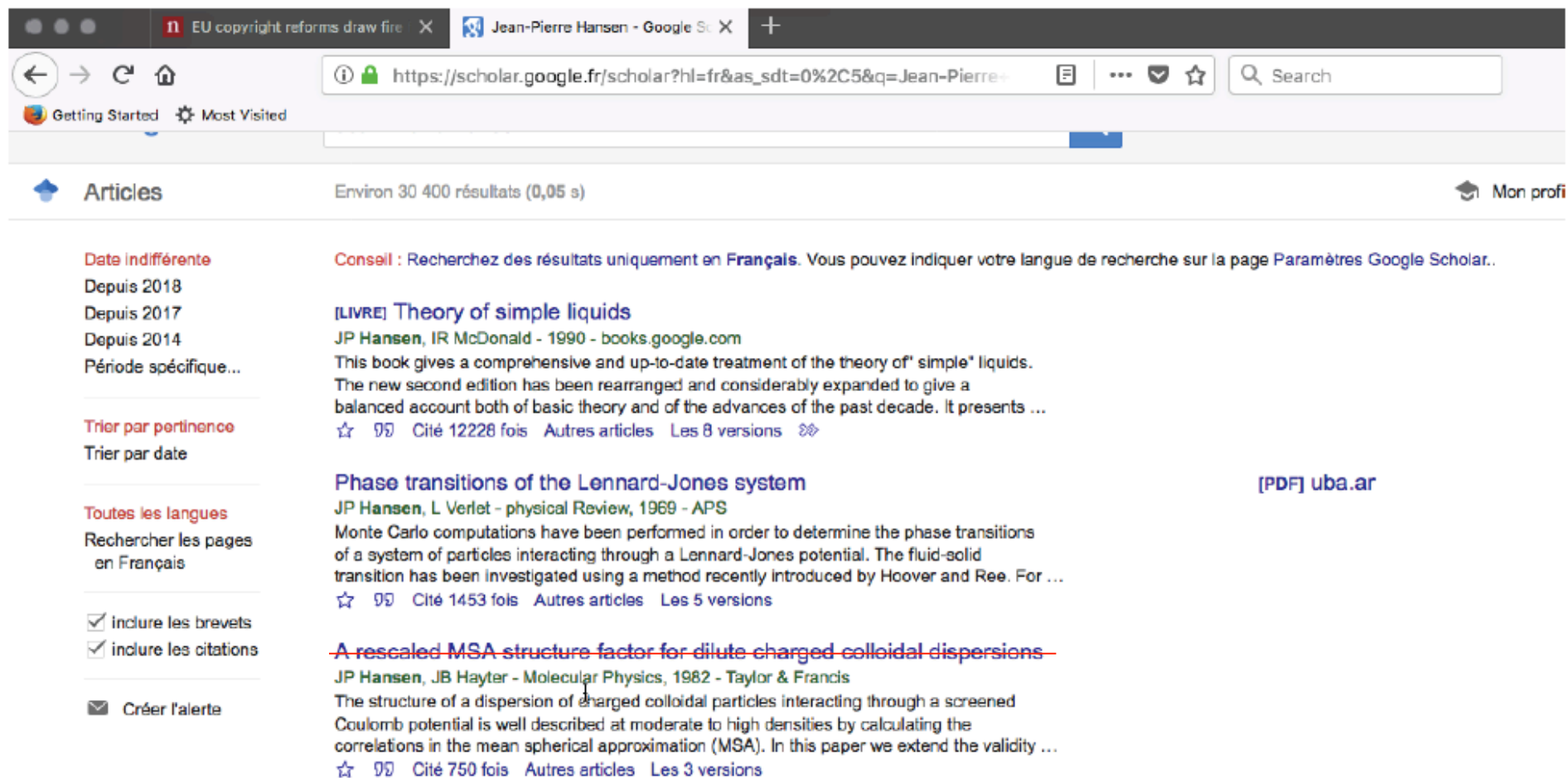




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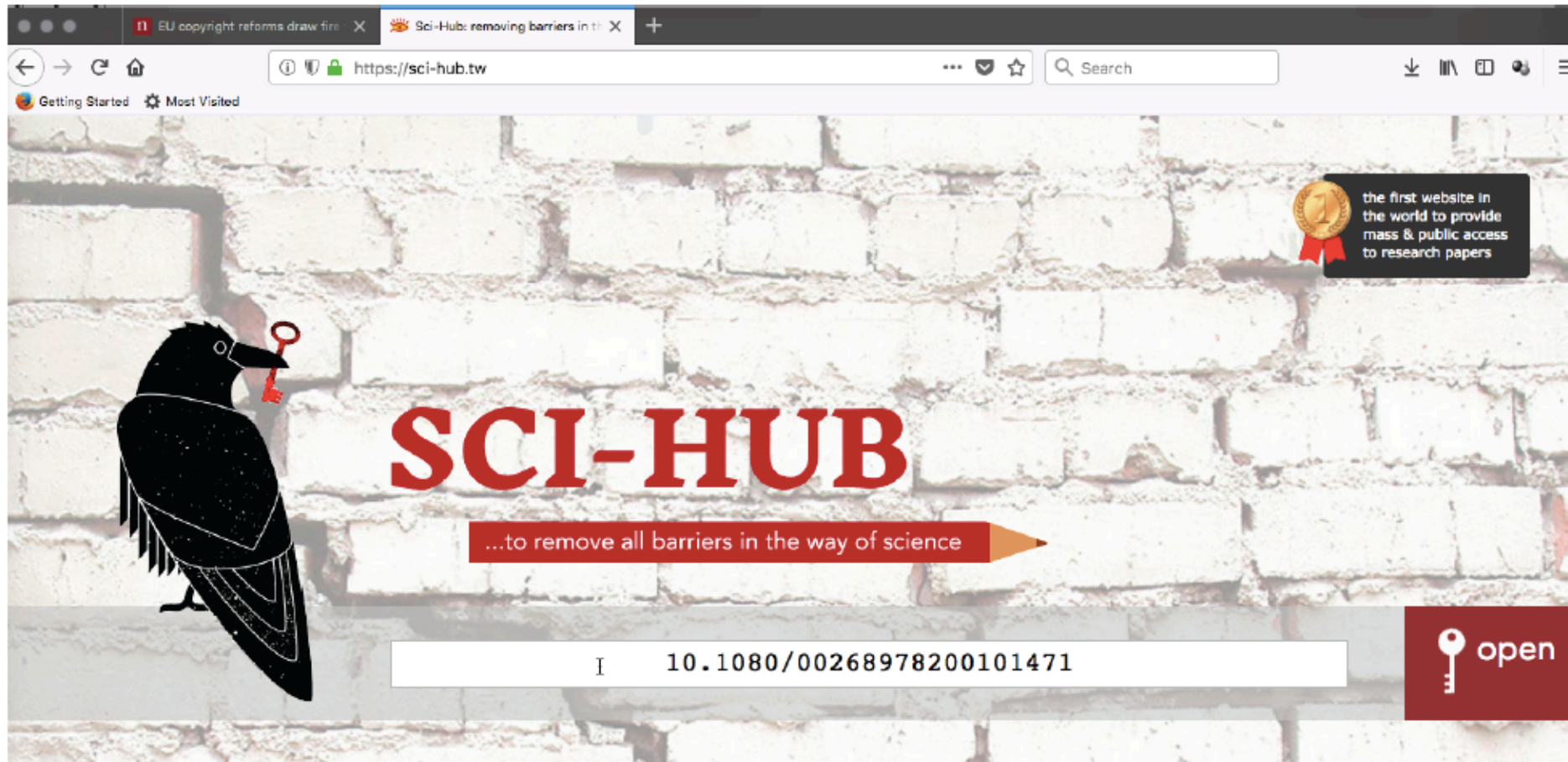


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A rescaled MSA structure factor for dilute charged colloidal dispersions

by JEAN-PIERRE HANSEN and JOHN B. HAYTER

Institut Laue-Langevin, 156X, 38042 Grenoble Cedex, France

(Received 21 December 1981 ; accepted 2 March 1982)

The structure of a dispersion of charged colloidal particles interacting through a screened Coulomb potential is well described at moderate to high densities by calculating the correlations in the mean spherical approximation (MSA). In this paper we extend the validity of the MSA calculation to arbitrarily low densities, using a physical rescaling argument which preserves the analytic form of the MSA solution. Our results are in excellent agreement with other numerical calculations and with experimental low-density light scattering data. The method may be viewed as a generalization of Gillan's prescription for one component plasmas to systems interacting through a Yukawa potential. An advantage of the present prescription is that it allows a smooth transition from strong to weak coupling, and it implies no functional relation between the experimentally independent parameters.



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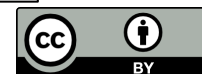
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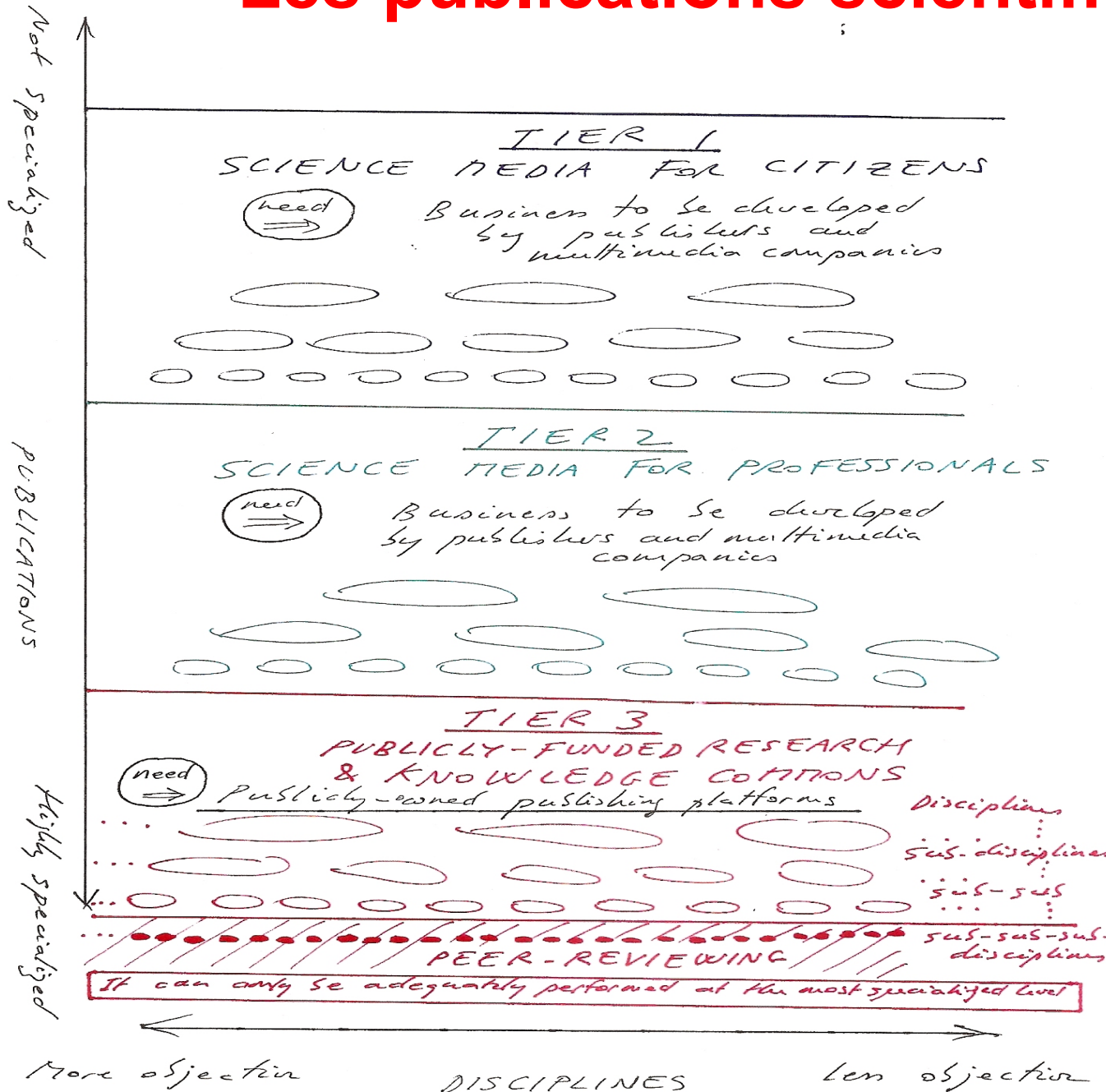
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 - coût Reed-Elsevier : +21%,
 - coût Springer : +32%,
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