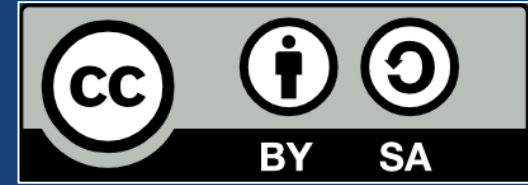


# Methodology and Tools for Research: Future of science

Yannick Prié  
Polytech Nantes, University of Nantes  
Master DMKM, 2014-2015

# Attribution-ShareAlike 4.0 International (CC BY-SA 4.0)



- This course "*Methodology and Tools for Research: Future of Science*" by Yannick Prié is licensed CC BY-SA 4.0
- This license covers the general organization of the material, the textual content, the figures, etc. *except where indicated*.
- This license means that you can share and adapt this course, provided you give appropriate credit to the author and distribute your contributions under the same license as the original
  - for more information about this license, see <http://creativecommons.org/licenses/by-sa/4.0/>
- For any comment on this course, do not hesitate to contact me: [yannick.prie@univ-nantes.fr](mailto:yannick.prie@univ-nantes.fr) or @yprie

# Objectives of this course

- Get an idea of the various directions along which **science** could evolve in a **digital age**
- Get basic notions on the **open access** topic
- Launch the collaborative writing **assignment** to go further on several topics

- Ressources for the course

<http://www.scoop.it/t/toolsandmethodologyforresearch>

# Outline

- Science in the digital Age
- Open Access
- Assignment

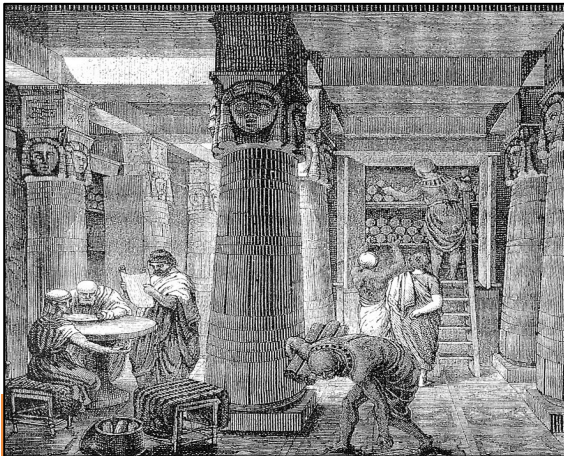


# Outline

- **Science in the digital Age**
- Open Access
- Assignment

# Science occurs in a networked environment

- Based on technologies for
  - information storage
  - communication
- History
  - Written Age → Print Age → Digital Age



The Great Library of Alexandria  
by O. Von Corven is Public Domain



One wing of the Merton College library  
by Tom Murphy VIII is CC-BY SA 3.0



Server room at CERN  
by Torkild Retvedt is CC-BY SA 2.0

# Digital Age?

- Computers
- Networks

then

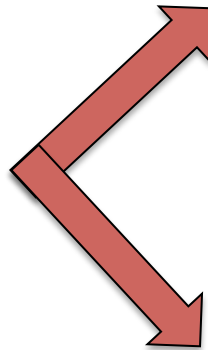
- Home network access
- Mobile devices
- Cloud
- Social networks
- Probes everywhere



**Deep,  
uncontrolled  
changes  
in society**

# Science processes are affected too

- Funding
- Data collection
- Data processing
- Publications
- Conferences
- Evaluation
- Discussion
- ...



Classical processes  
that evolve like  
in others domains

- e.g. collaborative writing,  
use of skype

New processes made  
possible by digital  
technology

- e.g. open access

# Massive use of computers in the labs

- Knowledge management
  - sharing of references, access to digital libraries
- Personal knowledge management
  - reference management, annotations
- Publication workflow support
  - tools for drawing molecules in chemistry
  - conference workflows, from paper to PDF
- Experimental data management
  - raw results, experimental settings, results
  - mining, interactive visualisation
- Simulation
  - in biology, physics, etc.

# And then... Science 2.0

- Emergent new practices
  - Based on information technologies
- Some examples
  - Managing collaboration and identity
    - web 2.0 tools used for science
  - Open-data and e-science
    - collecting, sharing data and processing
  - Digital humanities
    - humanities get digital
  - Open access
    - to publications



# Blogs, Twitter, wikis and web-based tools



# Los manuales de literatura clásica en España

de la Ilustración al Liberalismo

LEER MÁS ▶



Credit image: Choose your literature por Geob Fox, licencia CC by-NC 2.0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

## La reconstrucción de la pronunciación antigua (II)

MORFLOG - ELENA AZOFRA



Hace un año, mientras preparaba una charla para los estudiantes del Máster en Estudios Fónicos del CSIC, escribí una entrada titulada

«La reconstrucción de la pronunciación antigua (I)» que apuntaba a la redacción de una segunda parte al parecer olvidada... No ha sido así, sino que he continuado aquella reflexión sobre la forma en que podemos [...]

[Leer más... →](#)

## La fibula de Preneste en España. Primeros testimonios. Avance de una publicación

CLASICOS - PROF. DR. FRANCISCO GARCÍA-JURADO



Al margen de su autenticidad o falsedad, la fibula de Preneste siguió un proceso de estudio y, sobre todo, de divulgación científica y académica donde F. Stolz y A. Ernout desempeñaron un papel capital. Este trabajo aborda el estudio de este proceso de

divulgación y legitimación desde un punto de vista particular, el de la [...]

[Leer más... →](#)

### SOBRE EL PORTAL

El portal es.hypotheses es el portal de la comunidad Hispanohablante. Agrupa las entradas de la plataforma Hypotheses redactadas en español que han sido seleccionadas por su consejo científico.

Colabora al desarrollo del portal la UNED, Universidad Nacional de Educación a distancia.

### LISTA DE LOS BLOGS EN ESPAÑOL

... air ... // Alteridad, Identidad, Reconocimiento

Contextos universitarios mediados Blog de García Aretio sobre educación universitaria en contextos no

## Informe 2. LA DESCRIPCIÓN DE LOS VECINOS

IDENTIFICATION - JUAN JOSÉ VILLALÓN OGÁYAR



COLECCIÓN: ANÁLISIS PRELIMINARES PROYECTO

## Feijoo contra Virgilio

CLASICOS - PROF. DR. FRANCISCO GARCÍA-JURADO



¿Virgilio o Lucano? Aunque hoy parezca mentira, esta ha sido una de las cuestiones

hypotheses.org (dec 2012)



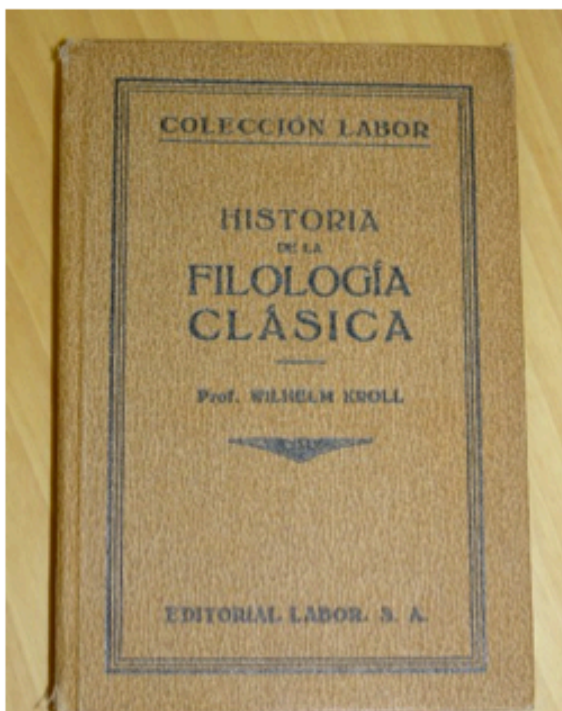


[Inicio](#) [Sobre el blog](#) [Créditos](#)

← Enigmático Edipo, de Carlos García Gual

## La fibula de Preneste en España. Primeros testimonios. Avance de una publicación

Posted on 02/03/2013 by Prof. Dr. Francisco García-Jurado



Al margen de su autenticidad o falsedad, la fibula de Preneste siguió un proceso de estudio y, sobre todo, de divulgación científica y académica donde F. Stolz y A. Ernout desempeñaron un papel capital. Este trabajo aborda el estudio de este proceso de divulgación y legitimación desde un punto de vista particular, el de la transferencia del conocimiento de la fibula al incipiente estudio de la lingüística histórica del latín en España, durante el primer y segundo decenio del siglo XX. Como era de esperar, a esta transferencia

Buscar

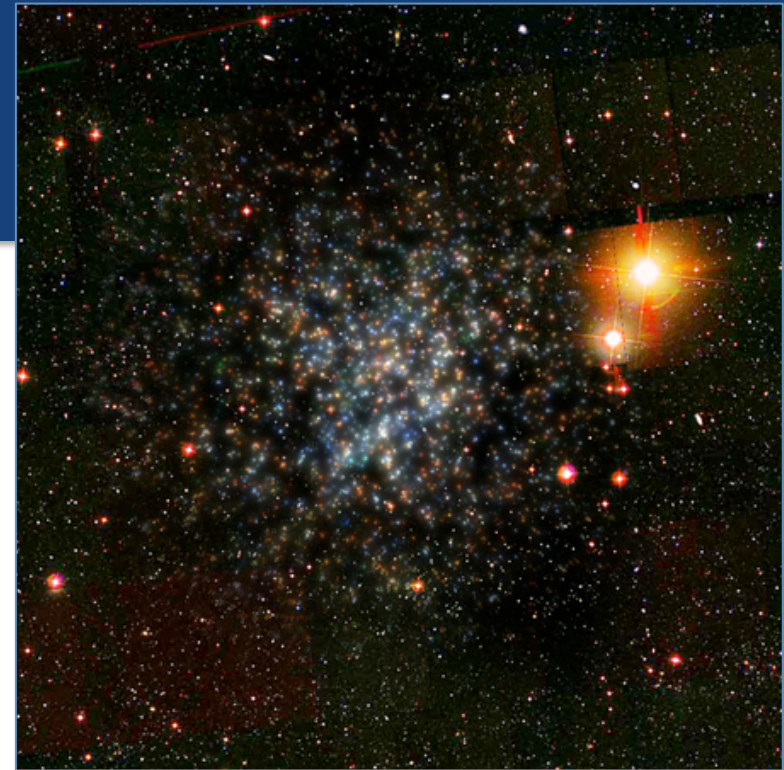
### Presentación

Enmarcado en un proyecto más amplio que pretende trazar una Historia cultural de los Estudios clásicos en la España moderna y contemporánea, este blog analiza el proceso de construcción y conceptualización de los estudios clásicos desde comienzos del siglo XVIII, pasando por el telón de fondo de la llamada "Polémica de la Ciencia Española", hasta su culminación en los años 1932 y 1933. En 1932 se crea oficialmente la Licenciatura de Filología Clásica y en 1933 se inaugura la nueva Facultad de Filosofía y Letras de la Universidad de Madrid, a lo que ha de sumarse la creación de la Sección de Estudios clásicos dentro del Centro de Estudios Históricos. El proceso se verá luego marcado por la discontinuidad de la Guerra Civil, si bien es posible reconstruir su continuidad ulterior tanto en la posguerra española como en el exilio americano.

Framed in a broader project, whose main aim is to trace a cultural history

# Open data and e-science

- Sharing data
  - Collaborative worldwide efforts
    - Human Genome, Digital Sky Survey (sdss.org)...
  - Open Data as a technology
  - Sharing data and code with article
    - E.g. [Warming Ocean Threatens Sea Life](#)
  - Sharing processing
    - Grid computing (cloud)
- Opening research data
  - e.g. funding / projects information



Enhanced image  
of the Milky Way  
satellite galaxy Boo I  
by Vasily Belokurov  
is Public Domain

# Digital Humanities

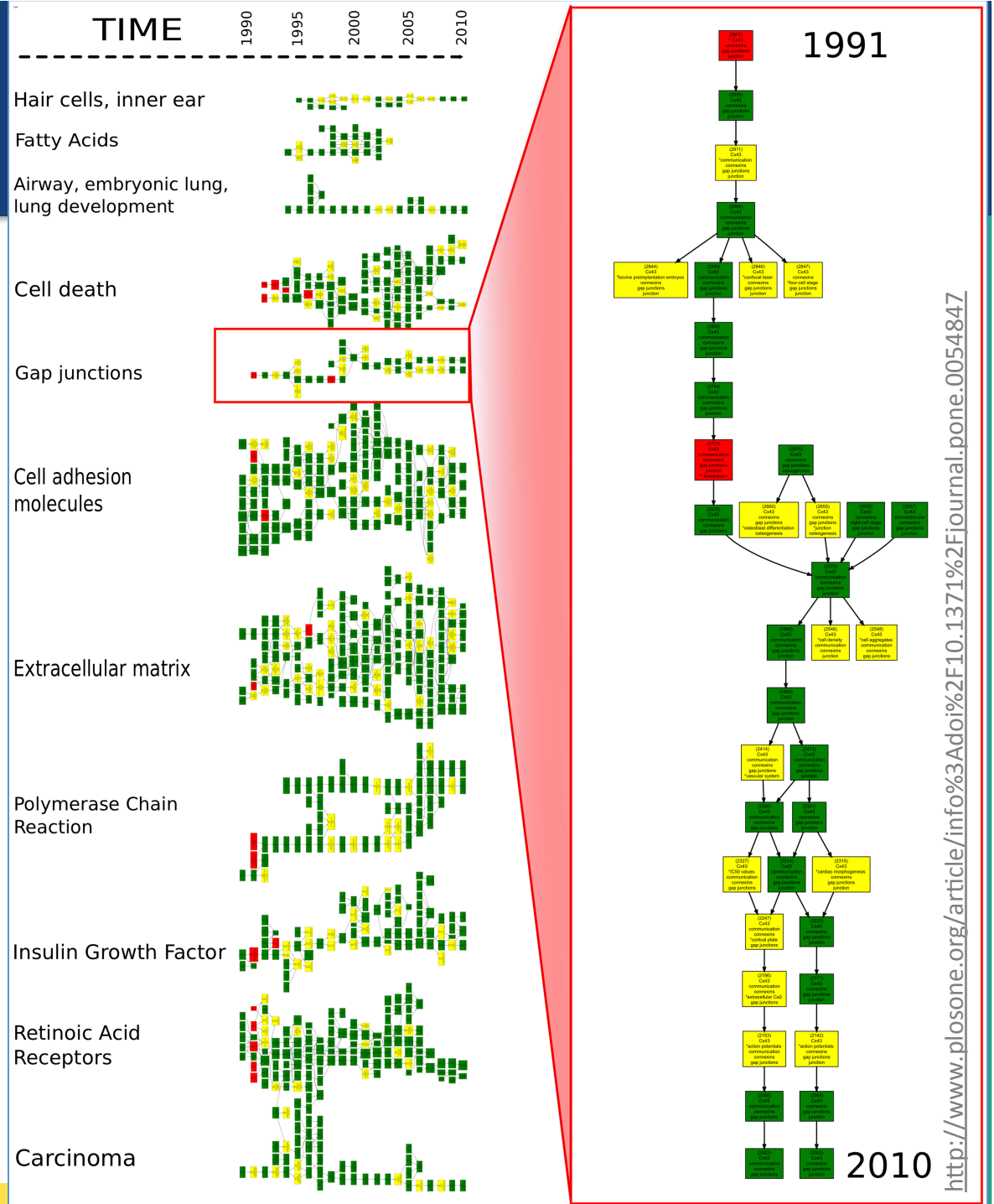
- Use of computer tools and techniques to carry out research work in the humanities
- Multiple examples
  - Digitization
  - Collaboration tools / annotations
  - Text manipulation
    - Textual corpora
    - Ancient manuscript images
  - Data aggregation and mining
    - Sociological data
  - Data visualisation
    - in Nantes: see graph visualisation of social networks in the middle age
  - ...



# Example

Studying scientific concepts rise and fall.

David Chavalarias,  
Jean-Philippe Cointet.  
*Phylomemetic Patterns in  
Science Evolution—The Rise  
and Fall of Scientific Fields.*  
PLOS ONE. Feb 2013





# Citizen science

- Public participation in research
- Not new
  - crowdsourcing: bird watching, amateur archaeology, etc.
- New digital era
  - Access to information
    - any data, also medical data
  - Capacity to collect information
    - mobile devices
  - Capacity to analyse information
    - general raise in education
    - available tools for analysis (stats, visualisation, etc.)
- Towards extreme citizen science?
  - oriented towards issues that concern people



[Scanning a lake for Common Loons for the Common Loon Monitoring Citizen Science](#)  
by [GlacierNPS](#) is [CC-BY SA 2.0](#)



"Scientists don't just talk, they build stuff" -  
[@victoriastodden](#) #opencon2014



## Supporting Computational Science

- Dissemination Platforms:

<a href="#">ResearchCompendia.org</a>	<a href="#">IPOL</a>	<a href="#">Madagascar</a>
<a href="#">MLOSS.org</a>	<a href="#">thedatahub.org</a>	<a href="#">nanoHUB.org</a>
<a href="#">Open Science Framework</a>		<a href="#">RunMyCode.org</a>

- Workflow Tracking and Research Environments:

<a href="#">VisTrails</a>	<a href="#">Kepler</a>	<a href="#">CDE</a>	<a href="#">IPython Notebook</a>
<a href="#">Galaxy</a>	<a href="#">GenePattern</a>	<a href="#">Paper Mâché</a>	
<a href="#">Sumatra</a>	<a href="#">Taverna</a>	<a href="#">Pegasus</a>	

- Embedded Publishing:

<a href="#">Verifiable Computational Research</a>	<a href="#">SOLE</a>	<a href="#">knitR</a>
<a href="#">Collage Authoring Environment</a>	<a href="#">SHARE</a>	<a href="#">Sweave</a>

RETWEETS

7

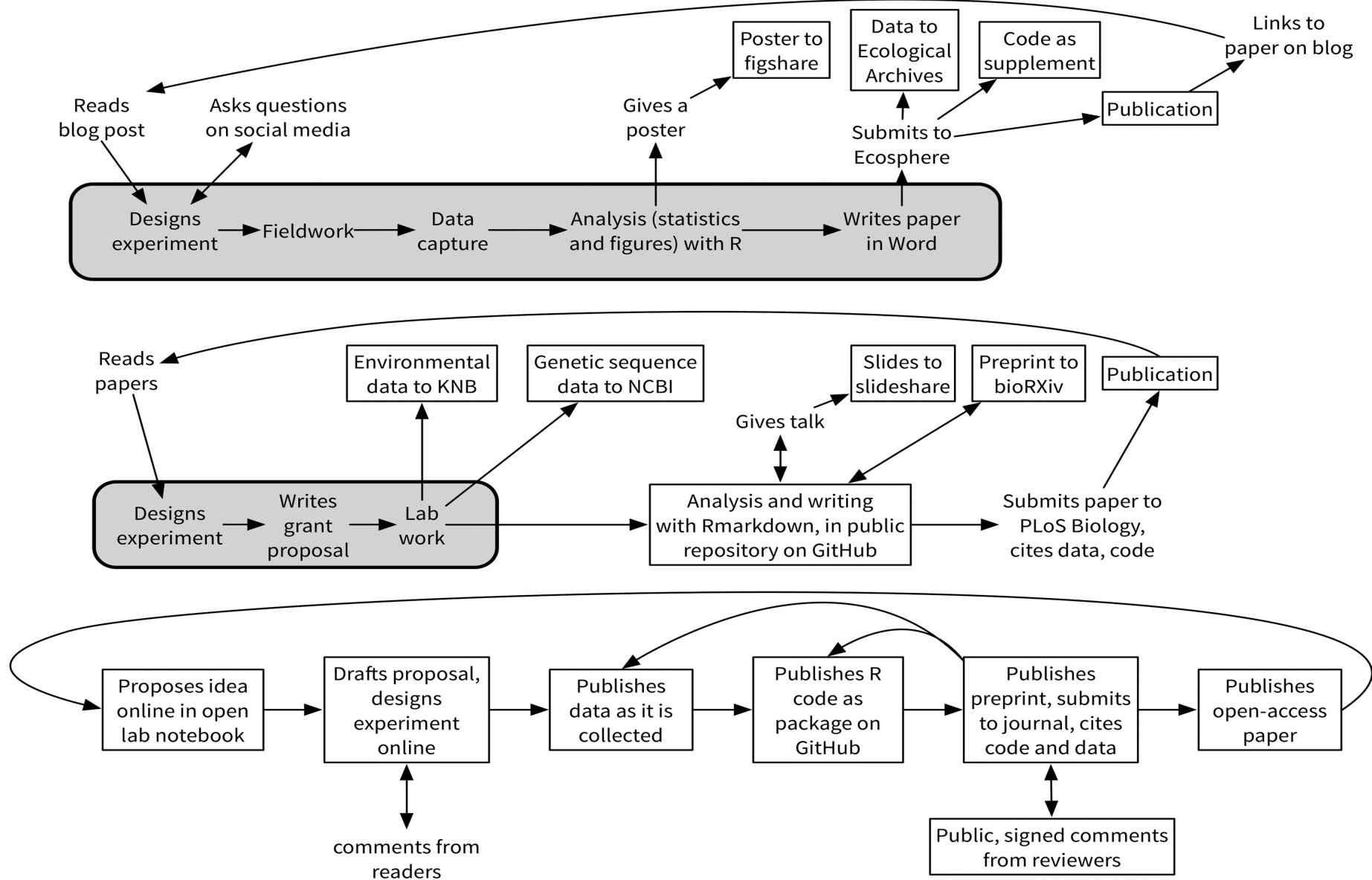
FAVORITES

8



2:44 PM - 15 Nov 2014

# The Tao of Open Science for Ecology



# Outline

- Science in the digital Age
- **Open Access**
- Assignment



# Access to publications

- Classical model
  - Scientists write and review papers for journals
  - Publishers publish papers in journals
  - Universities pay fees to publishers to provide access to journals in their libraries
    - into which they remain accessible indefinitely
- Worked well for a long time
  - journal fees were reasonable

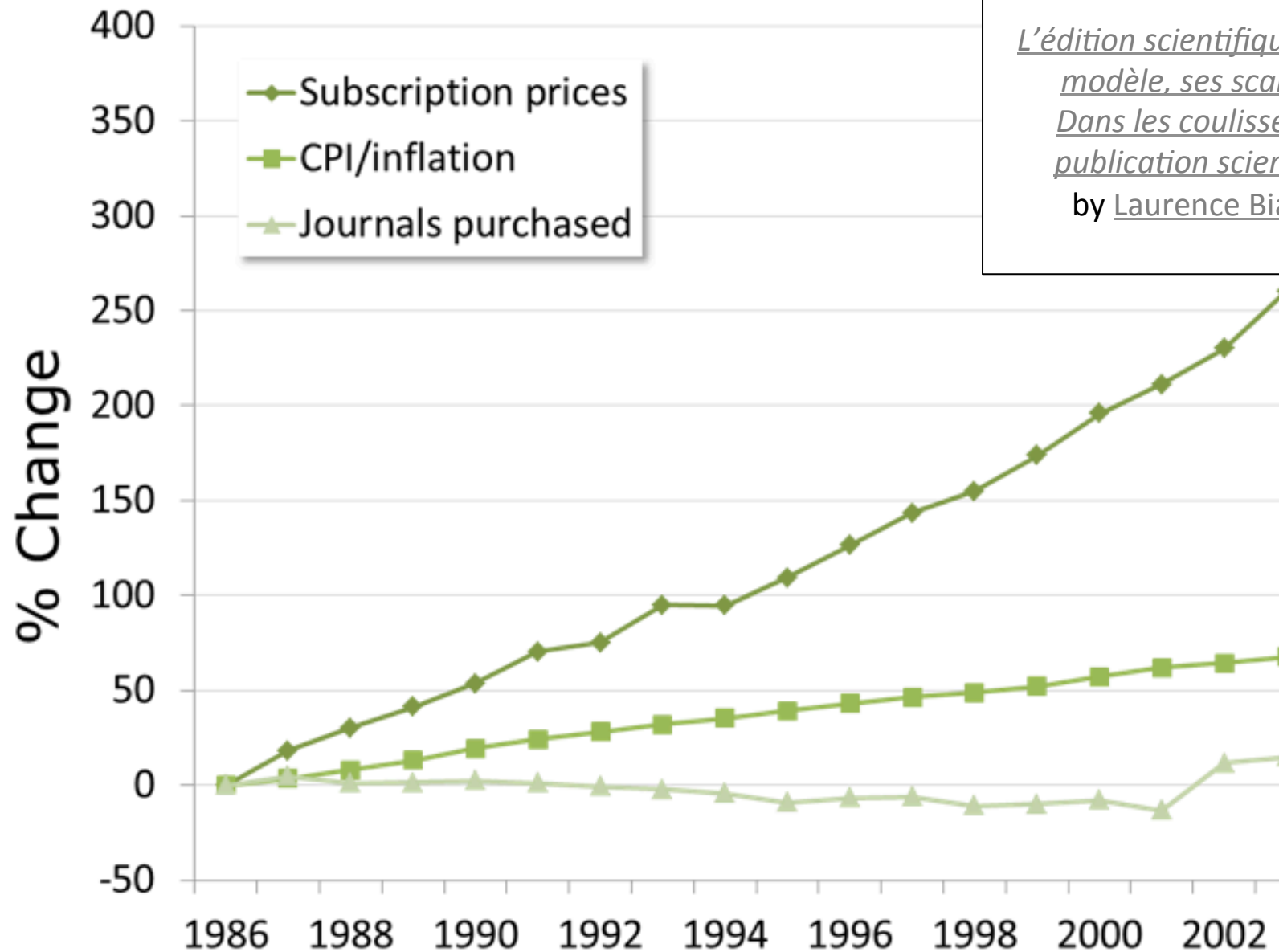
# Digital versions of articles

- No need for paper anymore
  - instant access, simplicity, no printing cost...
  - pay per view
- Facilitation of reviewing / editing workflows
- Digital archiving
  - publishers become librarians

# Recent years

- Universities
  - Less and less money
- Publishers
  - Reasonable ones
    - reasonable fees, free access after 5 or 10 years,
  - Greedy ones
    - package selling
      - buy 200 journals to get access to the 3 that interest you
      - nationwide “big deals”
    - rise of fees with no relation to inflation or production costs
      - + 4-5% each year between 1986 et 2011
    - very expensive
    - opacity

Evolution des prix des abonnements source : <http://www.slideshare.net/brembs/whats-wrong-with-scholarly-publishing-today-ii> Modified from ARL: <http://www.arl.org/bm~doc/arlstats06.pdf>, <http://www.arl.org/bm~doc/arlstat08.pdf>



From  
*L'édition scientifique : son  
modèle, ses scandales.  
Dans les coulisses de la  
publication scientifique*  
by Laurence Bianchini  
(2011)

# Some figures

- Scientific, technical and medical edition:
  - 20.2 B\$ (2010 - [stm-assoc.org](http://stm-assoc.org))
- Big players
  - Elsevier: 2200 journals, 25% of all published articles
  - Springer: 2000 journals
  - Wiley-Blackwell: 1500 journal
  - Nature Publishing Group
- Rentability
  - 30% profit (2010-2011, *The Economist*)

# Others problems

- Authors abandon all of their rights to publishers
- Why would state fund both
  - the production of an article
  - and the access to the article ?

→ public should be able to access what they pay for
- Long term archival not likely to happen with private companies
- Corruption in the medical / pharmaceutical domain
  - ghost writers (from industry), false journals (Elsevier)

# Open Access

- Provide the public with unrestricted, free access to scholarly research—much of which is publicly funded
  - Making the research publicly available to everyone, free of charge and without most copyright and licensing restrictions, will accelerate scientific research efforts and allow authors to reach a larger number of readers.
- Budapest Open Access Initiative (2002)
  - 10 recommendations
- Two main models: Green / Gold
  - Stevan Harnad & al. The green and the gold roads to Open Access. Nature Web Focus. <http://www.nature.com/nature/focus/accessdebate/21.html>



# Green

- Also called “**auto-archiving**”
- Researchers deposit a version of their articles on an institutional archive
  - worldwide (e.g. arXiv.org)
  - nationwide (e.g. HAL)
  - community wide
  - local (e.g. University)
- The version can be
  - a preprint
    - last accepted version, not the published one
  - the final version
    - with possibly and embargo depending on the publisher’s policy
- Deposit can be mandatory or not
  - e.g. to get funds associated to a grant, for a publication to be considered in a lab evaluation, etc.





# arXiv.org: the ancestor Physicists, 1991 - Preprint archive

Started in August 1991, arXiv.org (formerly xxx.lanl.gov) is a highly-automated electronic archive and distribution server for research articles. Covered areas include physics, mathematics, computer science, nonlinear sciences, quantitative biology and statistics.

The screenshot shows the arXiv.org website interface. At the top left is the Cornell University Library logo. To the right, it says "We gratefully acknowledge support from the Simons Foundation and supporters worldwide, including the CERN Library". The main header features the arXiv.org logo, a search bar with the placeholder "Search or Article-id", and links for "Login", "Help", and "Advanced search". Below the search bar, it states "Open access to 897,330 e-prints in Physics, Mathematics, Computer Science, Quantitative Biology, Quantitative Finance and Statistics". There is a "Subject search and browse:" section with a dropdown menu set to "Physics" and buttons for "Search", "Form Interface", and "Catchup". A news item from "15 Oct 2013" is titled "Introducing support for MathJax" and mentions "What's New" pages and a warning about robots. The "Physics" section lists various sub-fields with links for "new", "recent", and "find":

- **Astrophysics (astro-ph new, recent, find)**  
includes: Cosmology and Extragalactic Astrophysics; Earth and Planetary Astrophysics; Galaxy Astrophysics; High Energy Astrophysical Phenomena; Instrumentation and Methods for Astrophysics; Solar and Stellar Astrophysics
- **Condensed Matter (cond-mat new, recent, find)**  
includes: Disordered Systems and Neural Networks; Materials Science; Mesoscale and Nanoscale Physics; Other Condensed Matter; Quantum Gases; Soft Condensed Matter; Statistical Mechanics; Strongly Correlated Electrons; Superconductivity
- **General Relativity and Quantum Cosmology (gr-qc new, recent, find)**
- **High Energy Physics – Experiment (hep-ex new, recent, find)**
- **High Energy Physics – Lattice (hep-lat new, recent, find)**
- **High Energy Physics – Phenomenology (hep-ph new, recent, find)**
- **High Energy Physics – Theory (hep-th new, recent, find)**
- **Mathematical Physics (math-ph new, recent, find)**
- **Nonlinear Sciences (nlin new, recent, find)**  
includes: Adaptation and Self-Organizing Systems; Cellular Automata and Lattice Gases; Chaotic Dynamics; Exactly Solvable and Integrable Systems; Pattern Formation and Solitons
- **Nuclear Experiment (nucl-ex new, recent, find)**

<http://arxiv.org/> (dec 2013)

# Gold

- Reading is free
- Several models
  - Subventions
  - Freemium
  - **Author / payer:** “publication fees”
    - “fair gold”
    - not so fair gold
      - Springer 2012: 2000€ per article (personal experience)
      - Taylor & Francis 2013: 2950€ (twitter march 2013)
- Institutions have to pay
- The model big players prefer and advocate
  - Elsevier, Springer, etc.

# Example: PLoS One

- “International, peer-reviewed, open-access, online publication
- Research from any scientific discipline.
  - Open-access—freely accessible online, authors retain copyright
  - Fast publication times
  - Peer review by expert, practicing researchers
  - Post-publication tools to indicate quality and impact
  - Community-based dialogue on articles
  - Worldwide media coverage”
- Fees
  - Group A: 0\$ / article
  - Group B: 500\$ / article
  - Others: 1300 to 2900\$



Good read :  
Goals of science vs Goals of scientists  
(& a love letter to PLOS One)

# Example: eLife



- Life science, biomedicine
  - open access
  - no charge to authors (“at least for an initial period”)
  - no limit to length or additional submitted material
- New model of peer reviewing
  - reviewers gather electronically to decide the fate of the paper
    - better for reaching a consensus
  - instruction for major revisions are clear
    - authors do not have to guess
  - decision letter and author response are published with the paper
    - reader know what happened
  - if the paper is not accepted, it can be submitted elsewhere rapidly with the elife reviews
    - no loss of expertise

# Example: f1000research.com publish first, then evaluate

REVISED

**Kairomonal communication in mice is concentration-dependent with a proportional discrimination threshold [v2; ref status: indexed,**  
<http://f1000r.es/2h5>]

Anand Vasudevan, Ajai Vyas

+ Author affiliations

+ Grant information

Views

404

Download As

52

Cite



3

Track

## Abstract

Odors of predators are often co-opted by prey species to serve as warning signals. Perceptual properties of such kairomonal communication are under studied despite their common use in many mammals. We demonstrate that the kairomonal response in mice to rat odors varies monotonically with the volume of rat odor. Moreover, the ability of mice to differentiate between two strengths of rat odors is dependent on the ratio of the two concentrations. These results show that mice can compare kairomonal strength over a large range of values, and that kairomonal communication follows Weber's law.



**Corresponding author:** Ajai Vyas

**How to cite:** Vasudevan A, Vyas A. (2013) Kairomonal communication in mice is concentration-dependent with a proportional discrimination threshold [v2; ref status: indexed, <http://f1000r.es/2h5>] *F1000Research* 2013, **2**:195 (doi: [10.12688/f1000research.2-195.v2](https://doi.org/10.12688/f1000research.2-195.v2))



**Copyright:** © 2013 Vasudevan A et al. This is an open access article distributed under the terms of the [Creative Commons Attribution Licence](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. Data associated with the article are available under the terms of the [Creative Commons Zero "No rights reserved" data waiver](#) (CC0 1.0 Public domain dedication).

**Competing Interests:** No competing interests were disclosed

## Referee Responses

Referees	1	2	3
v1 published 23 sept. 2013	 report 1	 report 1	 report 1
v2 published 09 oct. 2013	 report		 report

REVISED

- 1 Joanne Yew**, National University of Singapore, Singapore
- 2 Kazumi Osada**, Health Sciences University of Hokkaido, Japan
- 3 Fernando Martínez-García**, University of Valencia, Spain  
**Lluís Fortes-Marco**, University of Valencia, Spain

## Comments

No comments | [Add Comment](#)

<http://f1000research.com/articles/2-195/v2>

# Example: peerj.com

## Biological and Medical Sciences / cheap Gold OA

	Free	Basic	Enhanced	Investigator
<b>One-time price</b> If paid before first manuscript is accepted	-	\$99	\$199	\$299
If paid after first manuscript is accepted	-	+ \$40	+ \$40	+ \$40
<b>PeerJ peer-reviewed publications per year</b>	-	One	Two	Unlimited
<b>PeerJ PrePrints per year</b> Public PrePrints now open, private coming soon.	Unlimited	Unlimited	Unlimited	Unlimited
<b>Optimized for</b>	Testing the waters	Graduate students	Post-docs	Lab heads & high-volume authors
	Create my Free Plan	Create my Basic Plan	Create my Enhanced Plan most popular	Create my Investigator Plan

<https://peerj.com/pricing/> (dec 2013)

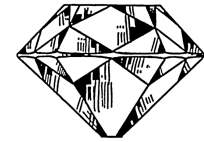
40% of peer-reviewers name themselves, 80% of authors reproduce their peer review history.

# Gold variant: latinum

## CLEO - Centre for Open Electronic Publishing

- Between Gold and Green, **Freemium model**
  - open access to the text online
  - supplementary (not too high) pay services
    - e.g. getting PDF or epub, download count, etc.
- Prices depend on
  - Gross Domestic Product of the country
  - Number of students in humanities + staff
- All income is reinvested in the development of open-access academic publishing
  - 2/3 for journals and partner publishers
  - 1/3 to develop the platform

# Gold variant: Diamond



- The reader does not pay for reading
- The author only pays for editing
- The editorial committee owns the journal
- The editor is hired for editing the journal
- The publishing is done by a institutional editing body
- See <http://triplec.at/index.php/tripleC/article/view/502/497>



# Hot topic

- 2012: mathematicians community (13000 researchers) threatens to boycott Elsevier
- 2012: UK announce mandatory gold open access
- 2012 : EU announce open access policy
  - Gold or Green 6 month – 12 month for social science and humanities
- Feb 2013: US open access policy
  - “published results of federally funded research freely available to the public within one year” of publication
- Feb 2013: HAL deposit mandatory for INRIA
- March 2013: Humanities Journals in France want to reject EU 12 month embargo, Counter-petition #iloveopenaccess
- March 2013 : “#btpdf2 #scholrev: Planning the scholarly revolution”
- 2013: episciences.org french platform for peer reviewing + deposit in arXiv or HAL

# Hot topic, cont.

- Aug 2013: Swizz Research Fund authorizes project fundung for Gold OA publishing
  - not enough money to pay all
- Aug 2013: Italy supports green open access
- Aug 2013: Open Access support wikipedia
  - availability of papers entails better wk articles
- Fall 2013: UK open-access route too costly, report says (Nature)
- Oct 2013: Nature publishes a paper on fooling gold OA journals
  - can appear as a piece against OA in general
- Dec 2013: Argentina makes OA deposit mandatory
- End of 2013: hard negotiation between French Libraries and Elsevier
- Dec 2013 : Elsevier launches takedown notices on Academia, personal sites, etc.
- ...

# 2014: the Battle continues

- "11 years after the Berlin Declaration on Open Access, however, the rise of Open Access appears to inflict little or no damage on the leading subscription publishers. » (financial analyst <http://www.richardpoynder.co.uk/Aspesi.pdf>)
- Nature papers get « open » (free to read on a dedicated reader, beggar's access ( <http://www.computerworlduk.com/blogs/open-enterprise/open-access-3589444/> )
- Notion of Review on demand, cf. <http://www.epistemio.com/rod>
- An mainstream journal article on french Elsevier deal raises awareness on Open Access in France


# One model to rule them all?

- Many disciplines, many different ways of apprehending things
- There is room for many different models
  - gold, green, platinum OA + institutional deposit policies
- Computer science: quite conservative
  - importance of conferences (ACM, IEEE)
    - ACM relaxed (a little) its copyright policy in 2013
  - journals (Elsevier, Springer)
    - Gold, expensive OA
  - may change very fast

# An article that may be interesting or not, only 185 people may know...

The Information Society: An International Journal  
Volume 29, Issue 2, 2013

Select Language ▼  
Translator disclaimer



## Varieties of Conference Experience

DOI: 10.1080/01972243.2012.757263  
Jonathan Grudin<sup>a</sup>  
pages 71-77



**Publishing models and article dates explained**  
Received: 9 Apr 2012  
Accepted: 27 Nov 2012  
Published online: 27 Feb 2013

Article Views: **Article Views: 185**

Alert me

### Abstract

The boundary between conferences and journals is blurring in computer science and information science. This perspective identifies probably causal factors as well as unintended consequences that are undermining research communities. I identify some of the experiments that have been undertaken to reduce the stress. I describe conference-journal hybrids, and also a model that might move in the other direction to restore the community maintenance function of conferences.

 View full text  Download full text

<http://www.tandfonline.com/doi/abs/10.1080/01972243.2012.757263#.Uqb0LI08r5Y>  
(dec 2013)

Sorry, you do not have access to this article.

How to gain access:

[Recommend to your librarian](#) that your institution purchase access to this publication.

#### Log in

If you already have an individual subscription, please log in using your Taylor & Francis Online ID to gain access.

Email Address

Password

Remember Me

Sign In

#### Purchase options

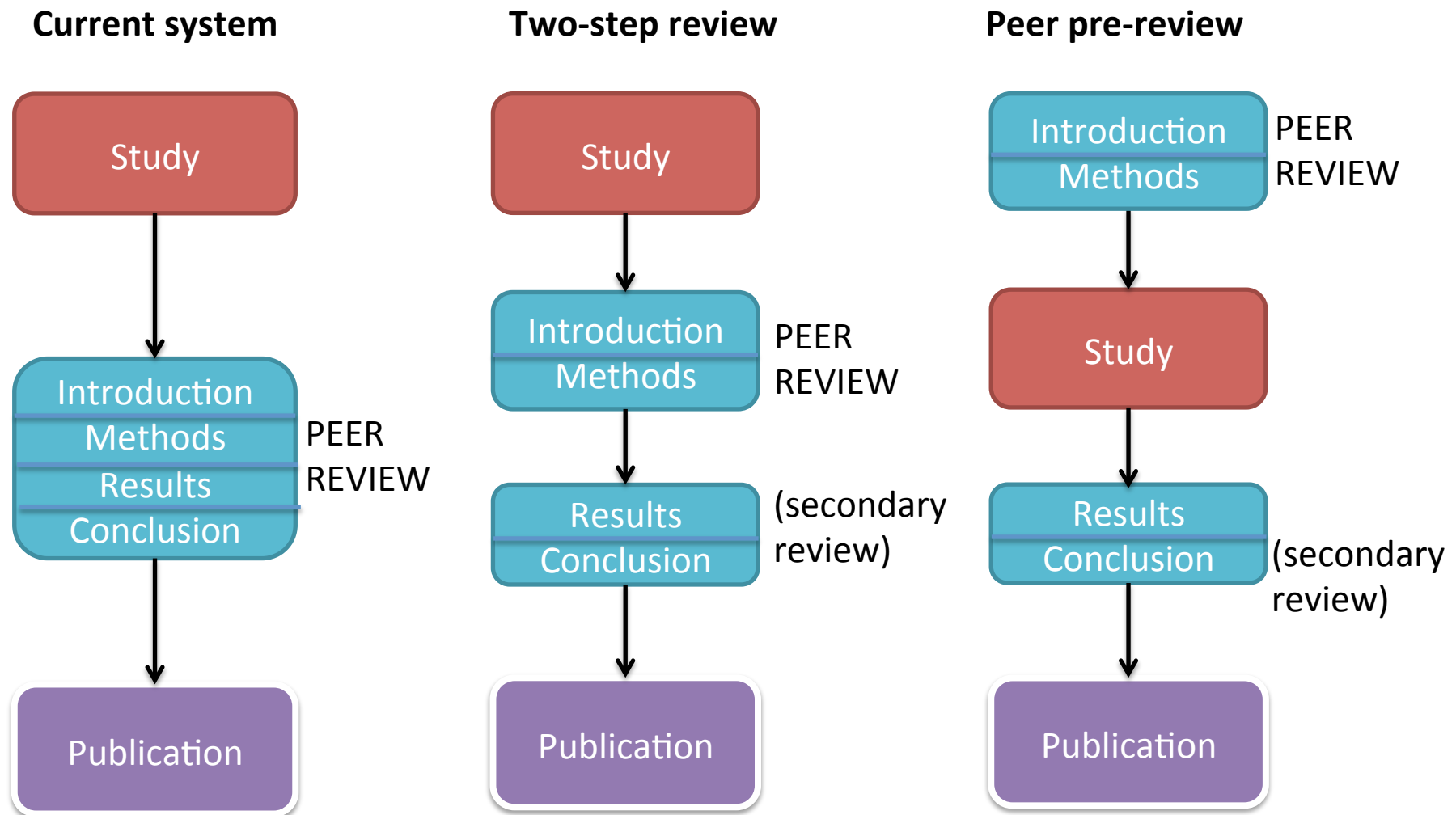
Price \*

- Permanent access to this issue **EUR 97,00**
- Issue Purchase **EUR 97,00**
- Article Purchase **EUR 28,00**

 Add to cart

\*Local tax will be added as applicable

# Towards an evolution of reviewing?




# Get Credit for Peer Review (Publons)

record, showcase, and verify all your peer review activity ... use your official reviewer record in promotion and funding applications.

- Easily record and control verified reviews
- Showcase reviews for promotion and funding applications
- Discuss papers post publication and get credit



**PROFILE OF** IAIN HRYNASZKIEWICZ PUBLONS MERIT [1]

 **OFFICIAL REVIEWER**

**AFFILIATIONS**  
Reviewer - PeerJ

**BIO**  
Iain Hrynaszkiewicz (otherwise known as Iain H) joined Faculty of 1000 in 2013 as Outreach Director, where he leads initiatives to engage with and educate users of F1000's services for life scientists and clinicians. This includes external communications, product development and partnership building to increase usage and grow the F1000 community. Iain is passionate about using the Web to make it easier to share and assess science, and in improving human health with evidence and innovation.

**REVIEWER FOR**

 0 verified 2 unverified	 1 verified 0 unverified
--	--



**PEER REVIEW RECORD**

**REVIEW** APRIL 28, 2013

**REVIEW OF**  
**Data reuse and the open data citation advantage** Full Review



Basic reporting I am not qualified to comprehensively review the methods and statistical analysis but ... See Article

In the 'Primary analysis' section, is a table mislabelled or missing? The authors state: "We used a subset of th..." Review DOI

**PUBLISHED IN**  PEERJ **REVIEWED BY**  IAIN HRYNASZKIEWICZ

**REVIEW** FEBRUARY 28, 2014

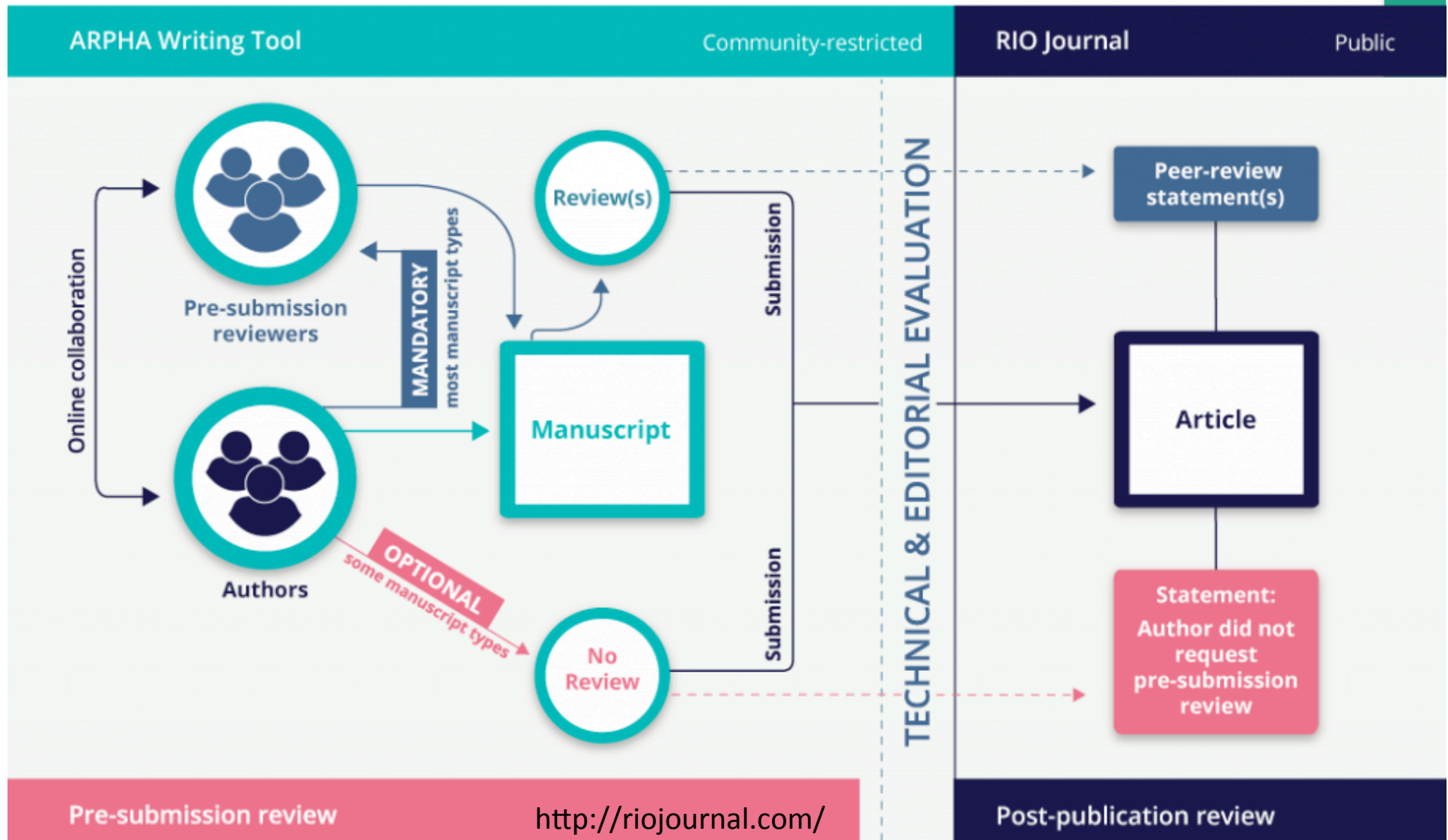
**REVIEW OF**  
an unknown article

**PUBLISHED IN**  BMJ **REVIEWED BY**  IAIN HRYNASZKIEWICZ

**REVIEW** OCTOBER 11, 2013

**REVIEW OF**

The Research Ideas and Outcomes journal publishes all outputs of the research cycle, including: project proposals, data, methods, workflows, software, project reports and research articles together on a single collaborative platform, with the most transparent, open and public peer-review process. Our scope encompasses all areas of academic research, including science, technology, humanities and the social sciences.





# Outline

- Science in the digital Age
- Open Access
- **Assignment: article writing**