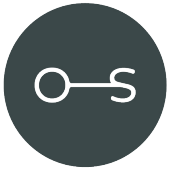
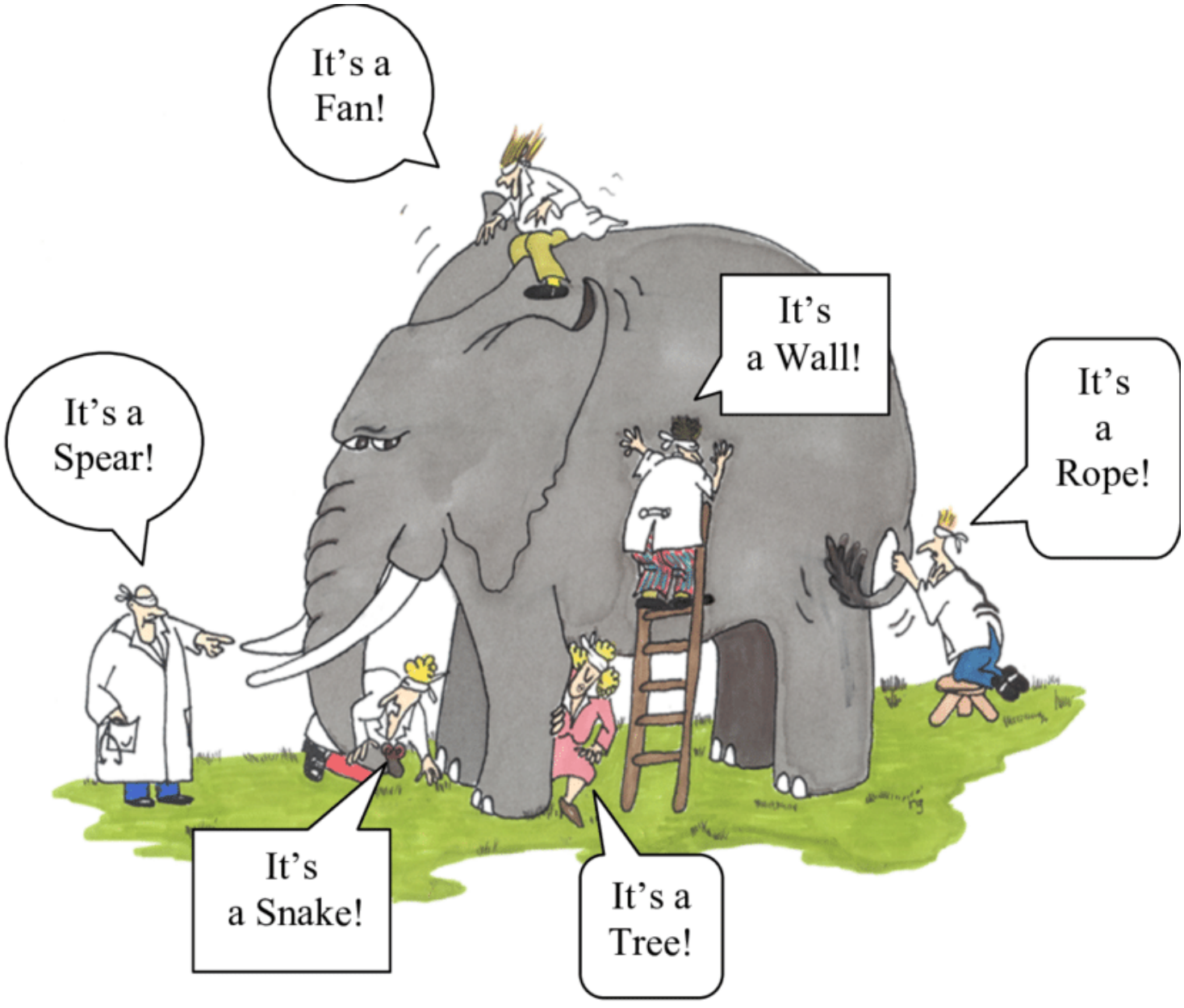



# The hitchhiker's guide to academic publishing

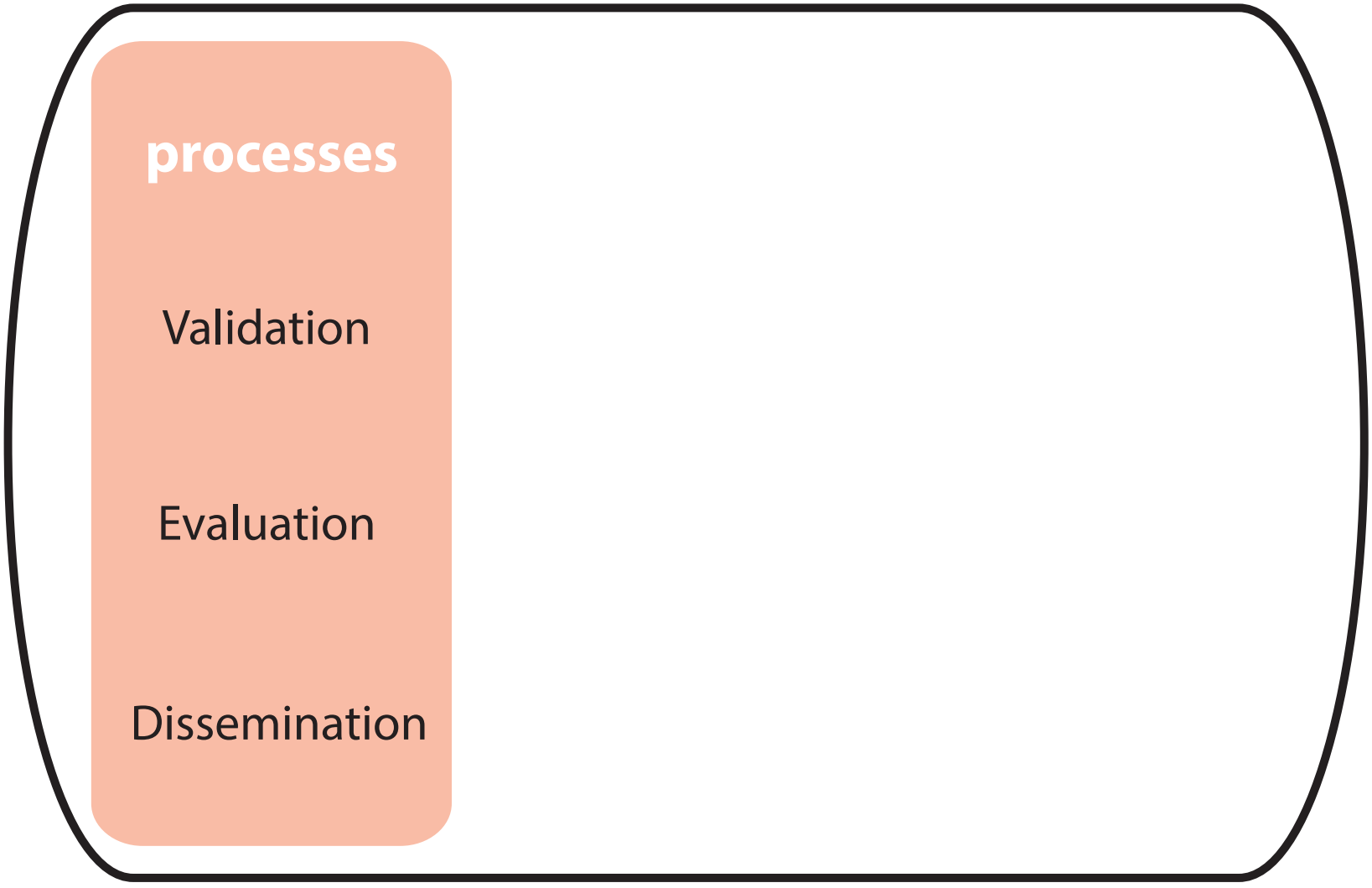
Pandelis Perakakis
pperakakis@ucm.es | @ppandelis

Thursday, July 1, 2021

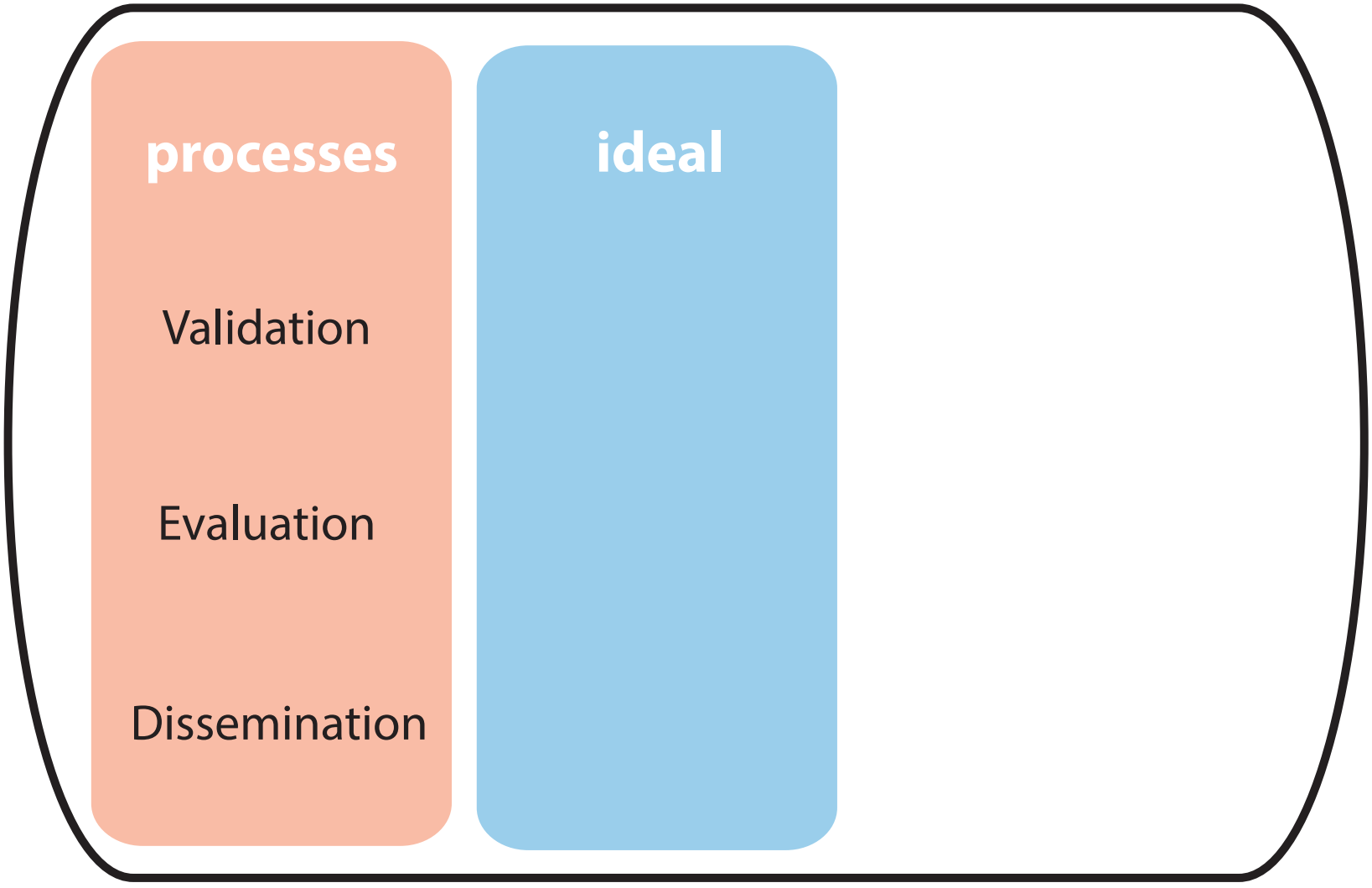

# The problem


It's a Fan!
It's a Spear!
It's a Wall!
It's a Rope!
It's a Snake!
It's a Tree!

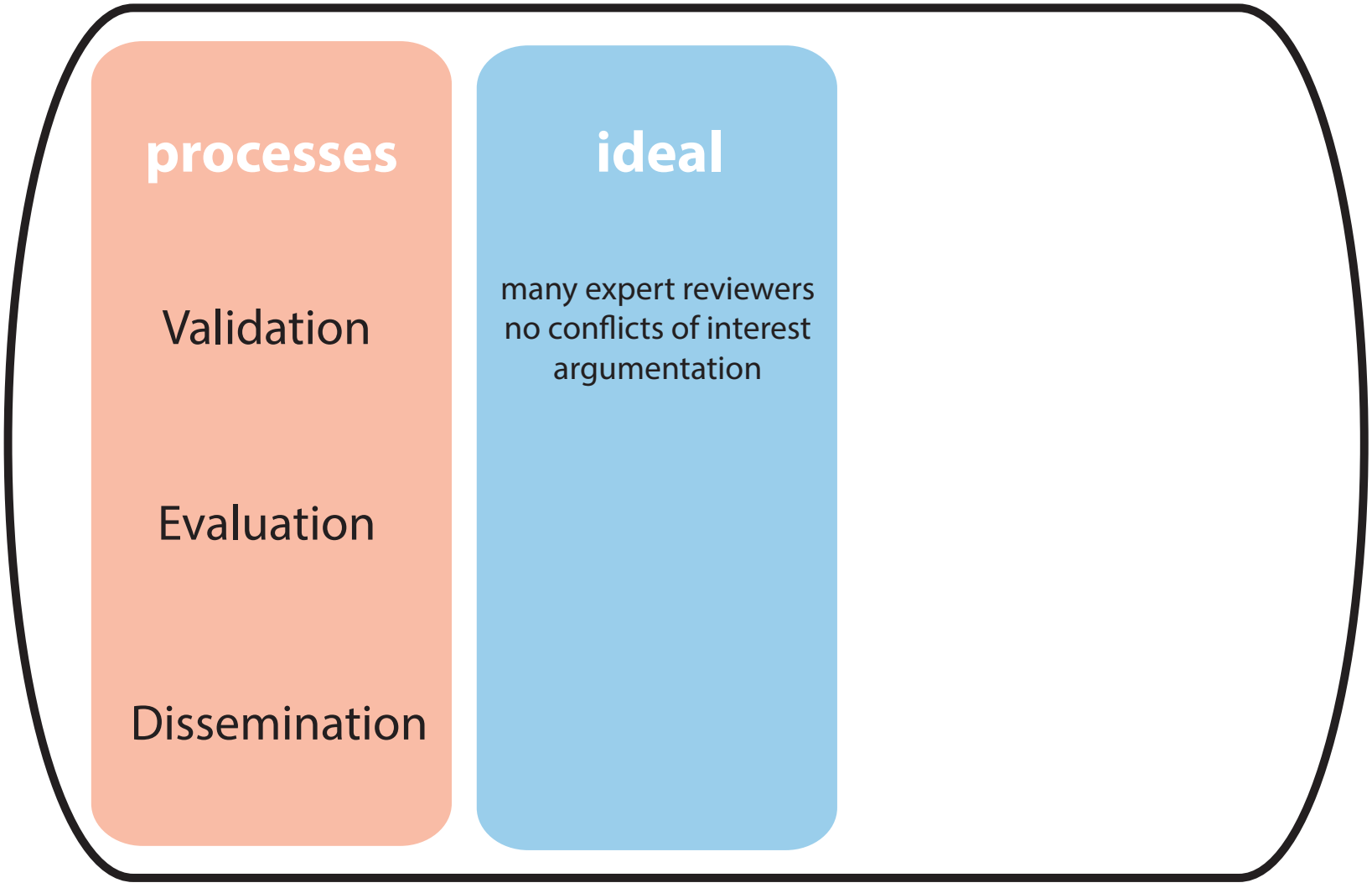
# scholarly communication



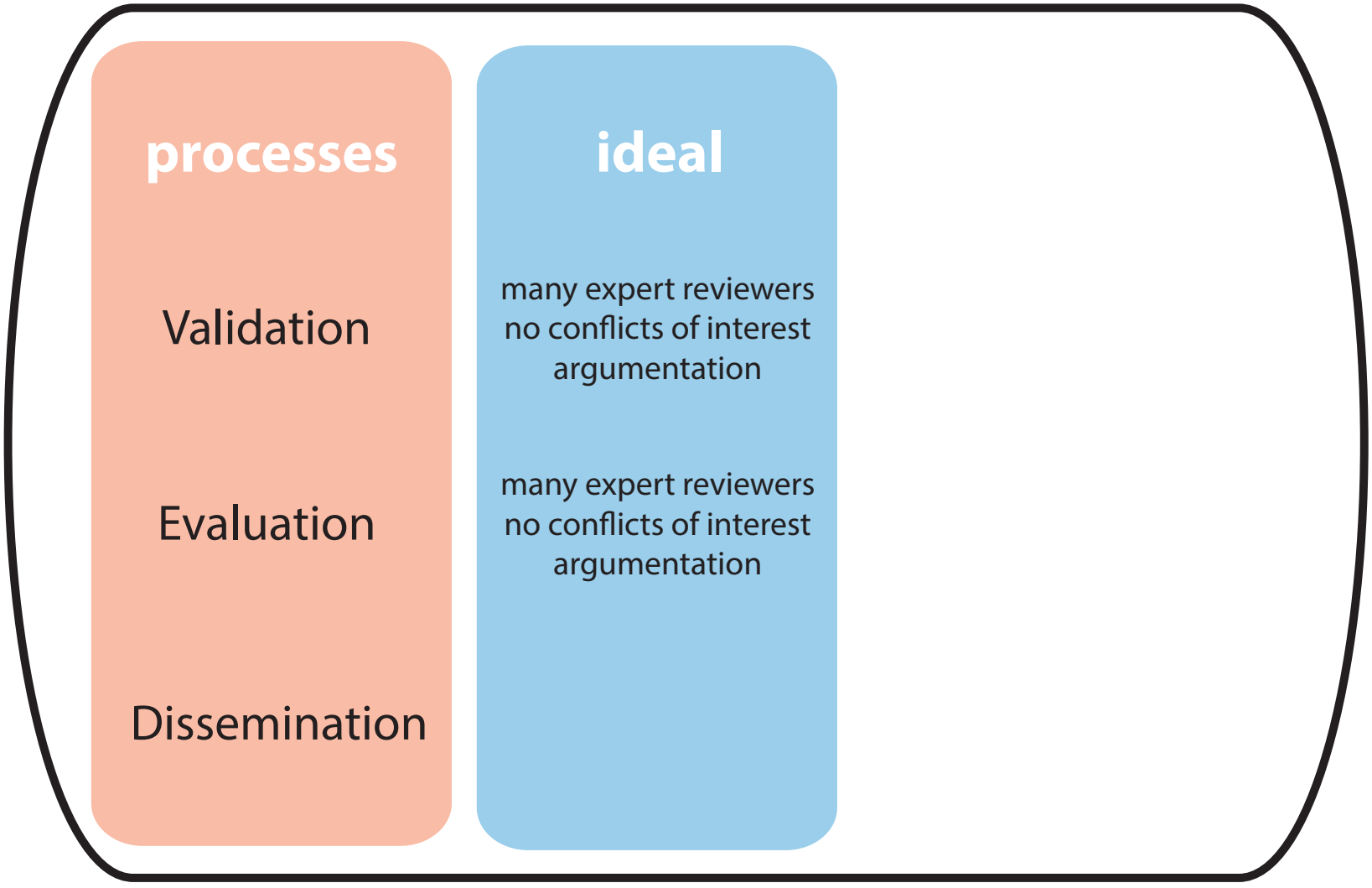
# scholarly communication



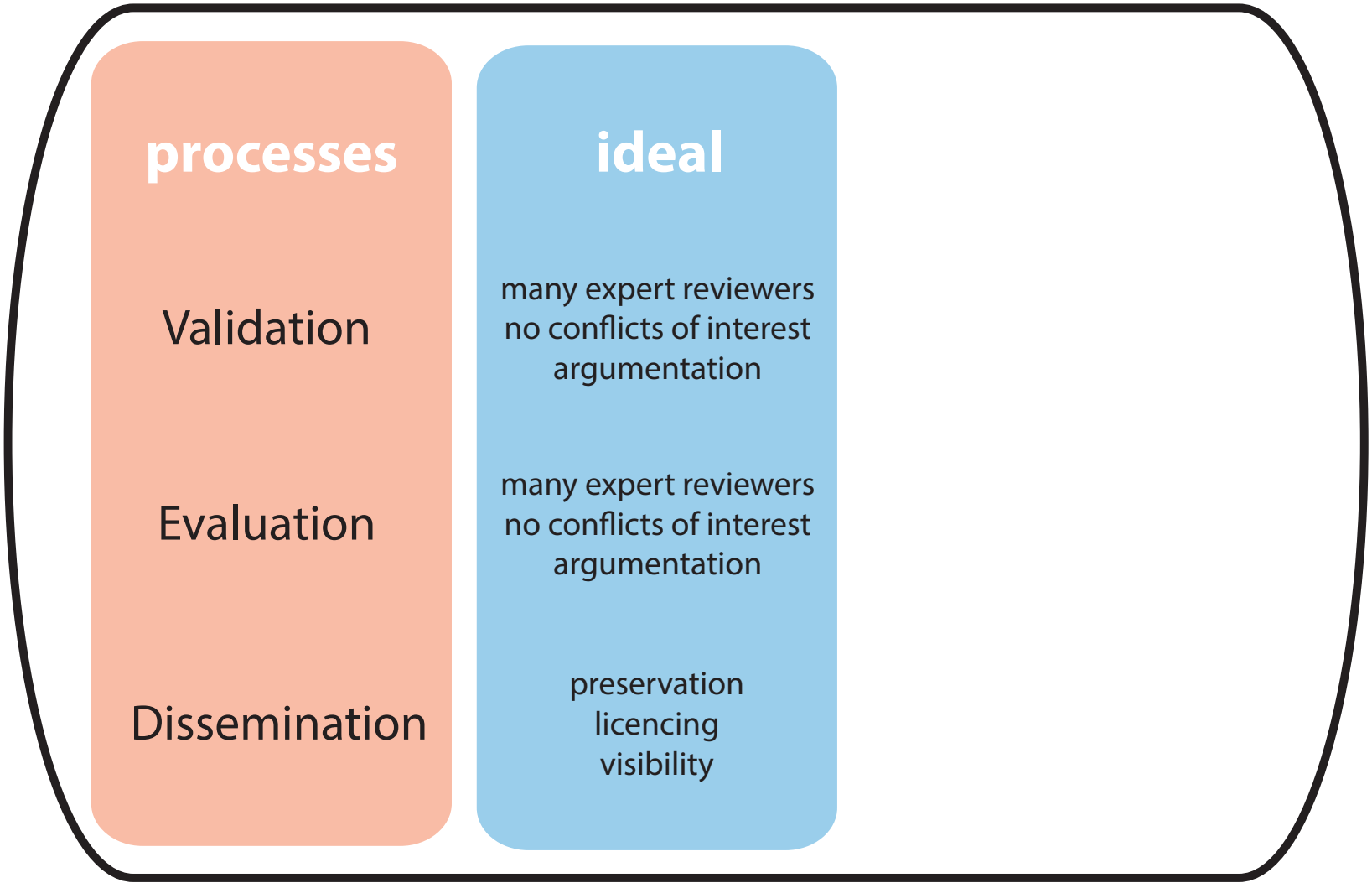
# scholarly communication



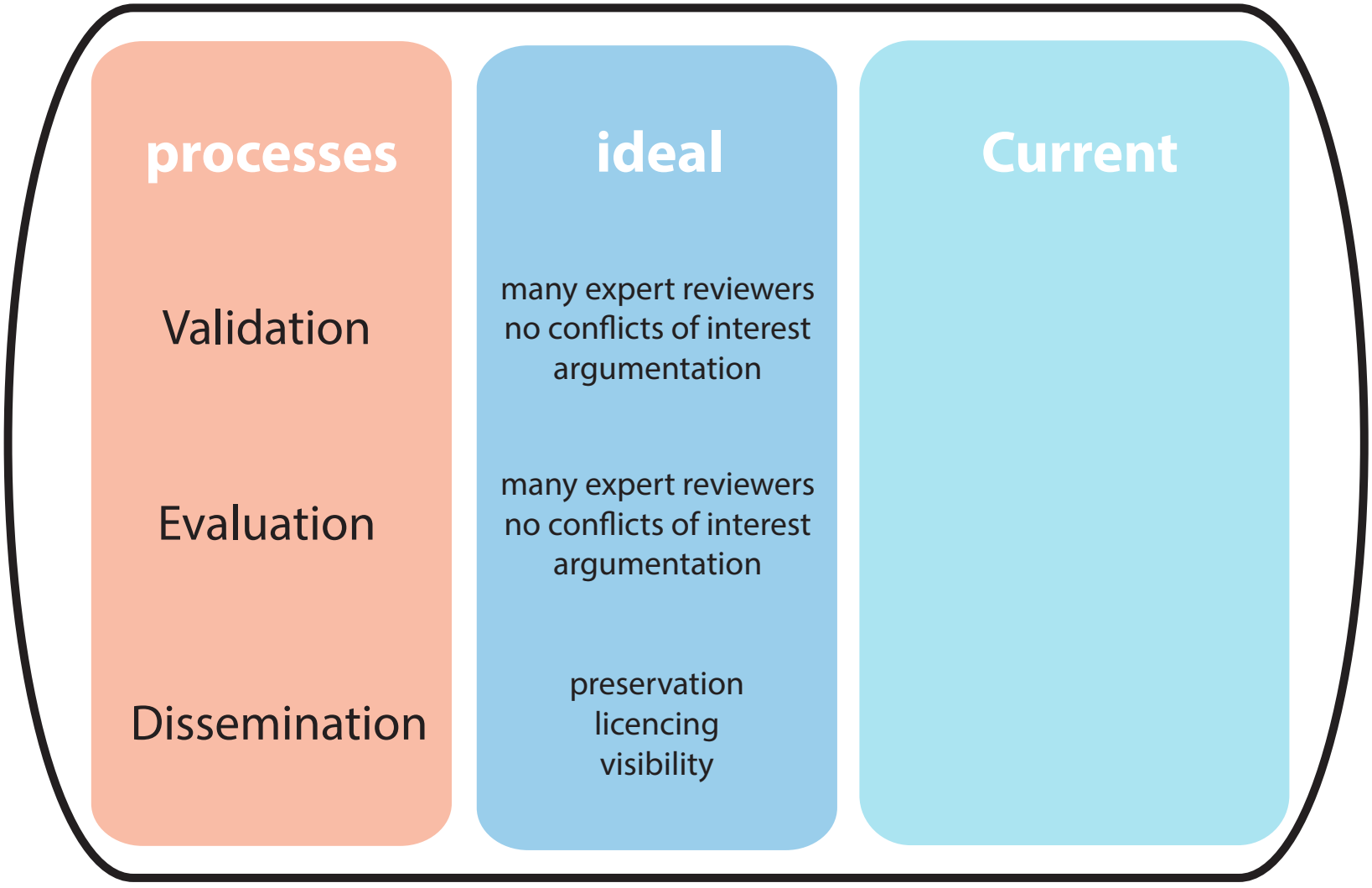
# scholarly communication



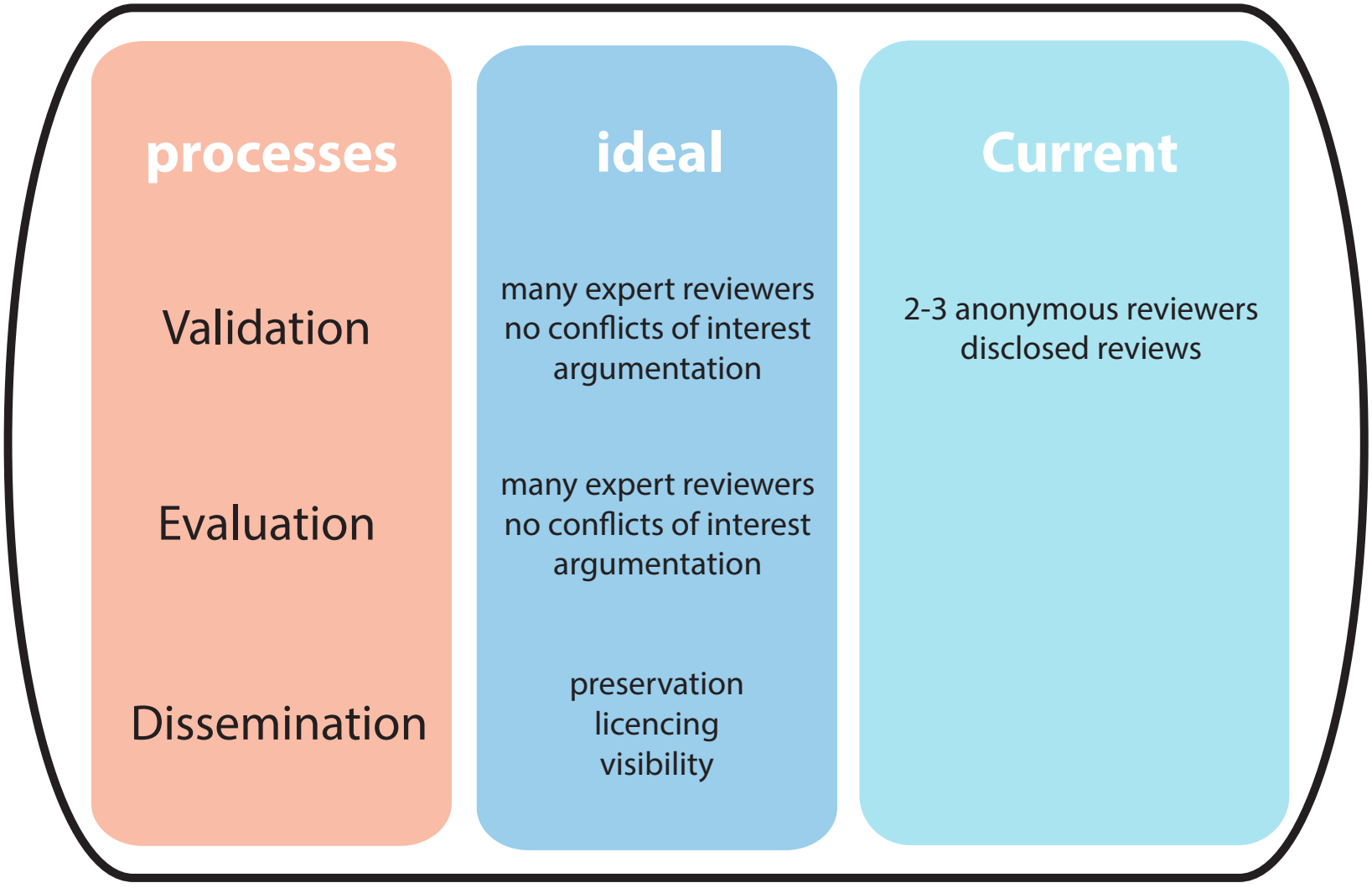
# scholarly communication



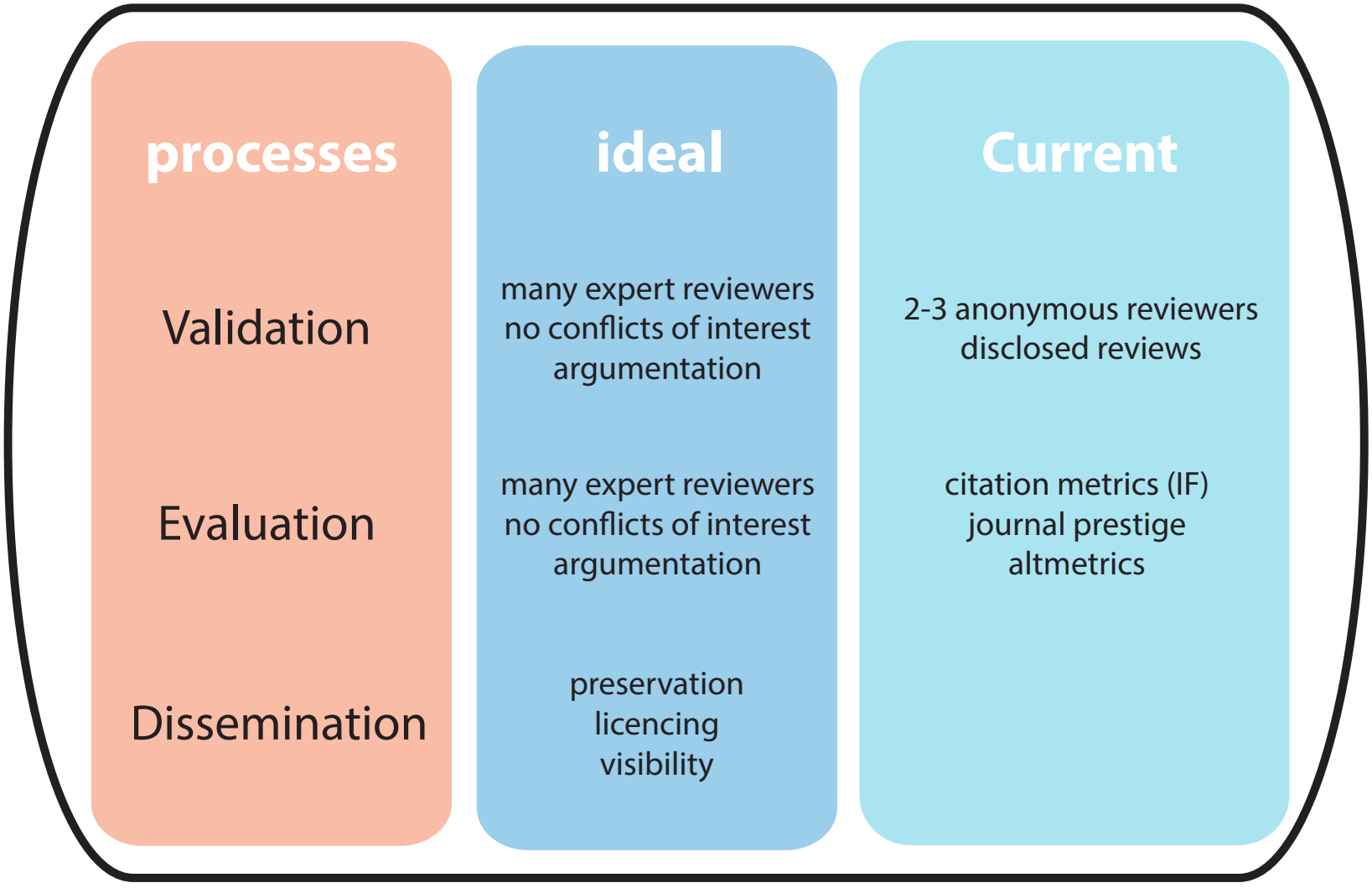
# scholarly communication



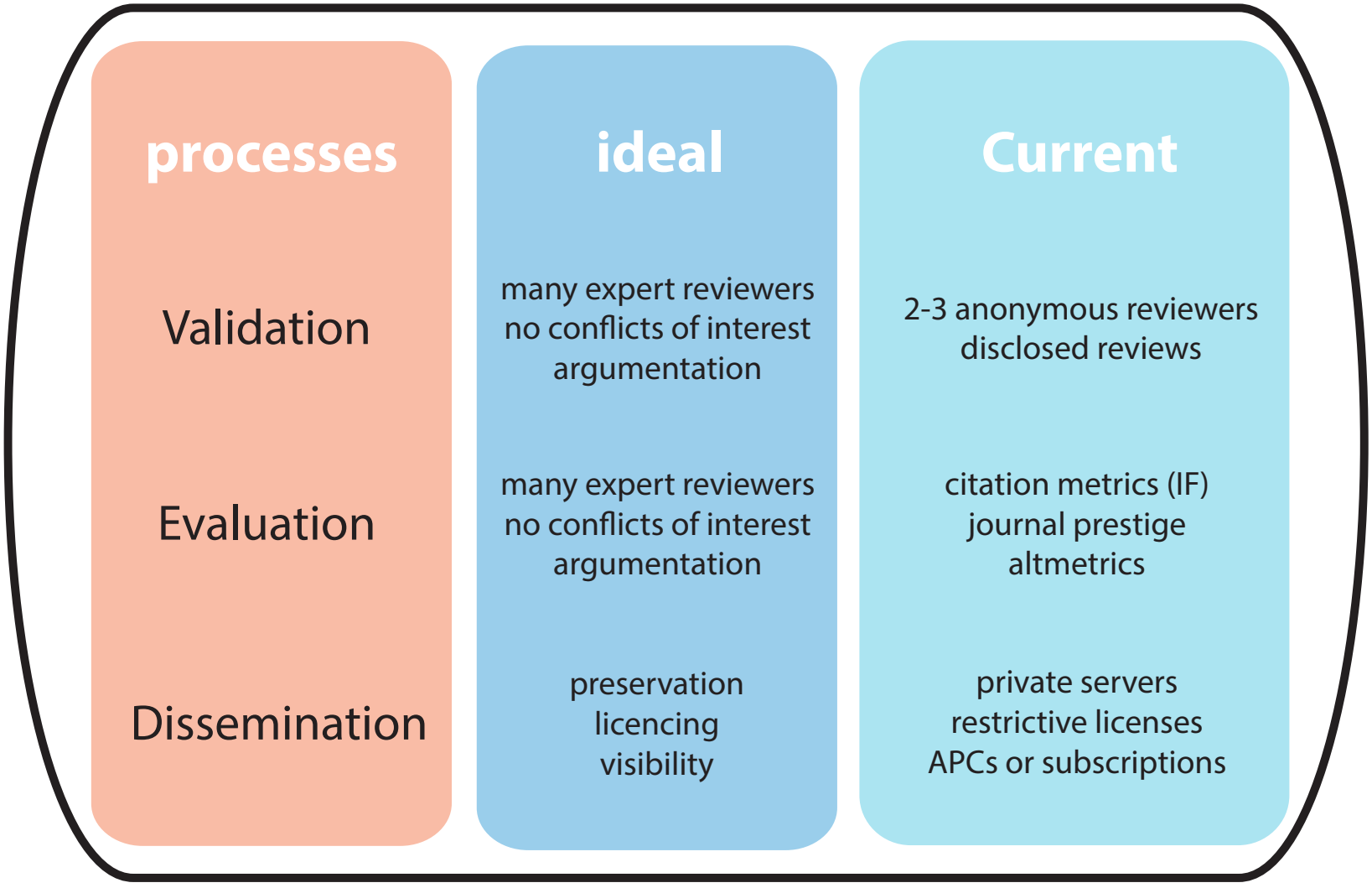
# scholarly communication



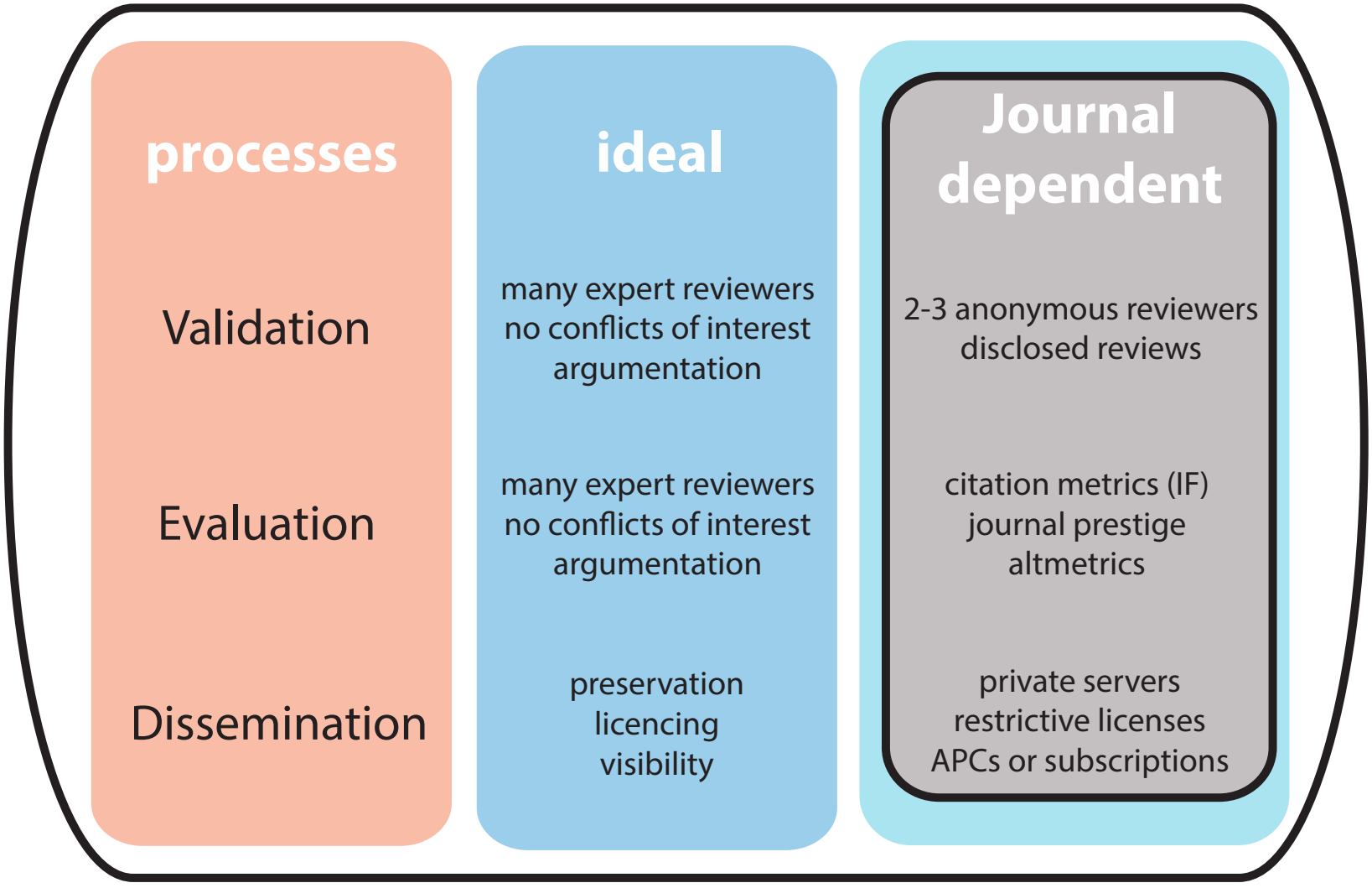
# scholarly communication



# scholarly communication



# scholarly communication



# The Siege of Science (2008)

*"A wave of **mergers** in the publishing business has created **giant firms** with the power to extract **ever higher journal prices** from university libraries"*

---

Taylor, M., Perakakis, P., & Trachana, V. (2008). **The siege of science**. Ethics in Science and Environmental Politics, 8, 17–40.

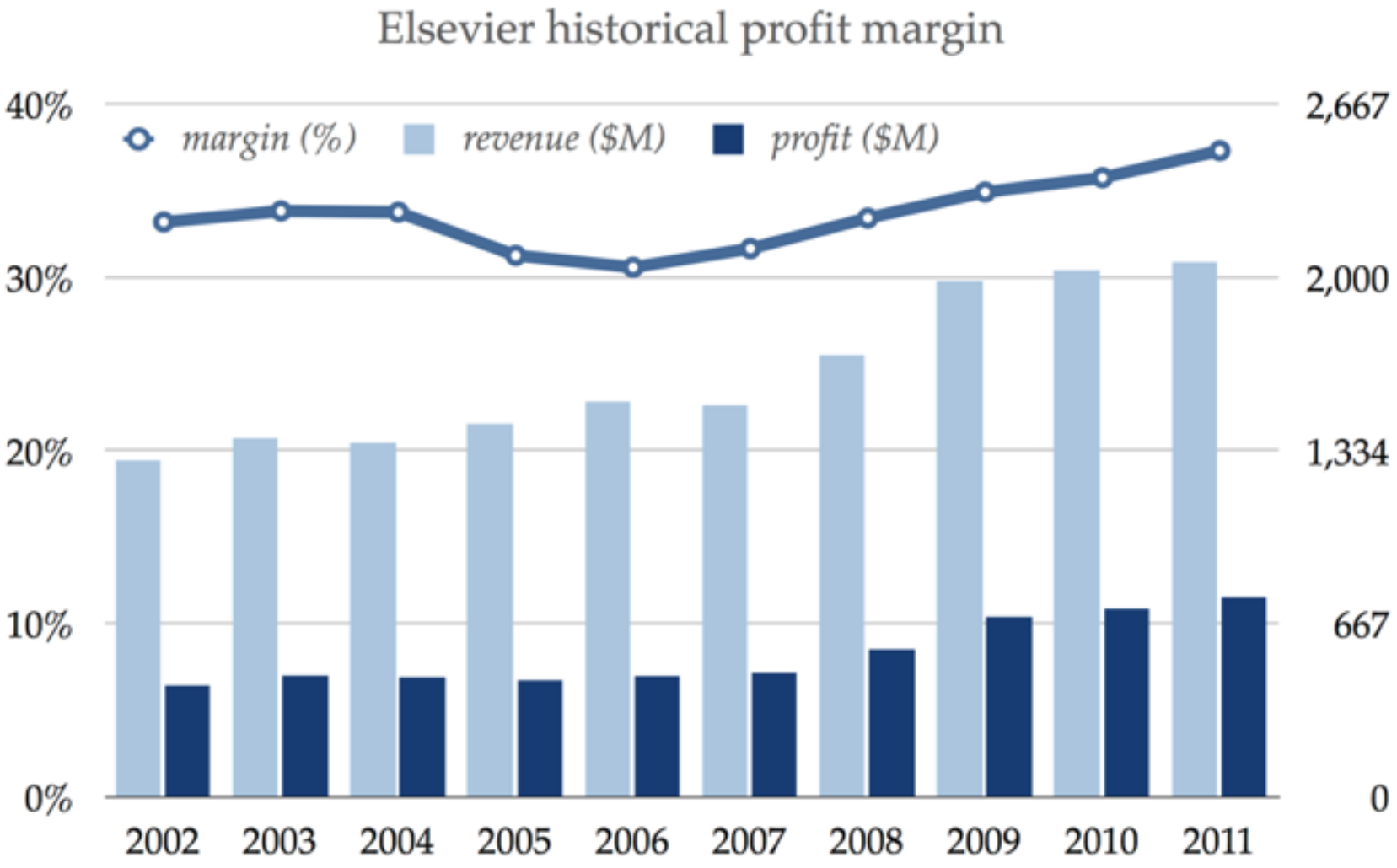
# How much do journals cost?

## 2020 University Budget

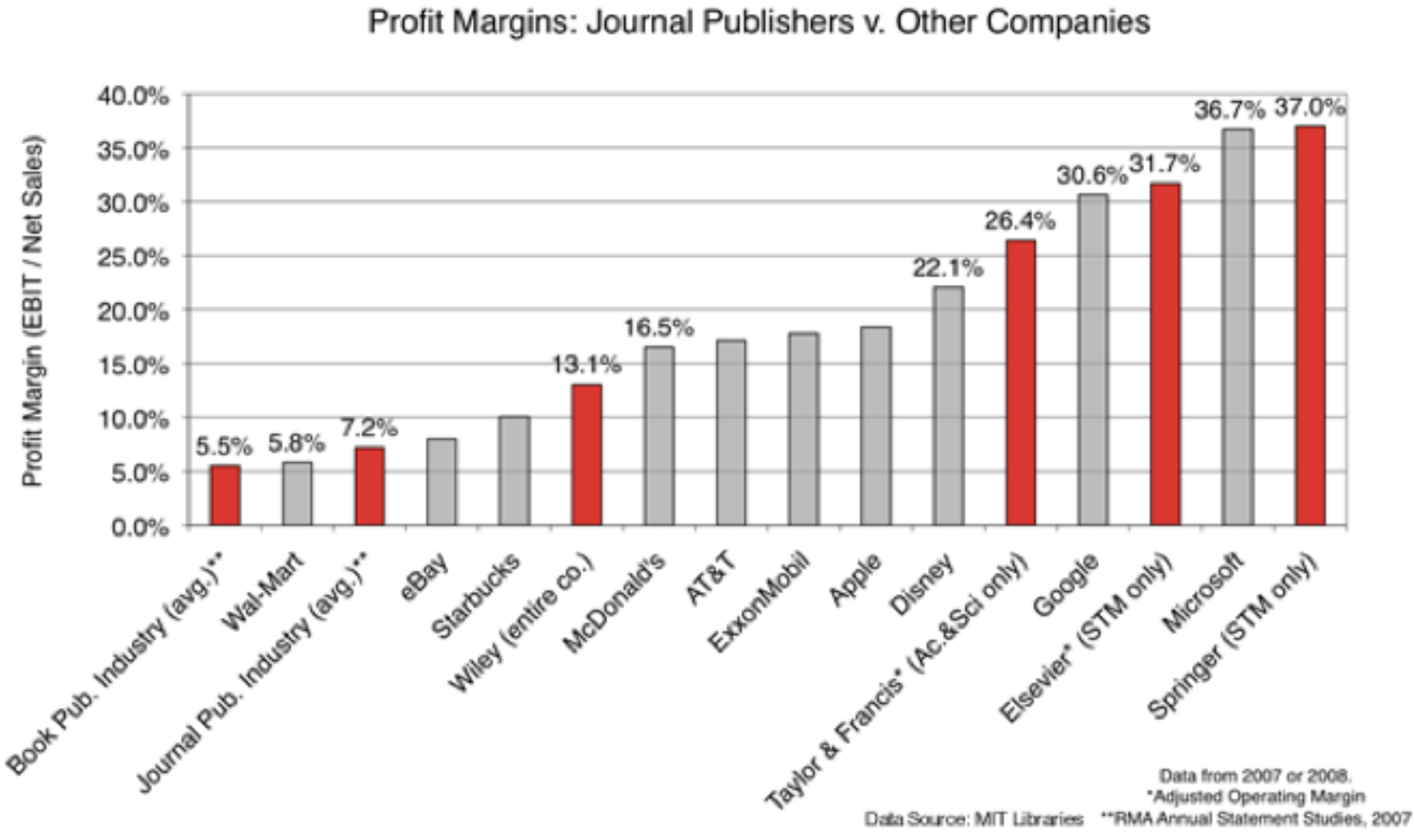
- Universidad Complutense de Madrid **2.846.040,62 €**[1]
- Universidad de Granada **1.045.250,00 €**[2]

[1] https://www.ucm.es/portaldetransparencia/informacionpresupuestaria
[2] https://gerencia.ugr.es/pages/vger_eco/presupuestos/presupuesto2020ugr

# Where does the money go?



# Where does the money go?



# Where does the money go?

## Elsevier's 2018 financial statements

- Net profit: **1,107,876,427.69 €**
- Operating profit margin: **37,1%**
- "In 2018 we made three small acquisitions in support of our organic growth strategy, Via Oncology, Aries Systems and Science-Metrix, and disposed of a minor pharma business in Japan."
- "Our customer environment remains largely unchanged, and we expect another year of modest underlying revenue growth."

---

https://www.relx.com/~/media/Files/R/RELX-Group/documents/press-releases/2019/relx-results-2018-pressrelease.pdf

# What is the real problem?

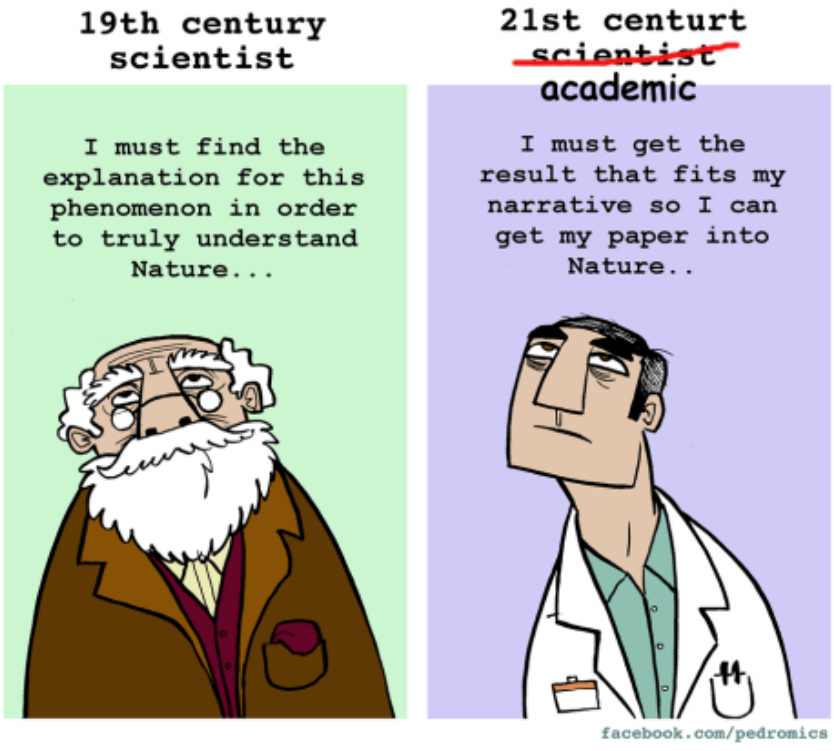
*"Today's academic publishing model treats knowledge as a **material good**. Instead of collaborating... scholars are **forced to compete** for a limited number of prestigious publication slots... this whole enterprise is based on the **economics of scarcity** where value is accrued from exclusivity."*

---

Perakakis, P. (2013). **New forms of open peer review will allow academics to separate scholarly evaluation from academic journals**. London School of Economics. Impact of Social Sciences Blog

# The symptoms

# Science vs Academia




*"Most researchers today, especially those at the beginning of their careers, want to be scientists, but are forced to become academics."*

---

Perakakis, P. (2017). **Open scientists in the shoes of frustrated academics**. Euroscientist

# Some of the symptoms

- Pay publishers extortionate **subscription fees or OA charges** if we choose (or are forced to choose) gold open access
- Accept that our work will be **locked** in the drawers of editors and reviewers for months or even years
- Grant publishers all **rights** to disseminate and make profit from our work
- Offer our **review services** for free and without any academic recognition
- Allow all the qualitative information provided by reviewers' reports to be condensed into a binary yes or no decision, and **hide them from the public**
- Subject ourselves to **high rejection rates** and spend **valuable time** re-formatting the same paper over and over again to comply with different publication guidelines

---

Perakakis, P., & Taylor, M. (2013). **Academic self-publishing: a not-so-distant future**. Prometheus, 31(3), 257–263.

# Some of the symptoms

- Split our research into **many different papers** to accumulate more publications
- **Remove colour from figures** to keep publication costs down
- Compress the **methods section**, thereby depriving the public of important details needed for reproducibility
- Adapt and self-censor our research and writing style to accommodate the **tastes of journal editors**
- Throw away important **negative** or seemingly less-significant experimental results
- Miss out on the chance to have a constructive dialogue and even **collaborate with reviewers** to advance the work
- Feel obliged to investigate **hot and sexy topics** rather than exciting phenomena at the fringes of a field, where paradigm change is often found

---

Perakakis, P., & Taylor, M. (2013). **Academic self-publishing: a not-so-distant future**. Prometheus, 31(3), 257–263.

# The causes

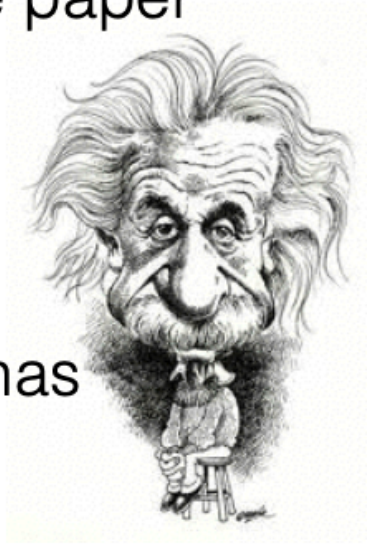
# I. Peer Review

Dear Sir,

We (Mr. Rosen and I) had sent you our manuscript for publication and had not authorized you to show it to specialists before it is printed. I see no reason to address the in any case erroneous comments of your anonymous expert. On the basis of this incident I prefer to publish the paper elsewhere.

Respectfully,

P.S. Mr. Rosen, who has left for the Soviet Union, has authorized me to represent him in this matter.



# I. Peer Review

## The peer review drugs don't work

A process at the heart of science is based on faith rather than evidence, says Richard Smith, and vested interests keep it in place

Peer review is supposed to be the quality assurance system for science, weeding out the scientifically unreliable and reassuring readers of journals that they can trust what they are reading. In reality, however, it is ineffective, largely a lottery, anti-innovatory, slow, expensive, wasteful of scientific time, inefficient, easily abused, prone to bias, unable to detect fraud and irrelevant.

Perhaps the biggest argument against the peer review of completed studies is that it simply isn't needed. With the World Wide Web everything can be published, and the world can decide what's important and what isn't. This proposition strikes terror into many hearts, but with so much poor-quality science published what do we have to lose?

**Richard Smith, former *British Medical Journal* editor**

**May 28, 2015**

# I. Peer Review

## Effects of Editorial Peer Review

### A Systematic Review

Tom Jefferson, MD
Philip Alderson, MBChB
Elizabeth Wager, MA
Frank Davidoff, MD

**Conclusions** Editorial peer review, although widely used, is largely untested and its effects are uncertain.

*JAMA. 2002;287:2784-2786* www.jama.com

Cochrane

Trusted evidence.
Informed decisions.
Better health.

## Editorial peer review for improving the quality of reports of biomedical studies

**Published:**
18 April 2007

**Authors:**
Jefferson T, Rudin M, Brodney Folse S, Davidoff F

**Authors' conclusions:**

At present, little empirical evidence is available to support the use of editorial peer review as a mechanism to ensure quality of biomedical research.

# I. Peer Review

Published online 5 October 2011 | *Nature* **478**, 26-28 (2011) |
doi:10.1038/478026a

nature International weekly journal of science

News Feature

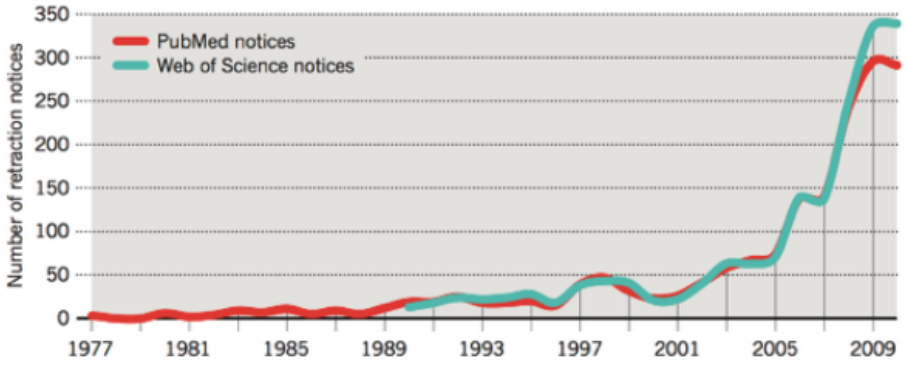
## Science publishing: The trouble with retractions

**A surge in withdrawn papers is highlighting weaknesses in the system for handling them.**

Richard Van Noorden

### RISE OF THE RETRACTIONS

In the past decade, the number of retraction notices has shot up 10-fold (**top**), even as the literature has expanded by only 44%. It is likely that only about half of all retractions are for researcher misconduct (**middle**). Higher-impact journals have logged more retraction notices over the past decade, but much of the increase during 2006–10 came from lower-impact journals (**bottom**).

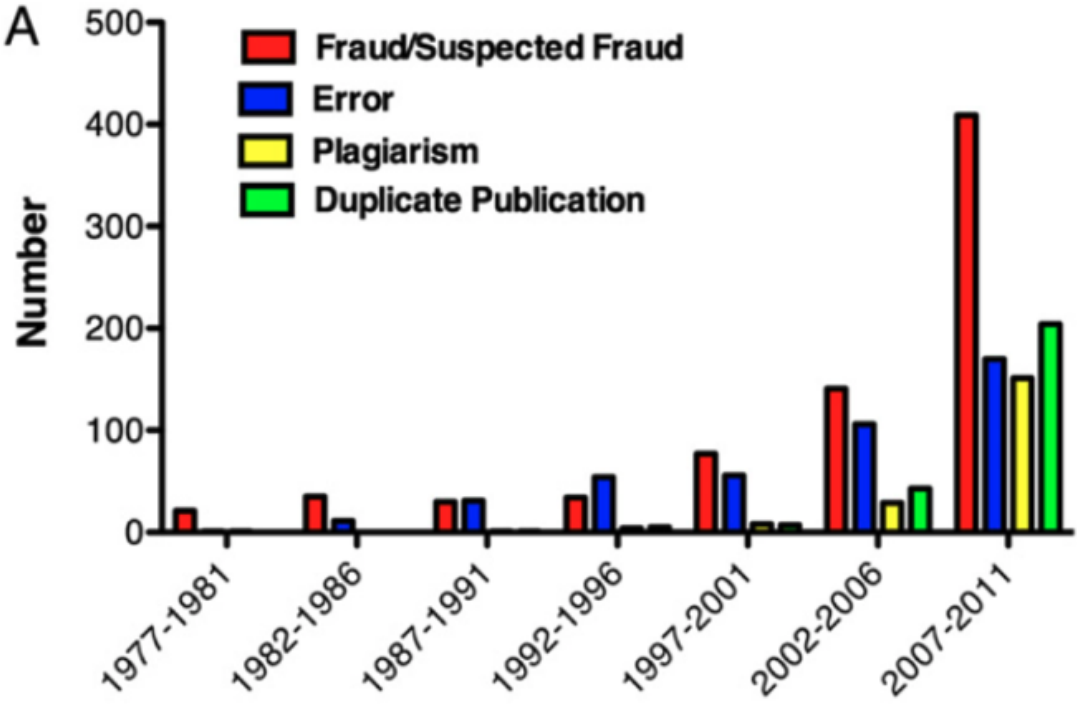



# I. Peer Review

PNAS

## Misconduct accounts for the majority of retracted scientific publications

Ferric C. Fang[a,b,1], R. Grant Steen[c,1], and Arturo Casadevall[d,1,2]



# I. Peer Review

RESEARCH ARTICLE

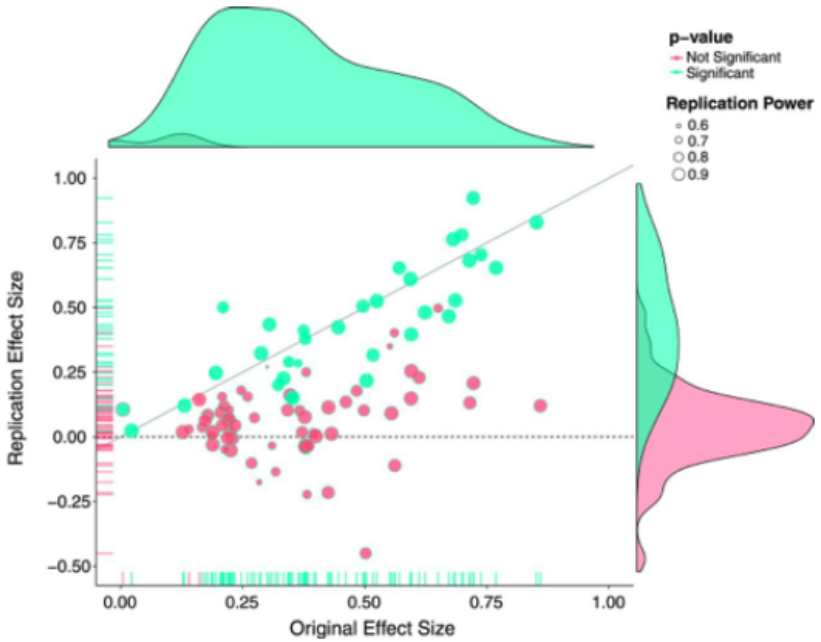
## Estimating the reproducibility of psychological science

**Open Science Collaboration**[*,†]

[*]*All authors with their affiliations appear at the end of this paper.*

↵[†]Corresponding author. E-mail: nosek@virginia.edu

*Science* 28 Aug 2015:
Vol. 349, Issue 6251,
DOI: 10.1126/science.aac4716



# I. Peer Review

nature International weekly journal of science

## Drug development: Raise standards for preclinical cancer research

C. Glenn Begley & Lee M. Ellis

**85 per cent of preclinical studies could not be replicated**

**Building a stronger system**

What reasons underlie the publication of erroneous, selective or irreproducible data? The academic system and peer-review process tolerates and perhaps even inadvertently encourages such conduct[5]. To obtain funding, a job, promotion or tenure, researchers need a strong publication record, often including a first-authored high-impact publication. Journal editors, reviewers and grant-review committees often look for a scientific finding that is simple, clear and complete — a 'perfect' story. It is therefore tempting for investigators to submit selected data sets for publication, or even to massage data to fit the underlying hypothesis.

*Nature* **483**, 531–533 (29 March 2012) | doi:10.1038/483531a
Published online 28 March 2012

# I. Peer Review

*Jointly published by Akadémiai Kiadó, Budapest and Springer, Dordrecht*

*Scientometrics, Vol. 81, No. 2 (2009) 549–565*
DOI: 10.1007/s11192-008-2141-5

## Rejecting and resisting Nobel class discoveries: accounts by Nobel Laureates

JUAN MIGUEL CAMPANARIO

*Departamento de Física, Universidad de Alcalá, 28871 Alcalá de Henares, Madrid, Spain*

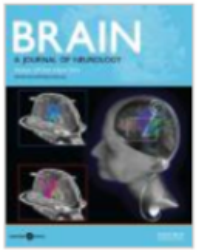
I review and discuss instances in which 19 future Nobel Laureates encountered resistance on the part of the scientific community towards their discoveries, and instances in which 24 future Nobel Laureates encountered resistance on the part of scientific journal editors or referees to manuscripts that dealt with discoveries that later would earn them the Nobel Prize.

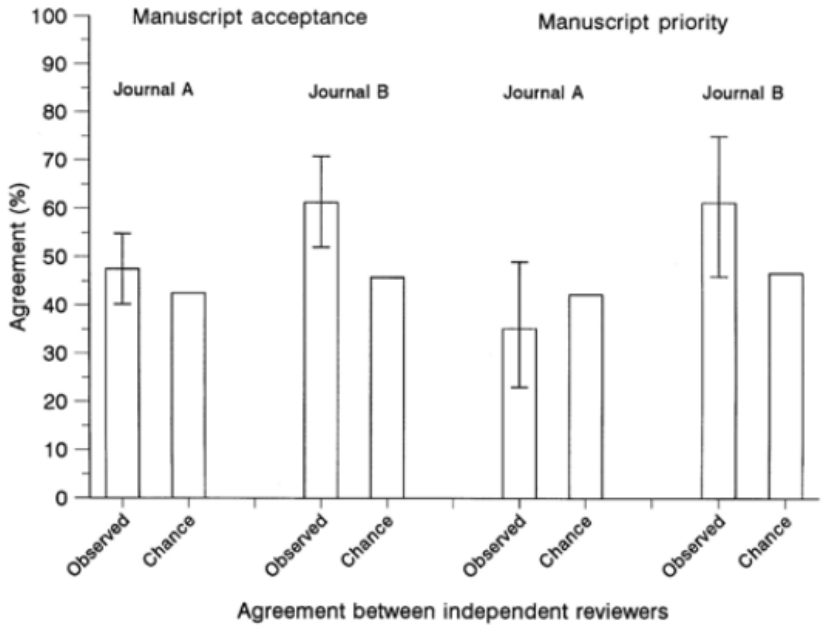
# I. Peer Review

## Reproducibility of peer review in clinical neuroscience: Is agreement between reviewers any greater than would be expected by chance alone?

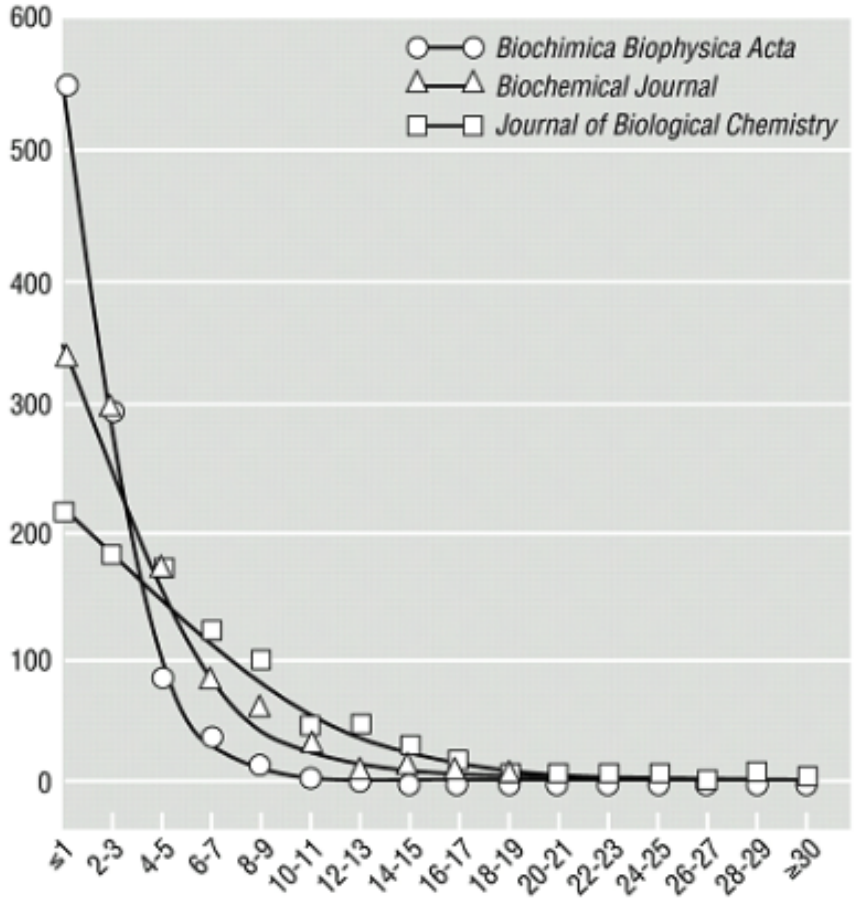
Peter M. Rothwell, Christopher N. Martyn

DOI: http://dx.doi.org/10.1093/brain/123.9.1964 1964-1969 First published online: 1 September 2000



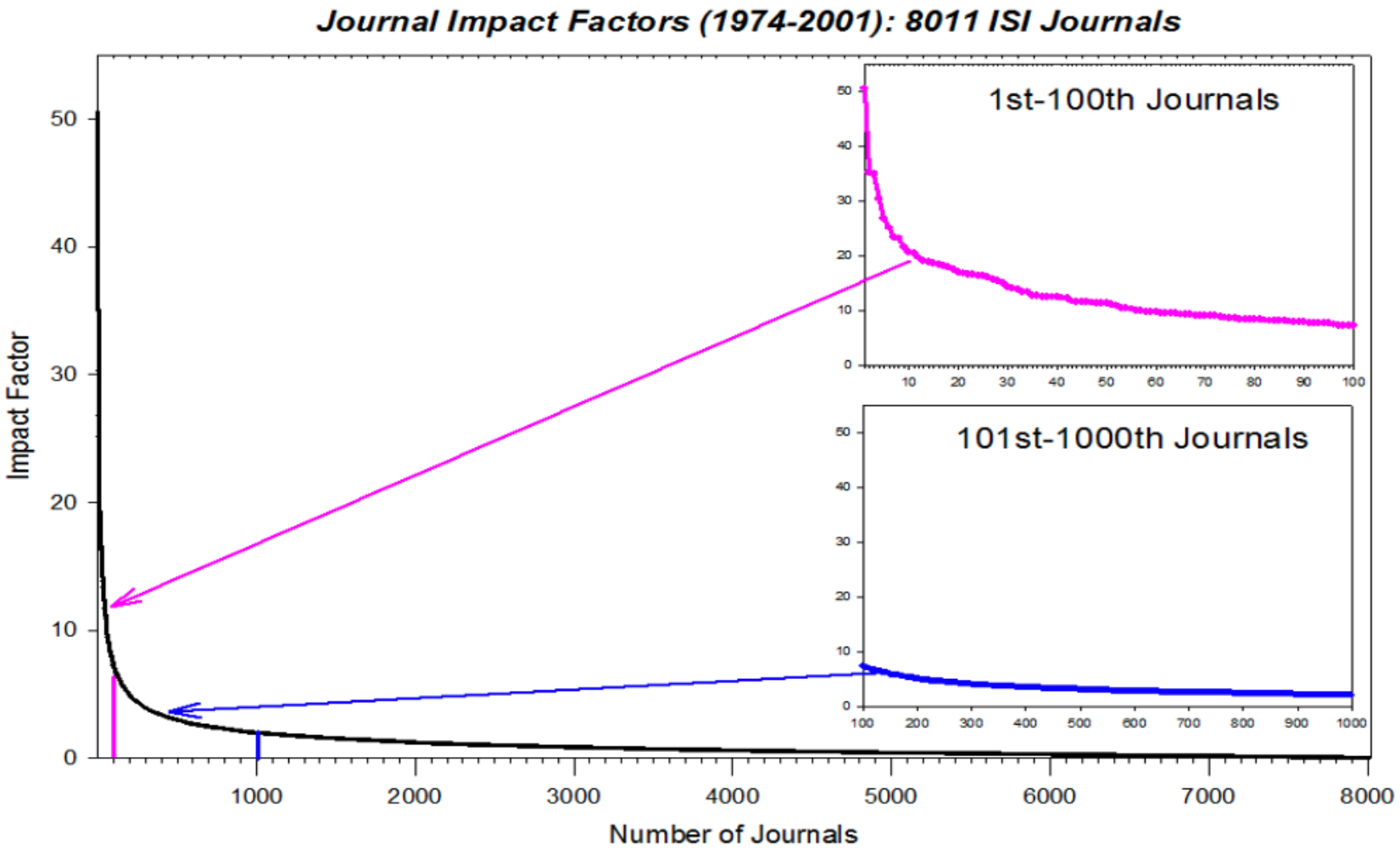



# Citation distribution per journal



# II. Impact Factor

## The Journal Monopoly



# Treating the symptoms

# Open Access: a missed opportunity

## 2002: Budapest Open Access Initiative

By “open access” to this literature, we mean its **free** availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, **crawl them for indexing**, **pass them as data to software**, or use them for any other lawful purpose, without financial, legal, or technical barriers.

---

https://www.budapestopenaccessinitiative.org/read

# Open Access: a missed opportunity

## 2002: Budapest Open Access Initiative

By “open access” to this literature, we mean its **free** availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, **crawl them for indexing**, **pass them as data to software**, or use them for any other lawful purpose, without financial, legal, or technical barriers.

To achieve open access to scholarly journal literature, we recommend two complementary strategies.

1. Self-Archiving
2. Open-access journals

---

https://www.budapestopenaccessinitiative.org/read

# Open Access: a missed opportunity

*“Green OA has no promise of delivering augmented revenues to the publisher, but **Gold OA opens up a new customer**, the author him or herself, who in many instances pays for the article to be OA. **Gold OA**, in other words, represents a **business opportunity**, whereas **Green OA** represents a **business problem**.”*

Joseph Esposito, Publishing consultant

---

https://scholarlykitchen.sspnet.org/2013/12/03/how-plos-one-can-have-it-all/

# Open Access: a missed opportunity

## 2012: The Finch report, commissioned by the UK government

Recommendations:

1. a clear policy direction should be set towards support for publication in open access or hybrid journals, funded by APCs, as **the main vehicle** for the publication of research, especially when it is publicly funded.

Key actions:

1. Make a clear commitment to **support the costs** of an innovative and sustainable research communications system, with a **clear preference for publication in open access or hybrid journals**.

# Preprints

## Many options, but...


---

Perakakis, P. (2019). **Why think twice before submitting a preprint to bioRxiv**. Personal blog.

# “Alternative” Publishers

eLife

## Scientific Publishing: Building a sustainable future for eLife

Randy Schekman, Mark Patterson

Editorial · Sep 29, 2016

### Abstract

To support the long-term growth of eLife we are going to introduce a publication fee of $2500.

https://elifesciences.org/articles/21230

# “Alternative” Publishers


## eLife Latest: Changes to our publication fee

The eLife fee for publication will increase on April 5, 2021; authors may request a waiver for any reason.

Inside eLife · Mar 10, 2021

Now, as we approach our third round of funding, our funders wish to focus their investments on developing new approaches to research communication, such as our work on Sciety and the Executable Research Article, and no longer subsidise the basic operation of the eLife journal. We are therefore increasing our publication fee from $2,500 to 3,000USD, effective April 5, 2021, to cover what it costs us to publish.

---

https://elifesciences.org/inside-elife/77a49d1b/elife-latest-changes-to-our-publication-fee

# The solution

# Talking about innovation!

Tim Berners Lee

Paul Ginsparg


arXiv.org

**WorldWideWeb: Proposal for a HyperText Project**

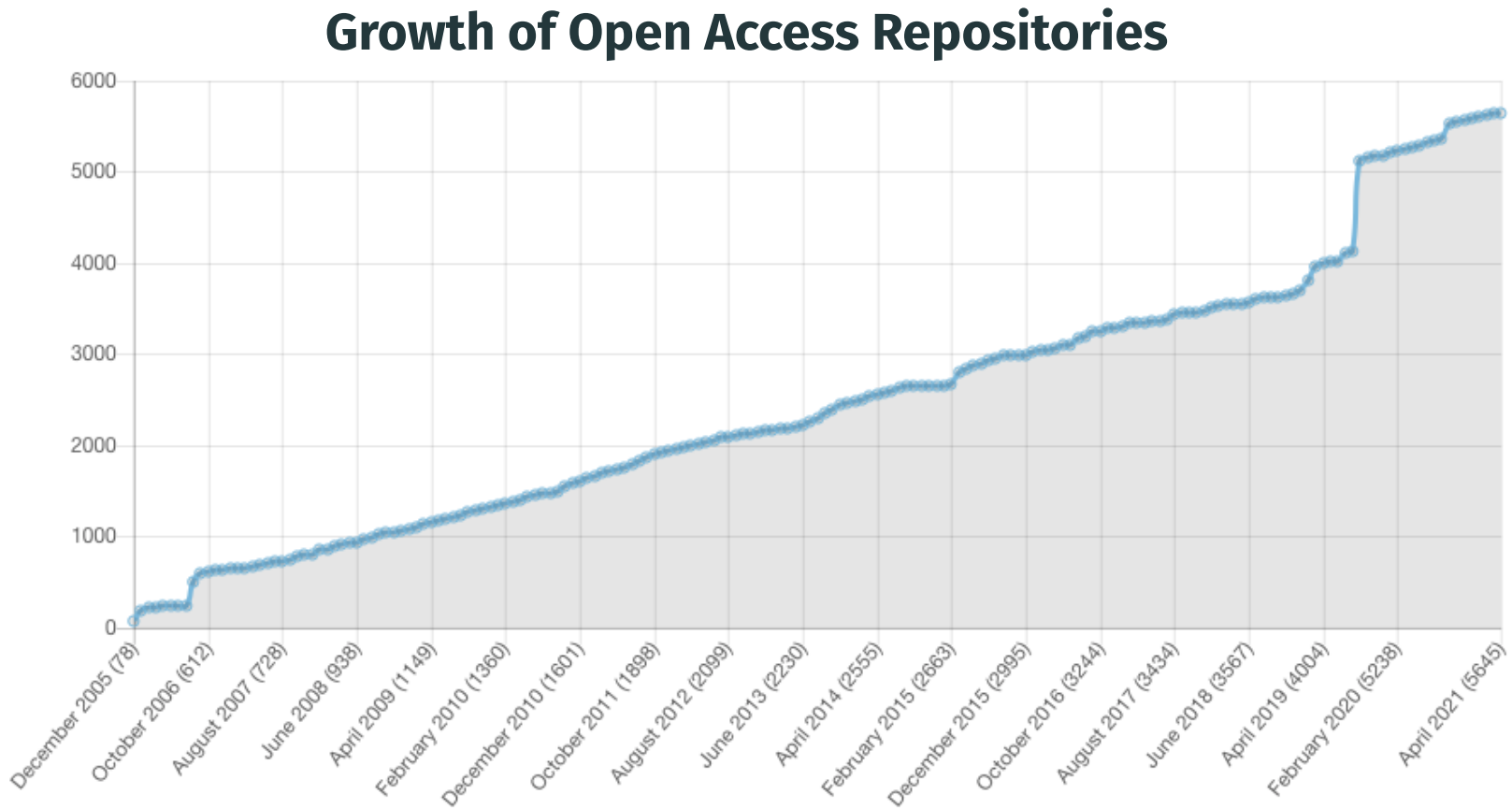
To:
PG. Innocenti/ECP, G. Kellner/ECP, D.O. Williams/CN
Cc:
R. Brun/CN, K. Gieselmann/ECP, R.€ Jones/ECP, T.€ Osborne/CN, P. Palazzi/ECP, N.€ Pellow/CN, B.€ Pollermann/CN, E.M.€ Rimmer/ECP
From:
T. Berners-Lee/CN, R. Cailliau/ECP
Date:
12 November 1990

The attached document describes in more detail a Hypertext project.

HyperText is a way to link and access information of various kinds as a web of nodes in which the user can browse at will. It provides a single user-interface to large classes of information (reports, notes, data-bases, computer documentation and on-line help). We propose a simple scheme incorporating servers already available at CERN.

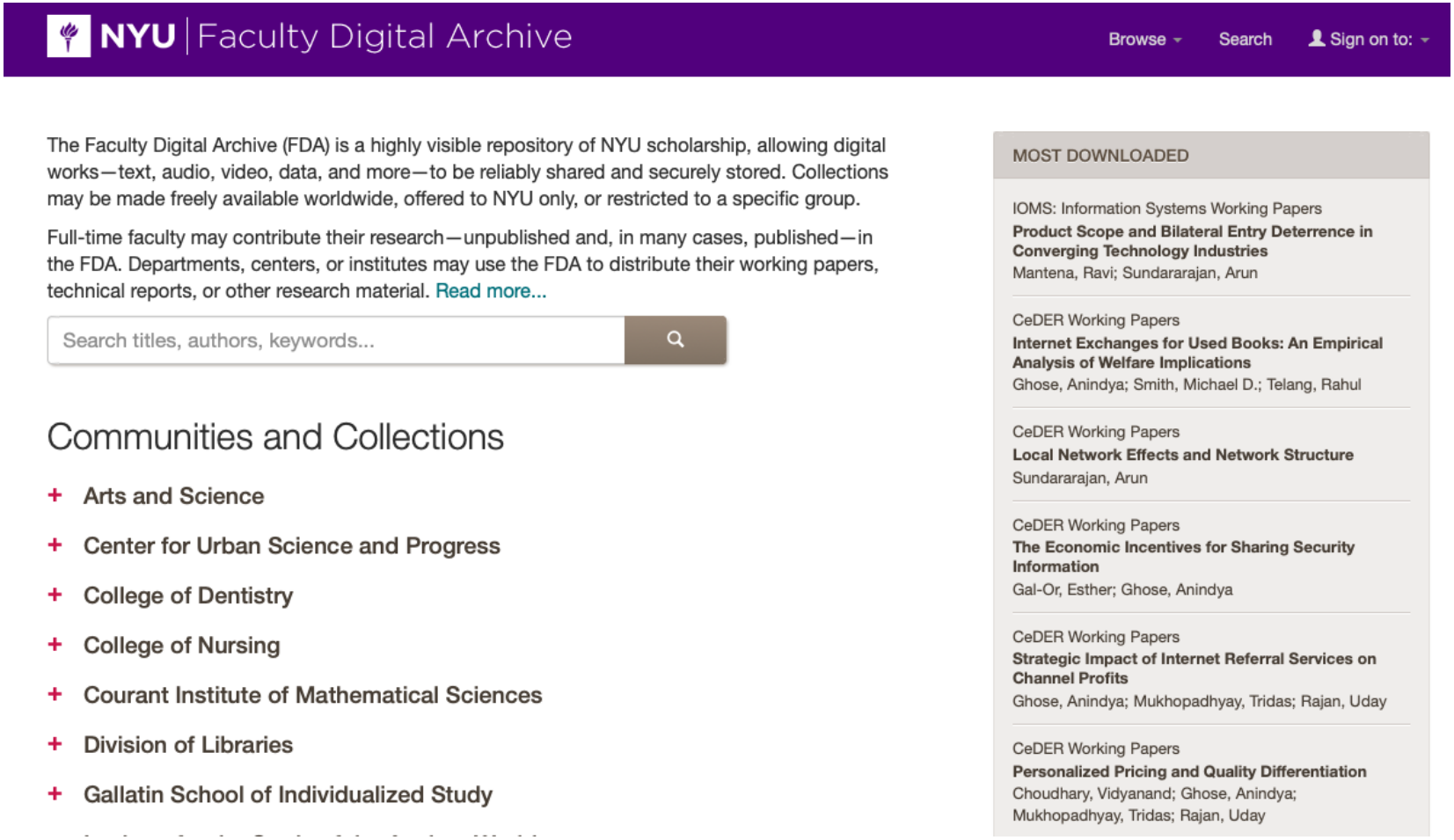
The project has two phases: firstly we make use of existing software and hardware as well as implementing simple browsers for the user's workstations, based on an analysis of the requirements for information access needs by experiments. Secondly, we extend the application area by also allowing the users to add new material.

# Institutional repositories: publication platforms




https://v2.sherpa.ac.uk/view/repository_visualisations/1.html

# NYU | Faculty Digital Archive




https://archive.nyu.edu

# CSIC repository

## DIGITAL.CSIC

- Classified as the 5$^{th}$ largest European repository
- 120 Institutions
- Team of expert librarians
- More than 130,000 open access articles
- Digital perseverance, DOIs
- Data and code storage

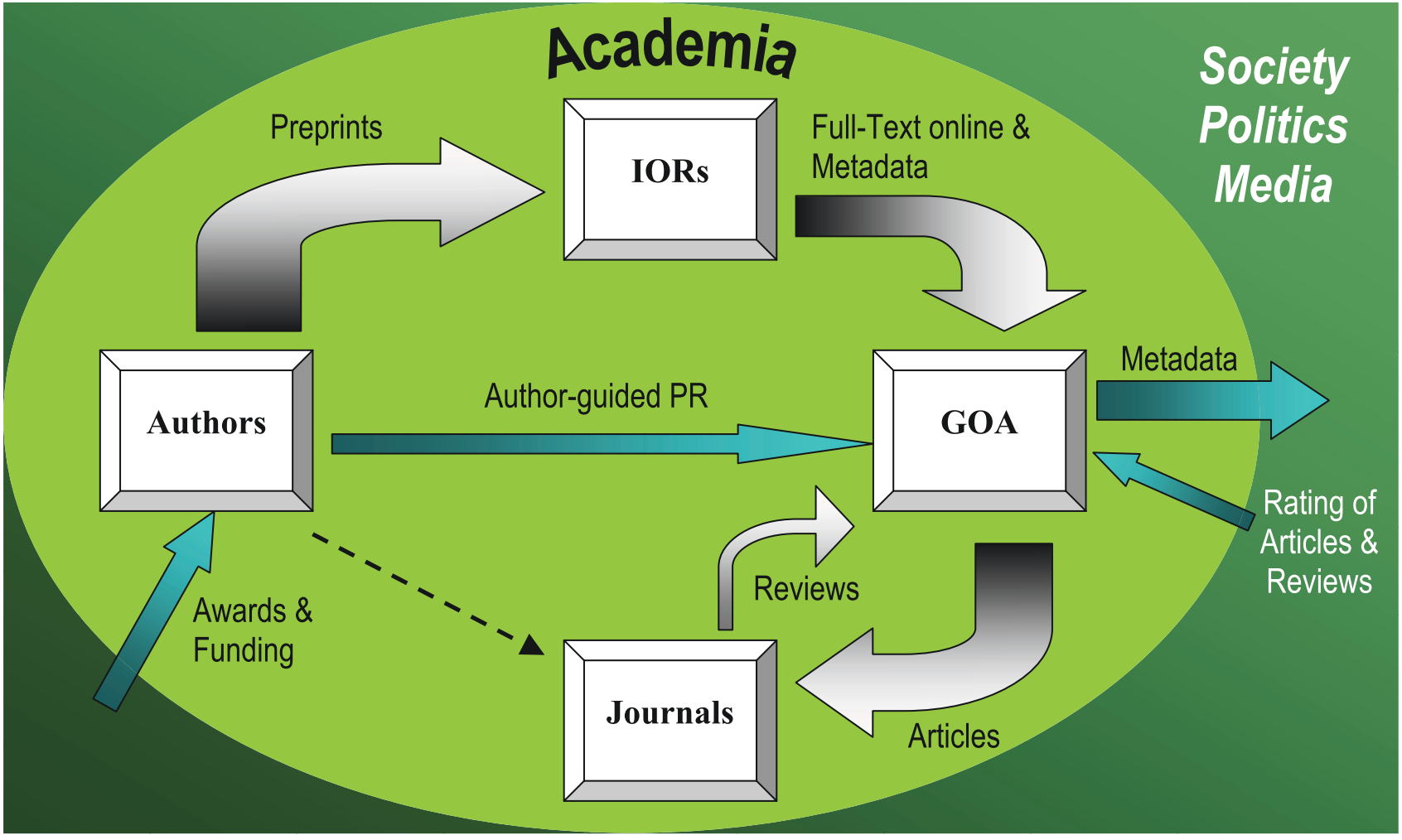
---

https://digital.csic.es

| | |
|---|---|
| **Title:** | **Good-bye to publishers: a practical implementation** |
| **Authors:** | Perakakis, Pandelis; Bernal, Isabel CSIC |
| **Keywords:** | Overlay journals<br>Open Peer Review Module for Repositories<br>Open Scholar<br>DIGITAL.CSIC<br>Next Generation Repositories<br>Pubfair |
| **Issue Date:** | 5-Feb-2020 |
| **Abstract:** | Presentation delivered in a COAR meeting to investigate the potential for a common, distributed architecture that would connect peer review with resources in repositories. The aim of the meeting, hosted by Inria in Paris, France, past January 23-24, was to share the current workflows of various projects and systems that are managing or developing overlay peer review on a variety of different repository types (institutional, preprint, data, etc.), and assess whether there is sufficient interest in defining a set of common protocols and vocabularies that would allow interoperability across different systems. This presentation gave an overview of one of these ongoing initiatives. |
| **URI:** | http://hdl.handle.net/10261/199795 |
| **DOI:** | http://dx.doi.org/10.20350/digitalCSIC/13486 |

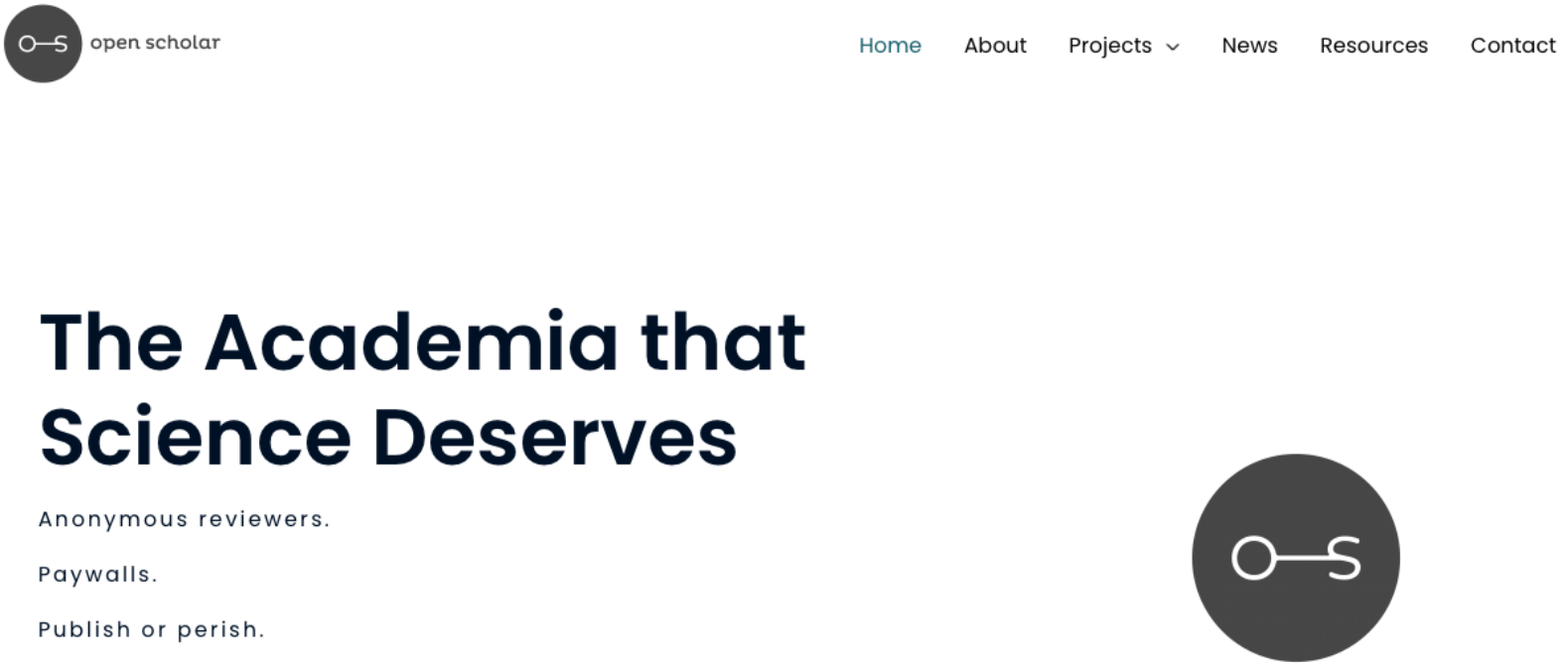
http://dx.doi.org/10.20350/digitalCSIC/13486

# NSAP (2010): A disruptive proposal



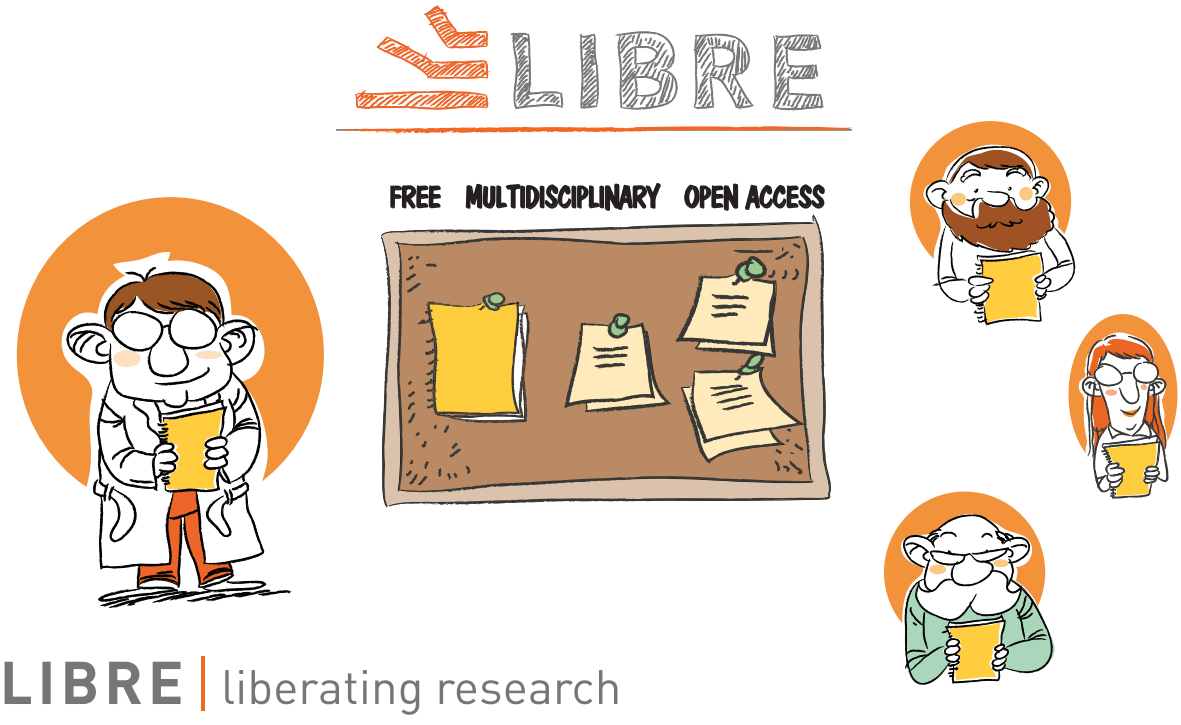

Perakakis, P., Taylor, M., & Trachana, V. (2010). **Natural Selection of Academic Papers**. Scientometrics, 85(2), 553–559.

# Open Scholar (2012)




https://www.openscholar.org.uk

# LIBRE (2012)




https://youtu.be/25ji9-52k7c

# Open Peer Review Module (2015)

## Open Peer Review Module

Open Scholar coordinated a consortium of five partners to develop an open source module that can be installed on institutional repositories to enable overlay open peer review.

OPEN PEER REVIEW module
are you an open reviewer?

OUR PROJECT PARTNERS

OpenAIRE
DIGITAL.CSIC OPEN SCIENCE
e-IEO
IIIA Institut d'Investigació en Intel·ligència Artificial
SECABA LAB
ARVO CONSULTORES digital repositories

https://www.openscholar.org.uk/open-peer-review-module-for-repositories/

# COAR: Next Generation Repositories (2016)


November 28, 2017

Other Open Access

## Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Repositories Working Group

Rodrigues, Eloy; Bollini, Andrea; Cabezas, Alberto; Castelli, Donatella; Carr, Les; Chan, Leslie; Humphrey, Chuck; Johnson, Rick; Knoth, Petr; Manghi, Paolo; Matizirofa, Lazarus; Perakakis, Pandelis; Schirrwagen, Jochen; Selematsela, Daisy; Shearer, Kathleen; Walk, Paul; Wilcox, David; Yamaji, Kazu

https://doi.org/10.5281/zenodo.1215014

# COAR: Notify project (2020)

## Notify: Repository and Services Interoperability Project

COAR Confederation of Open Access Repositories

open scholar

DIGITAL.CSIC CIENCIA EN ABIERTO

HARVARD LIBRARY

MIT Libraries

HAL archives-ouvertes.fr

PCI peercommunityin.org

https://notify.coar-repositories.org

# Overlay journals

**Discrete Analysis**

Articles ▾ For Authors Editorial Board About Blog search


## Editorial introduction

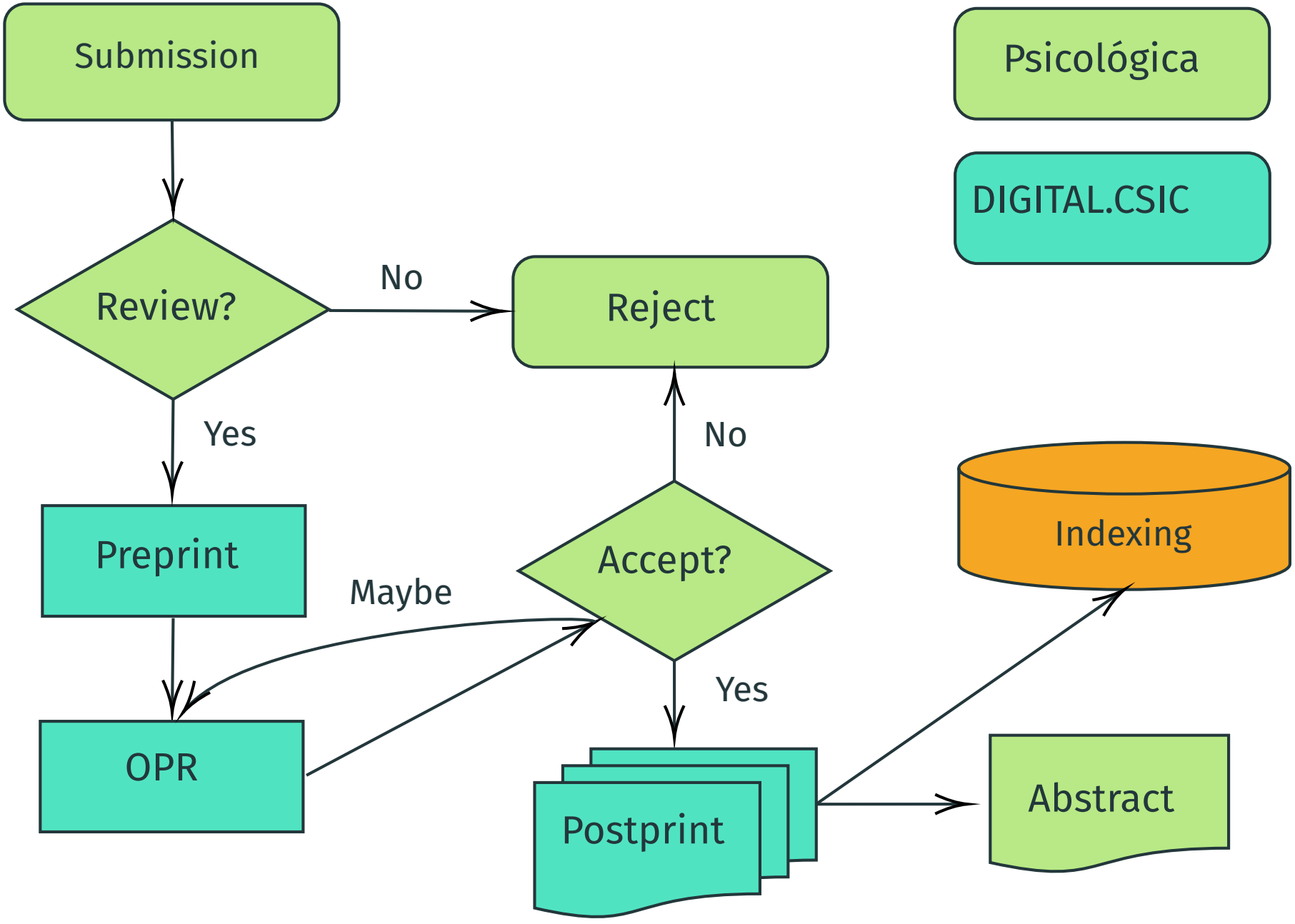
Read article at ArXiv

Gabor orthogonal bases and convexity, Discrete Analysis 2018:19, 11 pp.

A fundamental way of understanding a function $f$ defined on $\mathbb{R}^d$ is to expand it in terms of a basis with nice properties. Typically, one assumes that $f \in L_2(\mathbb{R}^d)$, and then it becomes natural to look for orthonormal bases with properties such as interesting symmetries. For example, wavelet bases, which play a very important role in signal processing, are orthonormal and consist of translates and dilates of a single function.

https://discreteanalysisjournal.com/

# Psicológica (2019)



Journal of the Spanish Society for Experimental Psychology



## Language does not modulate fake news credibility, but emotion does

The proliferation of fake news in internet requires understanding which factors modulate their credibility and take actions to limit their impact. A number of recent studies have shown an effect of the foreign language when making decisions: reading in a foreign language engages a more rational, analytic mode of thinking (Costa et al., 2014, Cognition). This analytic mode of processing may lead to a decrease in the credibility of fake [...]

By Manuel Perea, María Fernández-López | 04/09/2020 | Vol.5(3).2012 Read More ›

## Inconsistencies between mental fatigue measures under compensatory control theories

Mental fatigue has traditionally been defined as a condition of reduced [...]

By José J. Cañas, Enrique Muñoz-de-Escalona, Paulo Noriega | 04/09/2020 | Vol.5(3).2012

Read More ›

## The relationship of counterfactual reasoning and false belief understanding: the role of prediction and explanation tasks

The relation between the prediction and explanation of the false belief [...]

By Antonio Contreras, Juan Antonio García-Madruga | 24/07/2020 | Vol.5(3).2012

Read More ›

https://psicologicajournal.com/

Journal of the Spanish Society for Experimental Psychology



# Language does not modulate fake news credibility, but emotion does

Photo by freepik

Published On: 04/09/2020 | Categories: Vol.5(3).2012

Manuel Perea, María Fernández-López

## Editorial introduction

Read article at CSIC

The proliferation of fake news in internet requires understanding which factors modulate their credibility and take actions to limit their impact. A number of recent studies have shown an effect of the foreign language when making decisions: reading in a foreign language engages a more rational, analytic mode of thinking (Costa et al., 2014, Cognition). This analytic mode of processing may lead to a decrease in the credibility of fake news. Here we conducted two experiments to examine whether fake news stories presented to university students were more credible in the native language than in a foreign language. Bayesian analyses in both experiments offered support for the hypothesis that the credibility of fake news is not modulated by language. Critically, Experiment 2 also showed a strong direct relationship between credibility and negative emotionality regardless of language. This pattern suggests that the driving force behind the engagement in an automatic thinking mode when reading fake news is

# Review form 1

**Name** *

e.g. Donald Jr

First name(s) + "Jr"

e.g. Smith

Last name

**Affiliation** *

**Scientific standards** *

✓ 0
1

Choose option 1 if you consider that the work is scientifically acceptable. Choose option 0 if you consider that the authors should revise the work taking into account your evaluation. The scientific standards refers to various relevant parameters such as methodology, clarity of presentation, use of language, inclusion of key references, soundness, etc.

# Review form 2

**Importance of this work for its academic field** *

Not applicable

Rate in a scale from 0-100 the importance of this work for its academic field.

**General interest** *

Not applicable

Rate in a scale from 0-100 how interesting this work is for other academic fields.

**Social value** *

Not applicable

Rate in a scale from 0-100 the importance of this work for society in general (e.g., how relevant this work is for the problems society is currently facing).

**Overall quality assessment** *

0

Rate in a scale from 0-100 the article globally.

**Upload your review as a single pdf file** *

Choose File no file selected

Submit

# Example of an article with reviews and comments

https://digital.csic.es/handle/10261/130958

# Conclusions

- Conflict of interest between the publishing industry and science
- Journals can be published in institutional repositories
- Control of validation, evaluation and dissemination processes will allow us to align them with the interests of science and society
- *Psicológica* is the first journal of a scientific society published on an institutional repository and an example of what the future of academic publishing may (should?) look like.

Thank you for your attention...

Thank you for your attention...

...and time for the coffee!