

# Open Access: The problem landscape from an ethical perspective

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# Science publishing has dramatically changed in the past 15 years

- advanced digital technologies,
  - the rise of interdisciplinary and collaborative research,
  - appearance of big data science,
  - growing scientific community worldwide (China, Brasil, India..),
  - advances in search tools (Mendeley, Google, ..),
  - alternative peer view practices,
  - Preprint services (BioRxiv)
  - Evolving new measures of merit (downloads, Altmetrics, faculty 1000, ...),
  - Novel business models
- 
- **Open access publishing** from aspirational to commonplace

# Trends and Developments in Open Access Publishing

## - global industry

Open access scientific publishing have *grown into a global industry*

based on a “gold” publishing model

where the authors pay article processing charge (APC) for immediate access

instead of institutional subscriptions with access to published scientific papers

The Directory of Open Access Journals ([www. doaj.org](http://www.doaj.org)) listed

**more than 10 000 open-access journals in 2017**

# Trends and Developments in Open Access Publishing

## - costs and selectivity

**Rigorous quality control, information dissemination, innovative technologies in publishing and archiving are not free, somebody has to bear the costs.**

The more selective the editorial process is the more costly it becomes to publish high quality journals.

“In the absence of external support, an open access journal has to be either selective and expensive, or inexpensive but less selective.

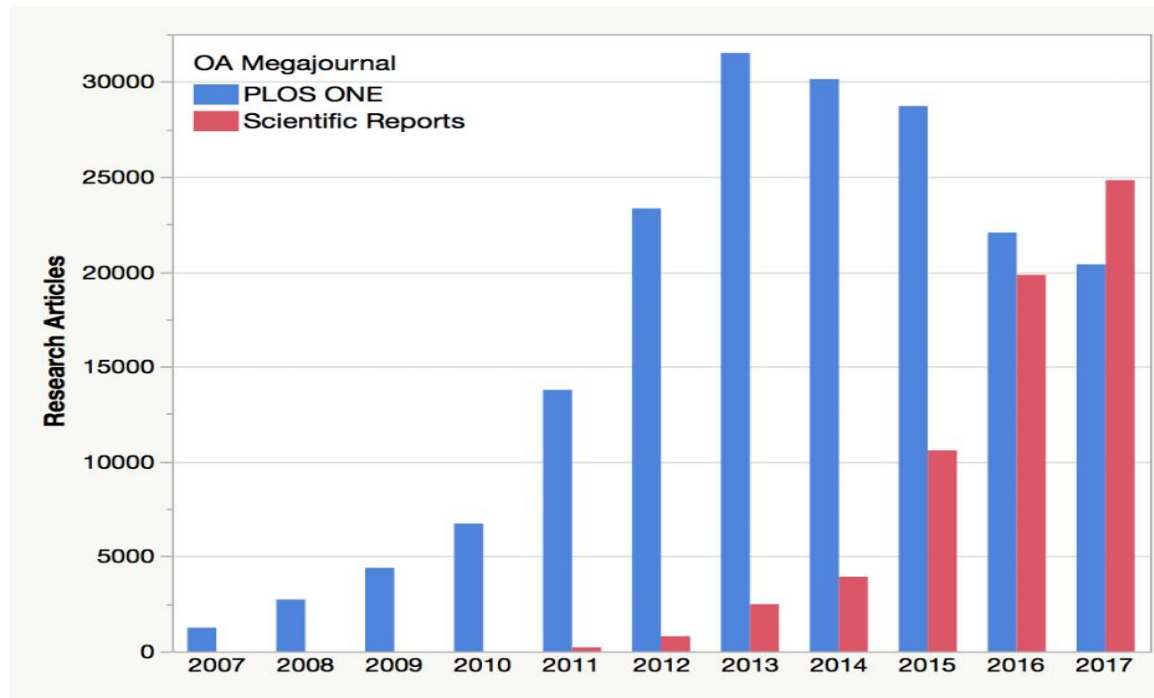
Currently, **highly selective journals** running in the open access mode **struggle to break even**, whereas **large-volume, low-selectivity** open access publishing **generates substantial profit”**  
*Maria Leptin (director of EMBO): Open Access – pass the buck. Science editorial 2012, 335:1279.*

# Trends and Developments in Open Access Publishing

- mega journals, ~3% of all STM outputs

PLOS ONE

Scientific Reports



BioMed Central (Springer Nature)

Hindawi

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iScience (Cell Press – Elsevier)

Phil Davis „The future of OA megajournals”

Scholarly Kitchen January 2018.

„OA publishing has created an explosion of titles, most of which seem to be competing for a small slice of a fixed pie.”

*„Embeddedness of journal prestige and reputation in academic practices means there is likely a limit to open access megajournal growth.”*

# Trends and Developments in Open Access Publishing

## - the lucrative cascading



NATURE

Nature Journals - 50 with „Nature” label, 26 with NPJ label **hybrid OA**

Nature Communications **gold OA**

Communications (Biology, Chemistry, Physics) **gold OA**

Scientific Reports **gold OA**

Scientific Data **gold OA**

### **Big publishers of elite brand journals coopting **gold OA****

„The small number of elite journals with far more submissions than they can possibly handle in their toll-access flagship can use this cascading model to reassert themselves in the marketplace.” *Joseph Esposito Scholarly Kitchen 2015*

# Trends and Developments in Open Access Publishing

- funders

Several global and national funders have mandated or preferred open-access publishing providing significant extra funds for gold OA

- often without guidance about journal selection

*Open access to research publications. Independent advice. The Adam Tickell report.*

<https://www.gov.uk/government/publications/open-access-to-research-independent-advice>

# Trends and Developments in Open Access Publishing

## - resources

The question has been raised whether at times of limited resources it is wise diverting funds from research in order to support gold open-access publishing parallel with paying subscriptions to journals.

There is a **new dilemma** for many research institutions and universities: assuming that all articles from their research groups was published with gold open access it would have cost significantly more than their annual budget for journal subscription

**Research-intensive institutions** would pay most and this would subsidize free access for **less-research-intensive** institutions and the **pharmaceutical industry**.

This may lead to **questionable dominance** of scientific publishing by the rich institutions.



# Trends and Developments in Open Access Publishing

## - green OA

Until now research funders, intergovernmental agencies and governments have not found the solution to finance the costs of gold open access publishing of all scientific results.

*The “green” mode of OA publishing* emerged requiring authors to deposit their manuscript or its accepted version in a public repository within a predetermined period of time.

The article is generally made available free of charge after an **embargo period** which may vary depending on funders: mostly either 6 months or 1 year in natural sciences and 1 or 2 years in humanities.

**Open access mandates** (gold or green, different repository requirements, reporting) set by institutions, funders and governments **differ** in various countries and are often contradictory, even confusing, making **compliance cumbersome** with administrative burden.

# Trends and Developments in Open Access Publishing

## - European Union Resolution

### Council Conclusions on the Transition Towards an Open Science System (2016):

***„AGREES to further promote the mainstreaming of open access to scientific publications by continuing to support a transition to immediate open access as the default by 2020, using the various models possible and in a cost - effective way,***

without embargoes or with as short as possible embargoes,

and without financial and legal barriers,

taking into account the diversity in research systems and disciplines,

and that open access to scientific publications should be achieved in full observance of the principle that no researcher should be prevented from publishing.”

# Unexpected Consequences in Open Access Publishing

## - ethical issues

Possibility of restriction in academic freedom

Emergence of APC figure as a measure of quality?

Mushrooming of bogus („predatory) journals”

Increased use of bogus journals

Hybrid journals – „double dipping”

# Ethical issues in Open Access Publishing – Academic freedom

**Researchers may be restricted in academic freedom to publish where they consider it best**

- administrative open access mandates
- limited availability of funds for Article Processing Charges (APCs).

This may **endanger freedom of science** and the principle of equal opportunity and **increase the already existing gap** in research output between countries, including member states of the European Union.

Depending on the size of earmarked APC funds in their institution or country they may not have equal opportunity compared to peers to publish their results as they find it most beneficiary for their research carrier

# Ethical issues in Open Access Publishing – False criteria of excellence

**There is a potential danger of linking value of scientific results and publications to amounts of APCs charged for OA publication that is creating an artificial and false criteria of excellence.**

APC figure as a quality measure must be strictly avoided

# Ethical issues in Open Access Publishing – bogus („predatory”) journals

Researchers have initiated and participated in setting up open access journals for career advances and /or financial gains.

**A large proportion of these journals** (a rough estimate of 8000 in 2015\*) lacks editorial quality control and victimize researchers by intentionally misleading authors, readers, and the scientific community at large. They are often called **“predatory journals”**

They often name nonexistent people as their editors and editorial board members and claim ownership of articles that they have plagiarized from other publications. Sloppy or no archiving.

Typically, these publishers **spam professional email lists**, broadly soliciting article submissions for the clear purpose of gaining additional income.

*\*Shen & Björk, BMC Med. 13, 230 (2015).*

# Ethical issues in Open Access Publishing – bogus („predatory”) journals



## Who's Afraid of Peer Review? *By John Bohannon*

Dozens of open-access journals targeted in an elaborate *Science* sting accepted a spoof research article, raising questions about peer-review practices in much of the open-access world.

The journalist created variations of a credible but mundane scientific paper with such grave errors that a competent peer reviewer should easily identify it as flawed and un-publishable.

They were submitted to 304 Open Access Journals: **more than half accepted it.**

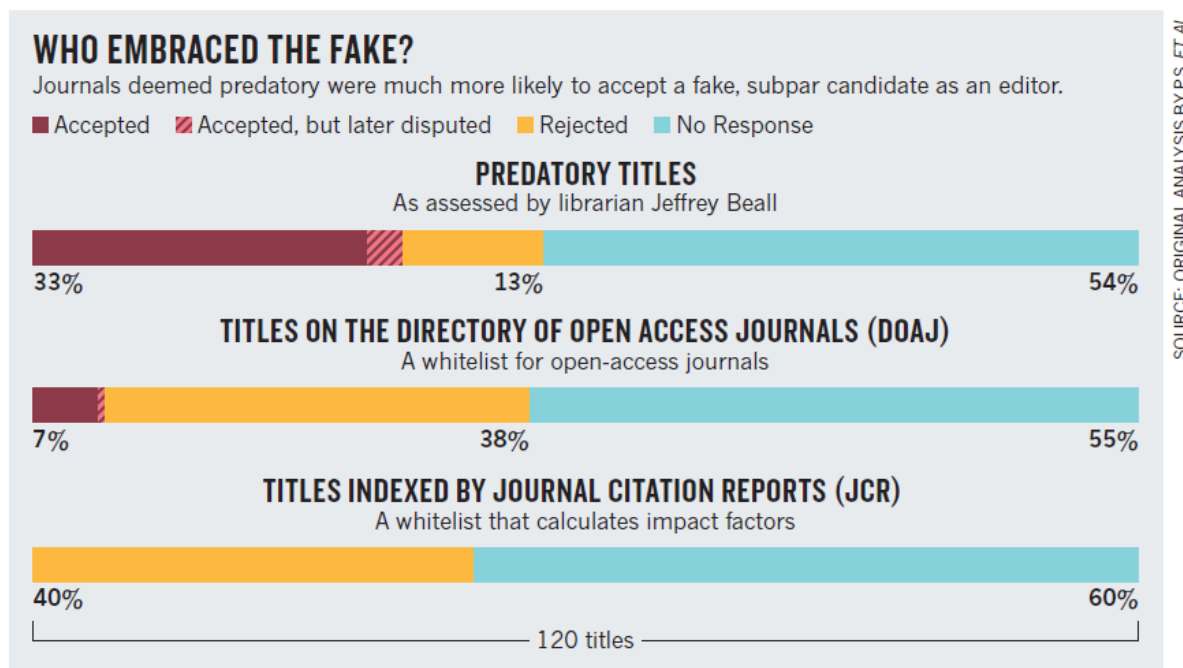
# Ethical issues in Open Access Publishing – bogus („predatory”) journals

## Predatory journals recruit fake editor

An investigation finds that dozens of academic titles offered ‘Dr Fraud’ — a sham, unqualified scientist — a place on their editorial board.

**NATURE** | Vol 543, pp 481-483, 2017

Piotr Sorokowski, Emanuel Kulczycki,  
Agnieszka Sorokowska & Katarzyna Pisanski



### PUBLISHING PROBLEM

#### Spot the predator

Excerpts from e-mails from journals accepting and rejecting a fake, unqualified candidate.

#### TITLES THAT ACCEPTED THE FAKE

- “... as an editor, you have to publish some of your research articles with the Journal”
- “If you want to start a new journal... you will get 30% of the revenue earned thru you”
- “It’s our pleasure to add your name as our editor in chief for this journal with no responsibilities”

„The open-access movement, although noble in its intent, has been an unwitting host to these parasitic publishers.”



# Ethical issues in Open Access Publishing – bogus („predatory”) journals

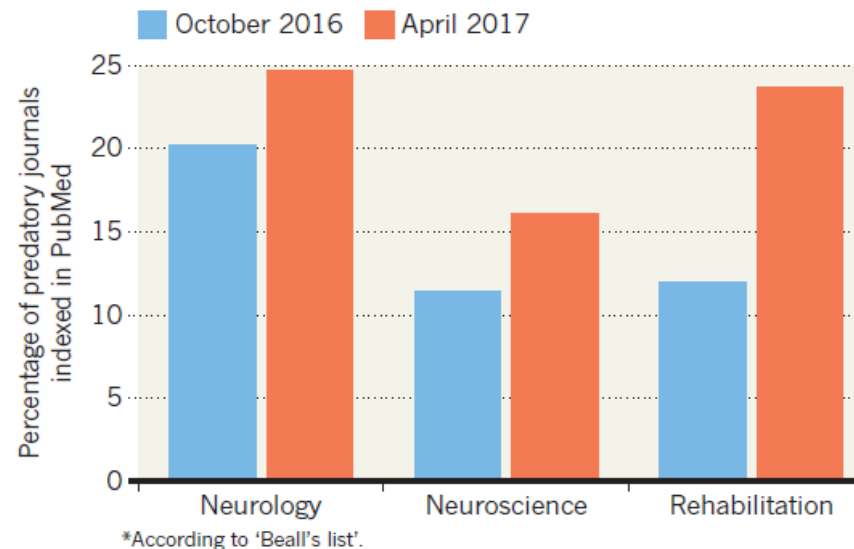
SOURCE: A. MANCA ET AL. LANCET 390, 734–735 (2017)

## TREND WATCH

Increasing numbers of suspected ‘predatory’ journals in neurology, neuroscience and rehabilitation are having their articles indexed in PubMed, finds a survey (A. Manca *et al. Lancet* 390, 734–735; 2017). Predatory journals do not provide standard services such as peer review but charge publication fees. The survey used a catalogue of questionable open-access journals called Beall’s list, which is now offline, and tracked how many had articles indexed in PubMed. The proportions for all fields grew from October 2016 to April 2017.

## PREDATORY JOURNALS INDEXED IN PUBMED

The proportion of suspected ‘predatory’ open-access journals\* in the fields of neuroscience, neurology and rehabilitation indexed in PubMed increased over a six-month period.



**P**redatory journals are becoming increasingly adept at appearing legitimate.  
*Moher et al, Nature 549, 23, 2017*

# Ethical issues in Open Access Publishing – Temptation to publish in bogus OA journals

**Increasing number of researchers are tempted to pay and then expect lower standards by publishing their findings in bogus open access journals which lack quality control.**

**This has resulted in**

**misuse of funds for self-promotion,  
increasing number of false or even fabricated results in the scientific literature,  
appearance of misleading scientific claims.**

**Many researchers are just duped by the predatory journals or simply unaware of the difference between bogus and quality open access journals.**

**Even those who recognize a potential problem can fall victim.**

# Ethical issues in Open Access Publishing – Temptation to publish in bogus OA journals

Stop this waste of people,  
animals and money

Predatory journals indeed have shoddy reporting and include papers from wealthy nations..

*David Moher, Larissa Shamseer, Kelly Kobey et al.*

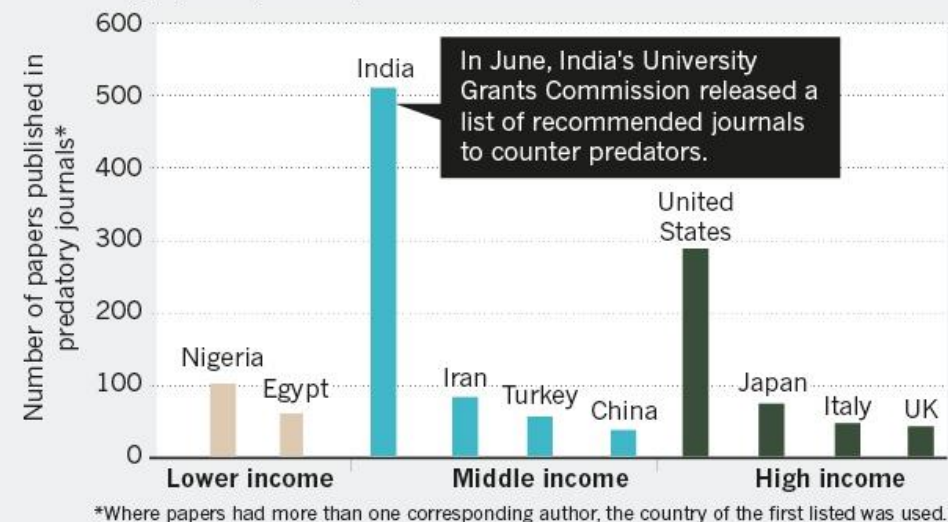
**NATURE** | Vol 549, pp 23-25, 2017

*“In our view,  
publishing  
in predatory  
journals is  
unethical.”*

## GLOBAL PREDATION

A sample of 1,907 papers in more than 200 supposed predatory journals found that most of the articles come from India. Surprisingly, however, more than half of the papers have authors from higher-income or upper-middle-income countries.

*Predatory papers by country and income*



©nature

Articles failed to report key information necessary for readers to assess, reproduce and build on the findings.

They contained data from more than 2 million individuals and over 8,000 animals.

**The problem is more urgent than many realize**

# Ethical issues in Open Access Publishing – business ethics

**Most of the traditional subscription journals became hybrid journals publishing increasing number of online open, freely accessible papers for which publishers collect APCs in addition to the subscription payments for the same journals received from libraries and licensing consortia.**

This is often called “double dipping”

Unless publishers introduce a transparent system which decreases subscription payment in proportion to collected APCs they will be blamed for exploitation of the publishing system to gain extra profit.

# Ethical issues in Open Access Publishing – loss of public trust

## News about corrupted open access journals weakens trust of the public in science

At a time

„...when neglect of science by public officials and frequent denial of scientific thinking in many quarters seem to call into question ... scientific progress.” *Rush Holt Science editorial* January 26, 2018

- Deepens reproducibility crisis
- May lead to reductions in research funding
- Generate unfounded negative publicity for open access publishing in general



# Reactions to unintended consequences of open access publishing

# Responding to ethical concerns in Open Access Publishing

**Decisions of all stakeholders on open access publishing must be based primarily on protecting the core principles of scientific publishing:**

Critical, high quality and independent evaluation of scientific claims

Secure archiving of validated research

# Responding to ethical concerns in Open Access Publishing

**Open access mandates, procedures in distribution and administration of funds for APCs should be formulated in such a way that they**

- do not violate academic freedom
- guarantee equal opportunities for researchers.



# Responding to ethical concerns in Open Access Publishing

**Systematic monitoring of open access journals are necessary to identify and publicly list**

- Credible open access journals**
- bogus and „predatory” journals**

Members of the scientific community should be encouraged to participate in such monitoring activities, to report misconducts and to support activities which regularly list, based on well-defined criteria, of credible and bogus („predatory”) publishers and journals.

# Responding to ethical concerns in Open Access Publishing

**Directory of Open Access Journals (DOAJ); the *Who's Who* of credible open-access journals**

**Jeffrey Beall' list:** Potential, possible, or probable predatory scholarly open-access publishers; in 2016 the number was close to 2000. The site was shut down by the owner in January 2017.

## **Cabell's index**

Scholarly services firm Cabell's International in Beaumont, Texas, launched a blacklist of „predatory” academic journals; lists about 4,000 journals — available only to paying subscribers. The company uses a set of 65 criteria to judge whether journals are predatory. It **also publishes a 'whitelist'** of trustworthy journals, to which about 800 institutions subscribe.

# Responding to ethical concerns in Open Access Publishing

## **Salient evidence-based characteristics of potential predatory journals**

1. The scope of interest includes non-biomedical subjects alongside biomedical topics
2. The website contains spelling and grammar errors
3. Images are distorted/fuzzy, intended to look like something they are not, or which are unauthorized
4. The homepage language targets authors
5. The Index Copernicus Value is promoted on the website
6. Description of the manuscript handling process is lacking
7. Manuscripts are requested to be submitted via email
8. Rapid publication is promised
9. There is no retraction policy
10. Information on whether and how journal content will be digitally preserved is absent
11. The Article processing/publication charge is very low (e.g., < \$150 USD)
12. Journals claiming to be open access either retain copyright of published research or fail to mention copyright
13. The contact email address is non-professional and non-journal affiliated (e.g. @yahoo.com)

# Responding to ethical concerns in Open Access Publishing

**Institutional research evaluations and assessment committees should pay close attention to quality of publications appearing in open access journals when these are considered in procedures for promotion and funding decisions.**

# Responding to ethical issues in Open Access Publishing -Recommendations

Publishers, research institutions and funders should issue **explicit warnings against illegitimate publishers.**

Funders and research institutions should **prohibit the use of funds to support predatory journal publications**; make sure that **researchers are trained** in how to select appropriate journals when submitting their work; and **audit** where grantees, faculty members and research staff publish.

**When seeking promotion or funding, researchers** should include a declaration that their **CV is free of predatory publications.**

Before approving a study, **ethics committees** should ask researchers to declare in writing their willingness to work with their institutional resources, such as librarians, to ensure they do not submit to any journals without reviewing evidence-based criteria for avoiding these titles.

# Responding to ethical concerns in Open Access Publishing

**Good practices in OA publishing and unaccepted behaviours are defined and included in codes of conduct for research integrity.**



**The European  
Code of Conduct for  
Research Integrity**  
REVISED EDITION



2017

## 2. Good Research Practices

### 2.7 Publication and Dissemination

- 
- Authors ensure that their work is made available to colleagues in a timely, open, transparent, and accurate manner, unless otherwise agreed, and are honest in their communication to the general public, and in traditional and social media
- 
- Researchers adhere to the same criteria as those detailed above whether they publish in a subscription journal, an open access journal or in any other alternative publication form.

## 3. Violations of Research Integrity

### 3.1 Research Misconduct and other Unacceptable Practices

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- Establishing or supporting journals that undermine the quality control of research ('predatory journals').

Thank you for your attention