What Retractions Tell Us About The Scientific Process

MU/MTRH Research Misconduct Workshop 2019
Nairobi, Kenya (by videoconference)
March 1, 2019

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Stealing It

THE WATCHDOGS

‘Dear plagiarist’: A scientist calls out his double-crosser
Retraction Watch

A new record: Major publisher retracting more than 100 studies from cancer journal over fake peer reviews

with 16 comments

Springer is retracting 107 papers from one journal after discovering they had been accepted with fake peer reviews. Yes, 107.

To submit a fake review, someone (often the author of a paper) either makes up an outside expert to review the paper, or suggests a real researcher — and in both cases, provides a fake email address that comes back to someone who will invariably give the paper a glowing review. In this case, Springer, the publisher of Tumor Biology through 2016, told us that an investigation produced “clear evidence” the reviews were submitted under the names of real researchers with faked emails. Some of the authors may have used a third-party editing service, which may have supplied the reviews. The journal is now published by SAGE.
Why We Launched Retraction Watch

Why write a blog about retractions?

Post by Ivan Oransky and Adam Marcus

The unfolding drama of Anil Potti — a Duke researcher who posed as a Rhodes Scholar and appears to have invented key statistical analyses in a study of how breast cancer responds to chemotherapy — has sent rip-
The Retraction Watch Database

RetractionWatch

retractiondatabase.org
Retractions By The Numbers

<table>
<thead>
<tr>
<th>Year</th>
<th># of Retractions</th>
<th># of Papers Published</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>38</td>
<td>1MM</td>
<td>.004</td>
</tr>
<tr>
<td>2008</td>
<td>367</td>
<td>1.2MM</td>
<td>.031</td>
</tr>
<tr>
<td>2010</td>
<td>4863</td>
<td>1.4MM</td>
<td>.347*</td>
</tr>
<tr>
<td>2014</td>
<td>868</td>
<td>1.6MM</td>
<td>.054</td>
</tr>
<tr>
<td>2016</td>
<td>1418</td>
<td>1.8MM</td>
<td>.078</td>
</tr>
</tbody>
</table>

retractiondatabase.org

as of October 22, 2018
Leveling Off?

Retraction rate levels off
Although the number of retractions ballooned after 1997, the percentage of all papers retracted rose more slowly and leveled off after 2012.

*The rate appears to decline after 2015, but numbers are almost certainly incomplete because of delays in publication of retractions.

Science, October 26, 2018
Why Are Papers Retracted?

The burden of misconduct
The majority of retractions have involved scientific fraud (fabrication, falsification, and plagiarism) or other kinds of misconduct (such as fake peer review).

Retraction Watch

Science, October 26, 2018
Common Reasons for Retractions

- Duplication ("self-plagiarism")
- Plagiarism
- Image Manipulation
- Faked Data
- Fake Peer Reviews
- Publisher Error
- Authorship Issues
- Legal Reasons
- Not Reproducible
Which Countries Retract Most?

Countries with the highest retraction rates

- Iran: 14
- Romania: 10.4
- Singapore: 7.8
- India: 7.5
- Malaysia: 6.8
- South Korea: 6
- China: 5
- Turkey: 4.6
- South Africa: 4.5
- Netherlands: 4.4

Median: 4.4

More information here: www.scim.ag/RWmethodology

Science, October 26, 2018
Are We Catching Them All?

A tragedy of errors

Mistakes in peer-reviewed papers are easy to find but hard to fix, report David B. Allison and colleagues.

Overall, 3.8% of published papers contained problematic figures, with at least half exhibiting features suggestive of deliberate manipulation. The prevalence of papers with problematic images has risen markedly during the past decade.
Who Retracts Most?

The Retraction Watch Leaderboard

Who has the most retractions? Here’s our unofficial list (see notes on methodology), which we’ll update as more information comes to light:

1. Yoshitaka Fujii (total retractions: 183) See also: Final report of investigating committee, our reporting, additional coverage
2. Joachim Boldt (96) See also: Editors-in-chief statement, our coverage
3. Diederik Stapel (58) See also: our coverage
4. Adrian Maxim (48) See also: our coverage
5. Chen-Yuan (Peter) Chen (43) See also: SAGE, our coverage
6. Yoshihiro Sato (43) See also: our coverage
7. Hua Zhong (41) See also: journal notice
8. Fazlul Sarkar (40) See also: our coverage
9. Shigeaki Kato (39) See also: our coverage
10. Jun Iwamoto (39) See also: our coverage
11. Yuhji Saitoh (39) See also: our coverage
How the Biggest Fabricator in Science Got Caught

Yoshtaka Fujii falsified 183 papers before statistics exposed him.

BY ADAM MARCUS & IVAN ORANSKY
ILLUSTRATION BY LOUISA BERTMAN
MAY 21, 2015
What Happens to Retracted Papers’ Citations?

Retracted Publications in Biomedicine: Cause for Concern

John M. Budd, Zach C. Coble and Katherine M. Anderson

Abstract
Retractions of articles and citations to retracted work continue to be a cause for concern. In 1999, Budd et al. found 235 retracted publications in the biomedical literature for a 30-year period. Nearly 40% were retracted because of misconduct. The current study found 1,164 retracted articles in the 12-year period between 1997 and 2009. Of the 1,112 articles included for analysis, 55% were retracted for some type of misconduct. While this number represents a small minority of the total number of publications in biomedicine, it is still substantial, and the impact of the retracted works can be significant. In PubMed, notifications of retraction error and (especially) misconduct, the current study is intended to alert information professions and information users about the challenges inherent in the literatures of many fields, particularly biomedicine.

Introduction
At times and for a variety of reasons, it can be necessary for a published article to be retracted. While retracted articles represent a small minority of all published articles, there is continued concern about the phenomenon of retraction. In a recent report in the *Times Higher Education*, Corbyn notes that the rate at which scientific articles are retracted has increased.

-Assn of College & Research Libraries 2011
What Happens to Retracted Papers’ Citations?

Retracted Publications in Biomedicine: Cause for Concern

John M. Budd, Zach C. Coble and Katherine M. Anderson

Of 391 citations analyzed, only 6% acknowledge the retraction.
Do Journals Get the Word Out?

Retracted Publications in Mental Health Literature: Discovery across Bibliographic Platforms

Caitlin Bakker
Biomedical/Research Services Liaison, University of Minnesota

Amy Riegelman
Social Sciences Librarian, University of Minnesota

Journal of Librarianship and Scholarly Communication, January 8, 2018
Of the 812 records for retracted publications, 40.0% (n=325) did not indicate that the paper had been retracted.

Amy Riegelman
Social Sciences Librarian, University of Minnesota

Journal of Librarianship and Scholarly Communication, January 8, 2018
Retraction Watch

PubPeer strikes again: Leukemia paper retracted for image duplications

with 4 comments

In July, a PubPeer commenter called out a paper in *Biochimica et Biophysica Acta* for image duplication; by September, the paper was retracted for the exact reason detailed in the anonymous comment.

Here’s the [notice](https://www.biorxiv.org/content/10.1101/2020.06.12.229587v1) for “Effect of ST3GAL 4 and FUT 7 on sialyl Lewis X synthesis and multidrug resistance in human acute myeloid leukemia,” a paper initially published in June:

> This article has been retracted at the request of the authors. It contained several inappropriate–ly processed and incorrect Figures. On behalf of all authors, the corresponding author has taken full responsibility and apologizes to the readers of BBA Molecular Basis of Disease for submitting and publishing the erroneous article and any inconvenience caused.

An anonymous PubPeer commenter compiled the following criticism (click [here](https://www.biorxiv.org/content/10.1101/2020.06.12.229587v1) or on the picture below for a larger image):

> Concern about Figures 3, 5, and 7:
Post-Publication Peer Review On The Rise

“PubPeer was created specifically to bypass the suffocating and restricted channels of ‘correspondence to the editors’ and journal commenting. The tens of thousands of useful comments that users have posted on PubPeer were previously suppressed by that system, yet facilitated by an open framework encouraging factual discussion. We’re not going back.”

-- Brandon Stell, co-founder, PubPeer
The Sleuths, aka ‘Data Thugs’

Read about Nick Brown (left) and James Heathers (right) from the article...

Meet the 'data thugs' out to expose shoddy and questionable research. 

By Adam Marcus, Retraction Watch, Ivan Oransky, Retraction Watch, Feb 14, 2018, 12:45 PM

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Thanks:
The MacArthur Foundation
The Arnold Foundation
The Helmsley Trust
Individual donors