

REPLACING ACADEMIC JOURNALS

*Preventing academia
from becoming Kleptopia*

Björn Brembs
Universität Regensburg
<http://brembs.net>
@brembs@mastodon.social





ROYAL SOCIETY OPEN SCIENCE

Article Navigation

PERSPECTIVE | 19 JUL 2023

Replacing academic journals

Special Collection: Science, Society and Policy

Björn Brembs   ; Philippe Huneman  ; Felix Schönbrodt; Gustav Nilsson  ; Toma Susi  ; Renke Siems; Pandelis Perakakis;
Varvara Trachana; Lai Ma; Sara Rodriguez-Cuadrado

doi.org/gsnccch

~2006: corporations are a problem



~2013: Academia finds a way

Not a solution, but a workaround



Kopernio



2006: a political problem

NEW YORK TIMES BESTSELLER



"Nothing short of a
landmark in contemporary
political reporting."
—*Saturday Review*

The REPUBLICAN WAR on SCIENCE

REVISED AND UPDATED



CHRIS MOONEY

2012: Politics finds a way



2013: The corporations strike back



Media business

● This article is more than 13 years old

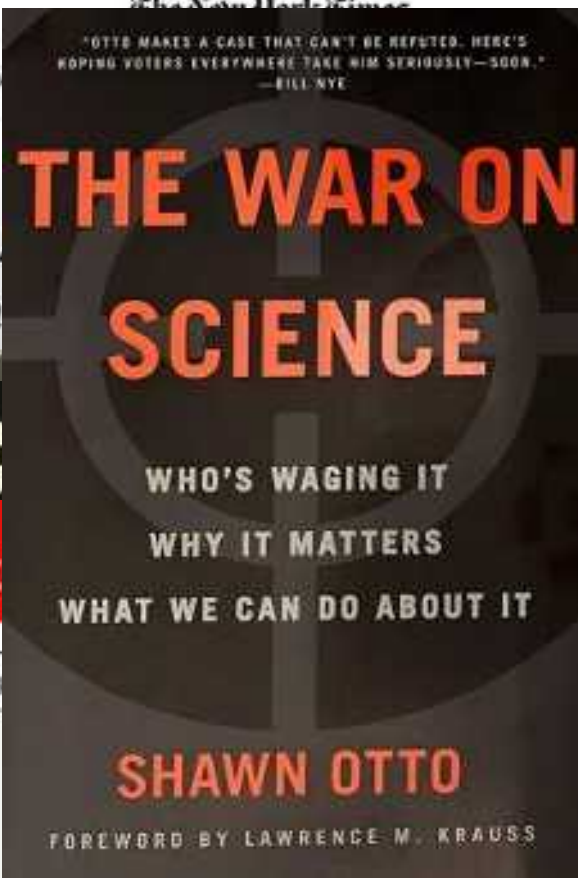
Reed Elsevier buys academic social network Mendeley for up to £65m

Publishing giant vows to retain 'great culture, talent and collaborative spirit' of London-based startup



2016: Politics strikes back





MAGA's assault on science is
an act of grievous self-harm

nature

[Explore content](#)

[About the journal](#)

[Publish with us](#)

[Subscribe](#)

[nature](#) > [book reviews](#) > [article](#)

BOOK REVIEW | 16 September 2025

How did assaults on science become The New York Times

OPINION
GUEST ESSAY

Trump's Assaults on Scientific Research Just Got Worse

June 8, 2026

Antiscience Is an Existential Threat

Home • World • Europe

Hungary's far-right government passes law that lets it take over scientific research bodies

Bill is 'essentially another nail in the coffin for academic freedom and independent thought', rights researcher says

FIDESZ
KONGRESSZUS 2023



Bloomberg

Technology

Orban Moves Against Hungary Scientists in Latest Challenge to EU

chafts-P

Nyheter / Sverige / Chalmers

SD: Dra in pengarna till "woke" på universiteten

SVERIGE åt 
svenskarna.
RÖSTA PÅ
SVERIGEDEMOKRATERNA

PÅSTÖTT • 4 MIN LÄSNING

imawandels zur
steckt eine gefi

SD mot vetenskapen:
en match i tre ronder

«Verheerende Folgen» für Forschungsstandort Schweiz

Wissenschaftler warnen vor Begrenzungs-Initiative

Die Spitzen der Schweizer Hochschulen warnen vor der SVP-Begrenzungs-Initiative, die verheerend für den Forschungsstandort Schweiz sei. Ein Künden der Personenfreizügigkeit würde zum Ende der Schweizer Teilnahme an EU-Forschungsprogrammen führen, kritisieren sie.

[Bundesratswahl](#)[Abstimmungen](#)[EU-Verträge](#)[Politbüro](#)[Tamedia-Umfragen](#)[Startseite](#)[Schweiz](#)[SVP bläst zum Angriff auf Hochschulen](#)

SVP bläst zum Angriff auf Hochschulen

Nach der Entlassung von Christoph Mörgeli kritisiert Christoph Blocher die «links unterwanderten Hochschulen». Eine brisante Aktennotiz soll zudem beweisen, dass die Kritik an Mörgeli politisch motiviert war.

TWO FRONTS

**TECH BILLIONAIRES FLOCK TO
TRUMP'S INAUGURAL**



Corporations align with politics

Bold ideas and critical the
science.



Data Tracking in Research

Open and trustworthy scientific information infrastructures are essential to digital science communication. They provide access to publications, research data and other research information resources and increasingly support the entire research and publication process. At the same time, the use of such infrastructures itself generates extensive data on research and communication processes;

As a result, the collection, linking and analysis of these digital traces of use – often referred to as **data tracking** – is becoming increasingly important. The DFG recognised this development at an early stage and is actively helping to shape the debate together with academic libraries, researchers, research institutions and other partners. The focus is on **issues of transparency, data protection, research autonomy and digital sovereignty**. The aim is to strengthen trust in scientific information infrastructures and ensure that they are designed in accordance with the values of open and responsible research.

Data Tracking as a DFG Topic

SIEMS, R.

When your j

Renke Siems on user tra
implications for their in

Infrastructure · Po



Attacking fundamental rights



4. Conclusion

Potentially, research tracking of this kind can fundamentally contradict academic freedom and informational self-determination. It can endanger scientists and hinder the freedom of competition in the field of information provision. For this reason, scholars and academic institutions must become aware of the problem and clarify the legal, technical and ethical framework conditions of their information supply – not least so as to avoid involuntarily violating applicable law, but also to ensure that academics are appropriately informed and protected.

Data tracking in research: aggregation and use or sale of usage data by academic publishers

A briefing paper of the Committee on Scientific Library Services and Information Systems of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)
28 October 2021

The corporations formerly known as publishers



The corporations formerly known as publishers

“less than half of Elsevier's revenues come from academic journals”

Paul Abrahams, Chief Communications Officer of RELX, March, 2023



Press release

Elsevier introduces authoritative scientific Datasets to fuel innovation and business-critical decisions in life sciences, chemicals and other research-intensive industries

New York | November 8, 2023

Data Brokers: profiting from mass surveillance

The Intercept

NETTERMS JUSTICE WAR ON GAZA BOAT STRIKES IMMIGRATION CHILLING

LEXISNEXIS IS SELLING YOUR PERSONAL DATA TO ICE SO IT CAN TRY TO PREDICT CRIMES

ICE uses LexisNexis to track people's cars, gather information on people, and make arrests for its deportation machine, according to contract.



Sam Biddle

June 28, 2023, 4:55 a.m.

14 likes

Legal Loopholes and Data for Dollars

How Law Enforcement and Intelligence Agencies Are Buying Your Data from Brokers



Palantir



LexisNexis



Who We Are



LexisNexis®



A Division of RELX

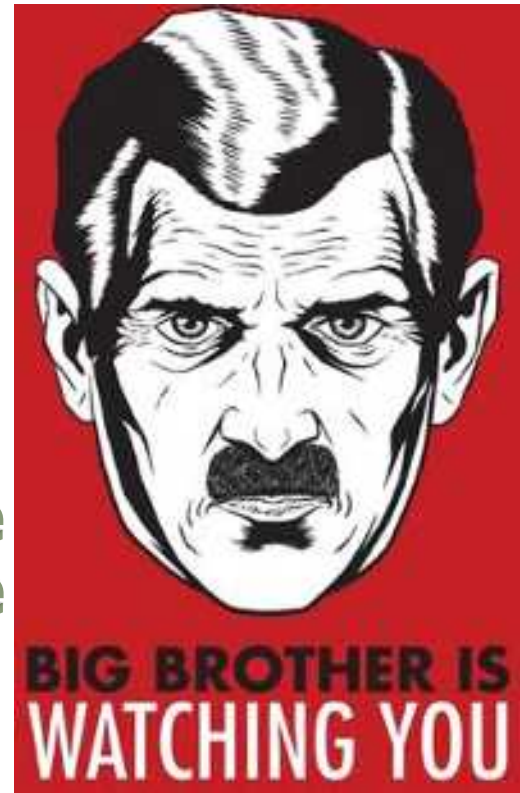
We are a division of RELX, along with Elsevier, LexisNexis Risk Solutions, and Reed Exhibitions. RELX is a global provider of information-based analytics and decision tools for professional and business customers, enabling them to make better decisions, get better results and become productive. Find out more about life at RELX [here](#).



ELSEVIER

REVERSING THE INFORMATION FLOW

Academics spend billions for the
privilege to serve as a corporate
commodity



PUBLIKATIONEN

Empfehlungen zur Transformation des
wissenschaftlichen Publizierens zu Open Access
(Drs. 9477-22), Januar 2022

Je schneller und breiter Forschungsergebnisse rezipiert und diskutiert werden, desto

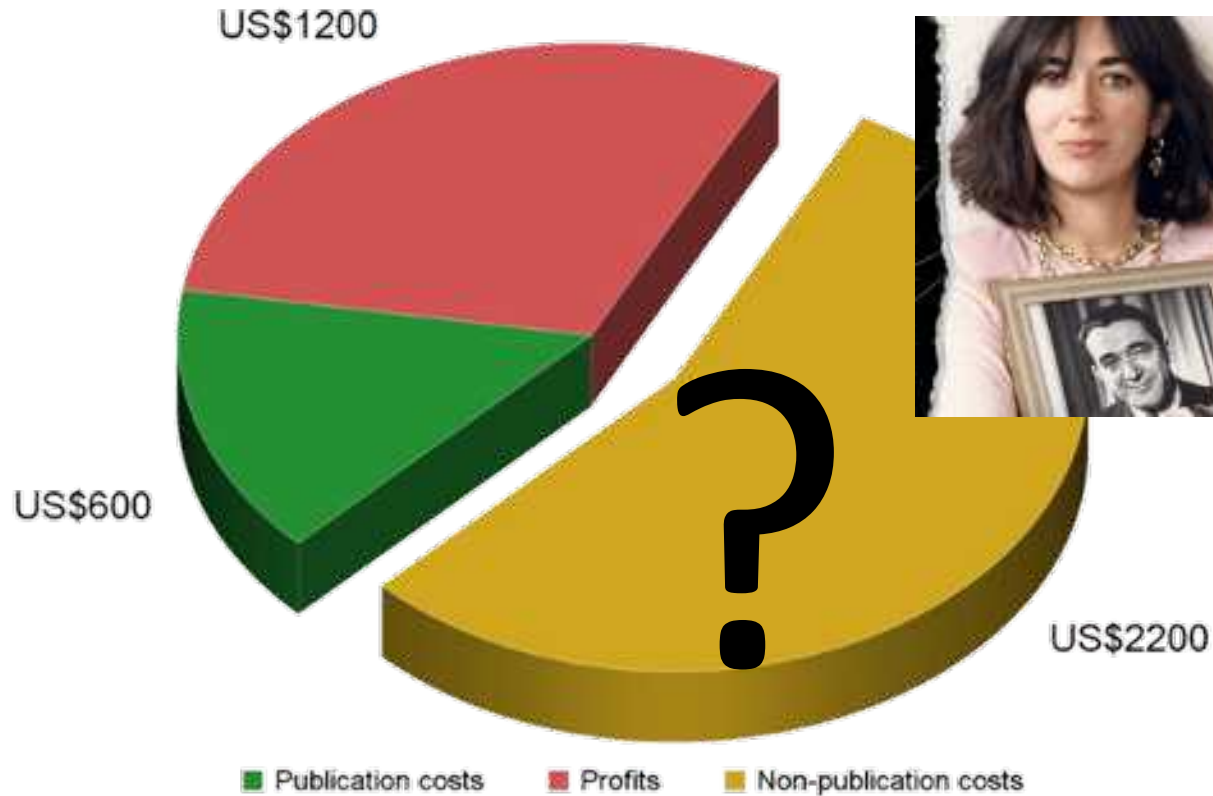
ratur zu ermöglichen, bedeutet dies, dass sie bei Preissteigerungen keine Möglichkeit haben, auf eine Alternative auszuweichen. Da in Fachzeitschriften in aller Regel originäre Forschungsergebnisse veröffentlicht werden, haben die Verlage mit einem Titel eine konkurrenzfreie Marktposition, da kein weiterer

MONOPOLISTS



Charging 5-10 times publishing costs

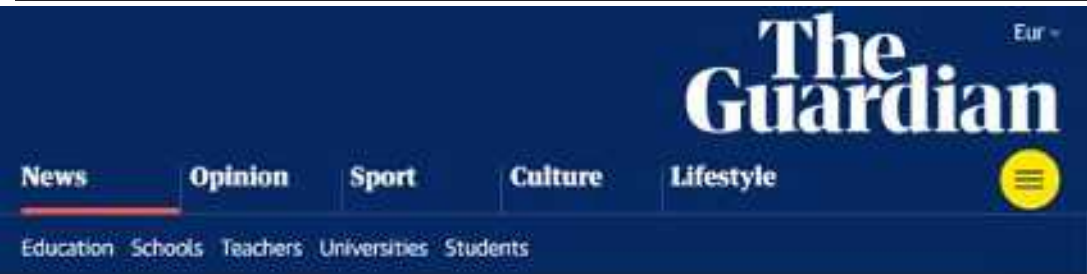
Paying the Price



Non-publication costs: Science Tracking



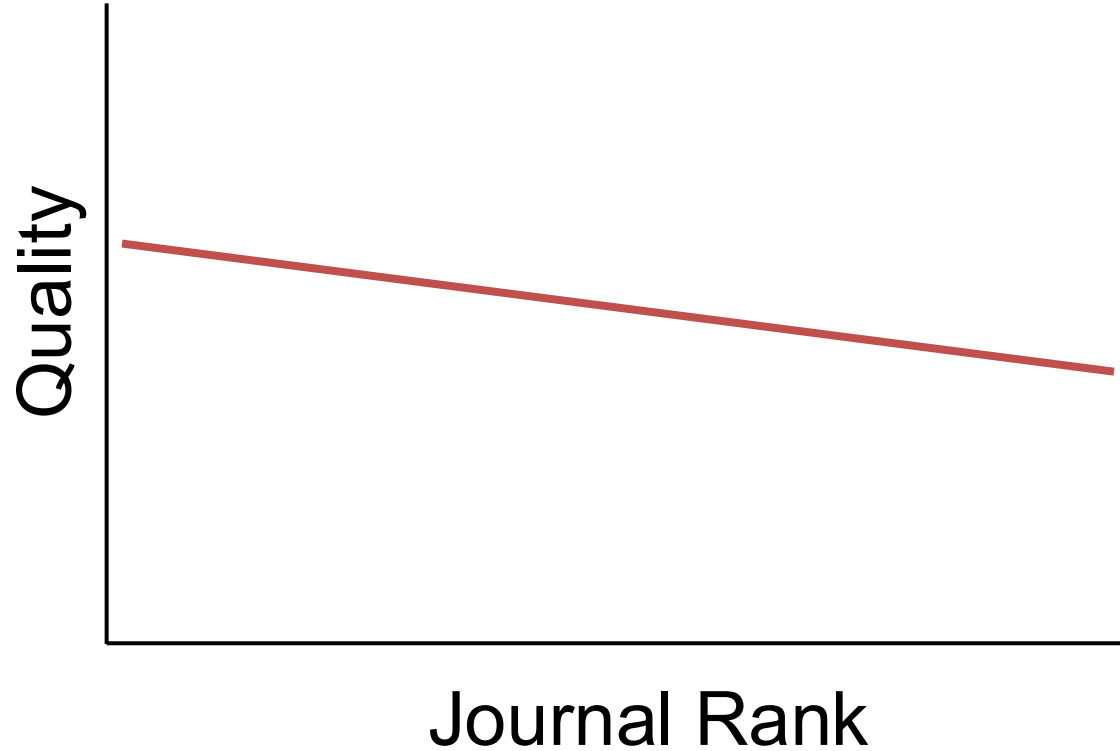
Fingerprinting, custom ads, zero-click spyware



Hacking
Online ads weaponised to deliver 'zero-click' spyware, researchers say

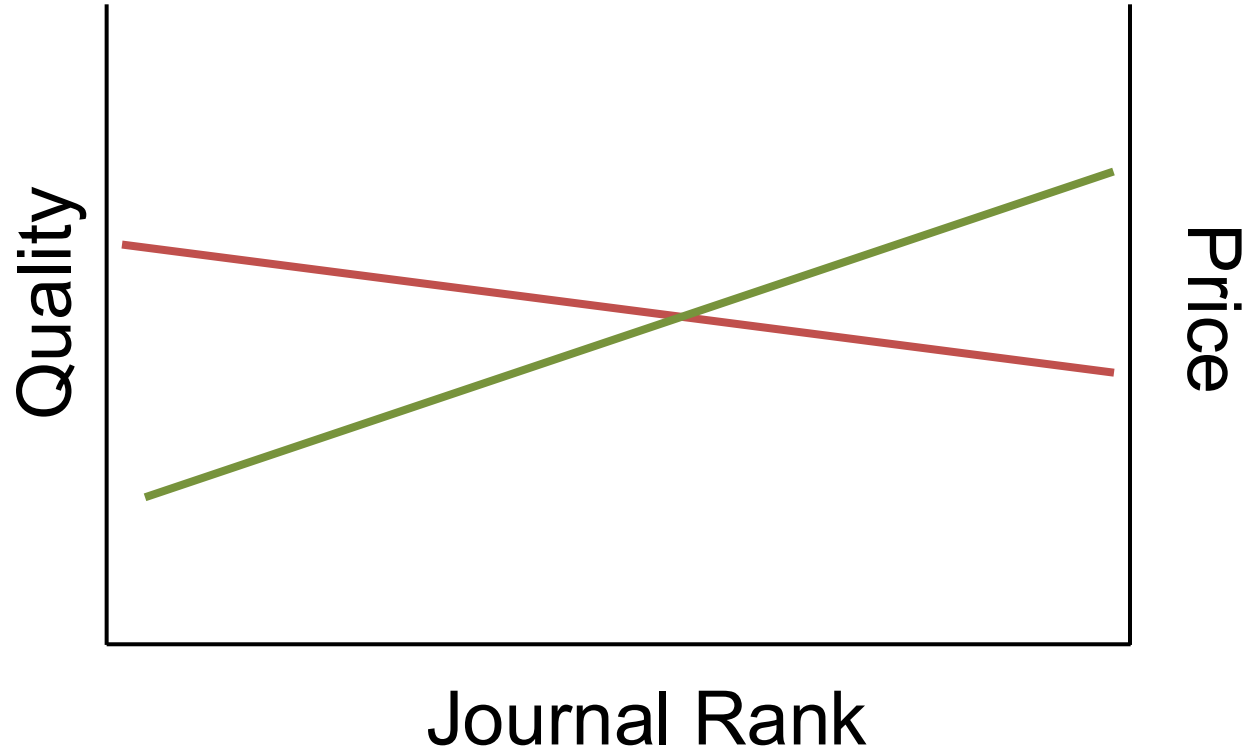


Not just surveillance: Replicability



Berghmans et al. (2002): doi: 10.1093/annonc/mdg203, Tressoldi et al. (2013) doi:10.1371/journal.pone.0056180, Brembs et al. (2013) doi:10.3389/fnhum.2013.00291, Fraley & Vazire (2014) doi:10.1371/journal.pone.0109019, Macleod et al. (2015) doi:10.1371/journal.pbio.1002273

Not just surveillance and replicability: Affordability



PROFESSIONAL PROPAGANDA



No empirical basis for journal rank

OPEN ACCESS

ESSAY

Why Most Published Research Findings Are False

John P. A. Ioannidis

Published: August 30, 2005 • DOI: 10.1371/journal.pmed.0020124

Article

About the Authors

Metrics

Comments

Related Content



Abstract

Modeling the Framework
for False Positive
Findings

Bias

Testing by Several
Independent Teams

Coronaries

Most Research Findings
Are False for Most
Research Designs and for
Most Fields

Claimed Research
Findings May Often Be

Abstract

Summary

There is increasing concern that most current published research findings are false. The probability that a research claim is true may depend on study power and bias, the number of other studies on the same question, and, importantly, the ratio of true to no relationships among the relationships probed in each scientific field. In this framework, a research finding is less likely to be true when the studies conducted in a field are smaller; when effect sizes are smaller; when there is a greater number and lesser preregistration of tested relationships; when there is greater flexibility in designs, definitions, outcomes, and analytical modes; when there is greater financial and other interest and prejudice; and when more teams are involved in a scientific field in chase of statistical significance. Simulations show that for most study designs and settings, it is more likely for a research claim to be false than true. Moreover, for many current scientific fields, claimed research findings may often be simply accurate measures of the prevailing bias. In this essay, I discuss the implications of these problems for the conduct

Replicability

- Social sciences: **62%** (10.1038/s41562-018-0399-z)
- Economics: **61%** (10.1126/science.aaf0918)
- Psychology: **39%** (10.1126/science.aac4716)
- Sports-ExSci: **36%** (10.1007/s40279-025-02201-w)
- Cancer Biology: **12%** (10.7554/eLife.67995)

40-80% of public support for science ends up in irreproducible publications

MICHAEL SCHULSON

SCIENCE 04.20.2018 09:00 AM

Science's "Reproducibility Crisis" Is Being Used as Political Ammunition

A report from the National Association of Scholars takes on the reproducibility crisis in science. Not everyone views the group's motives as pure.



ORGANISIERTEN WISSENSCHAFTSBETRUG UNTERBINDEN – QUALITÄT UND TRANSPARENZ IN DER FORSCHUNG SICHERN

König

Res

nce



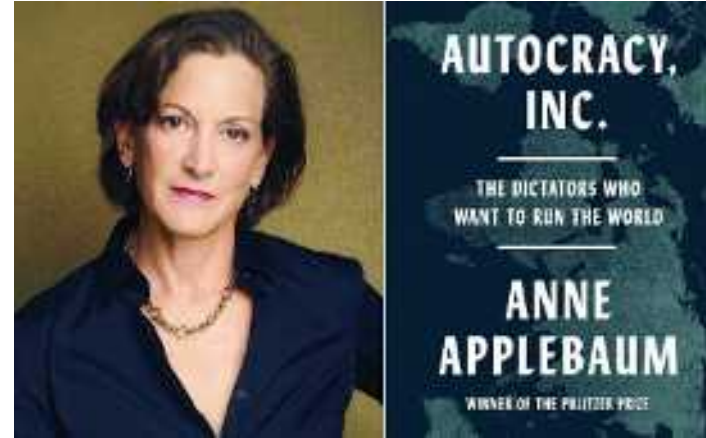
By the authority of
of America, inclu
Section 1. Policy
interests of the p
engineering, and
of data by leading

Berlin, 16. Oktober 2025. Die Praktiken der AfD im Deutschen Bundestag fordern mit ihrem Antrag, den organisierten Wissenschaftsbetrug zu unterbinden und die Qualität sowie Transparenz in der Forschung zu sichern. Wir stellen fest, dass wissenschaftliche Integrität eine Grundvoraussetzung für fundierte politische Entscheidungen und gesellschaftlichen Fortschritt darstellt. In den letzten Jahren beobachten wir einen alarmierenden Anstieg an Veröffentlichungen aus sogenannten „Paper Mills“, die gegen Bekämpfung gefälschte oder qualitativ minderwertige Forschungsarbeiten publizieren. Diese missbräuchliche Praktik gefährdet nicht nur die politische Entscheidungsfindung, sondern auch das Vertrauen der Bürger in die Wissenschaft und staatliche Institutionen. Deshalb fordern wir die Bundesregierung auf, eine unabhängige Prüfstelle einzurichten, die Kriterien für qualitativ hochwertige Publikationen festlegt und sicherstellt, dass diese Arbeiten auf ihre methodische Qualität und Replizierbarkeit überprüft werden. Nur durch verbindliche Transparenzregeln und effektive Qualitätskontrollen können wir gewährleisten, dass politische Entscheidungen auf belastbaren wissenschaftlichen Erkenntnissen basieren.

e United States
ired:
ct in the best
e, technology.
The falsification
ded research.

Appelbaum: Autocracy Inc.

- kleptocratic financial structures
- surveillance technologies
- professional propaganda



Describe academia without saying “academia”

How is academia responding to these attacks?

- Believe and amplify professional propaganda
- Provide data for the surveillance corporations, facilitating attacks on academics
- Provide ammunition for the political weaponization of the replication crisis
- Provide more money for the kleptopic corporations (*Transformative agreements*)

ANTONIO LOPRIENO



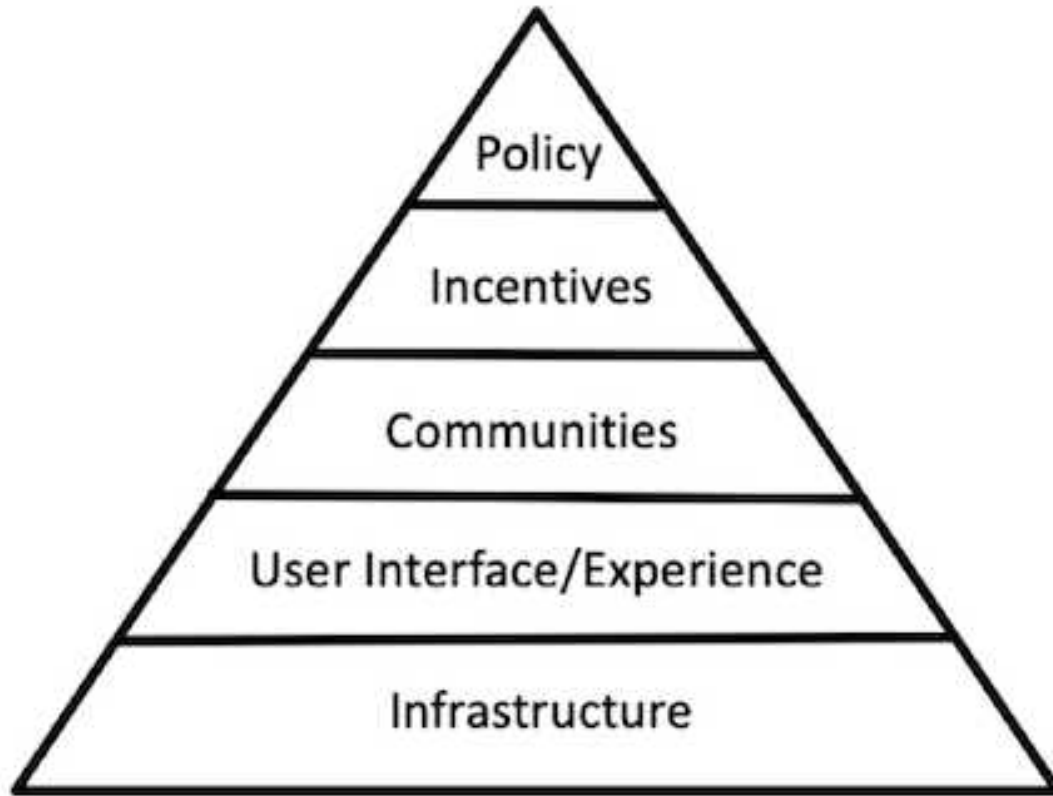
ALLEA President Antonio Loprieno

Paraphrased:

Before the advent of rankings, university leadership would hire two FTEs to fix a problem. Today, they hire two FTEs to fix the data for the rankings

How should academia respond?

- Defund the journals – yesterday!
- Invest in a journal replacement – such as ORE
- Make open science automatic by default



Make it required

Make it rewarding

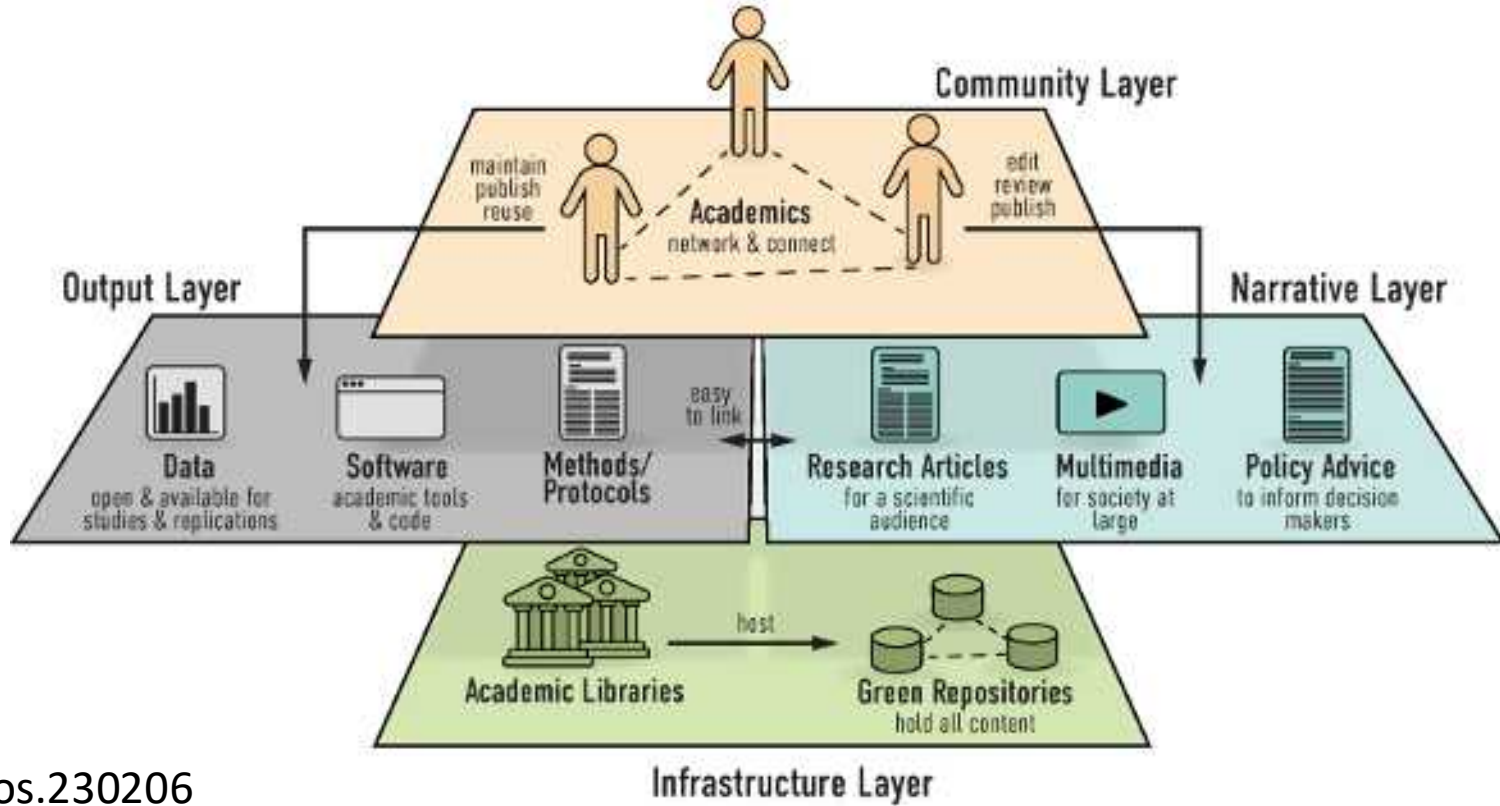
Make it normative

Make it easy

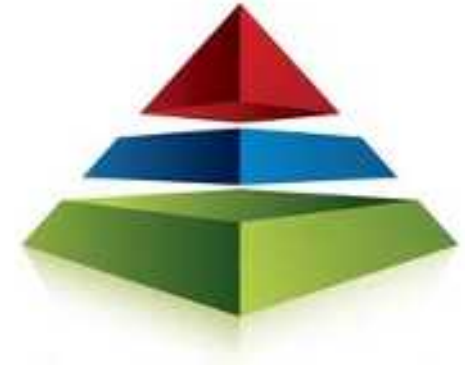
Make it possible

Modern Infrastructure

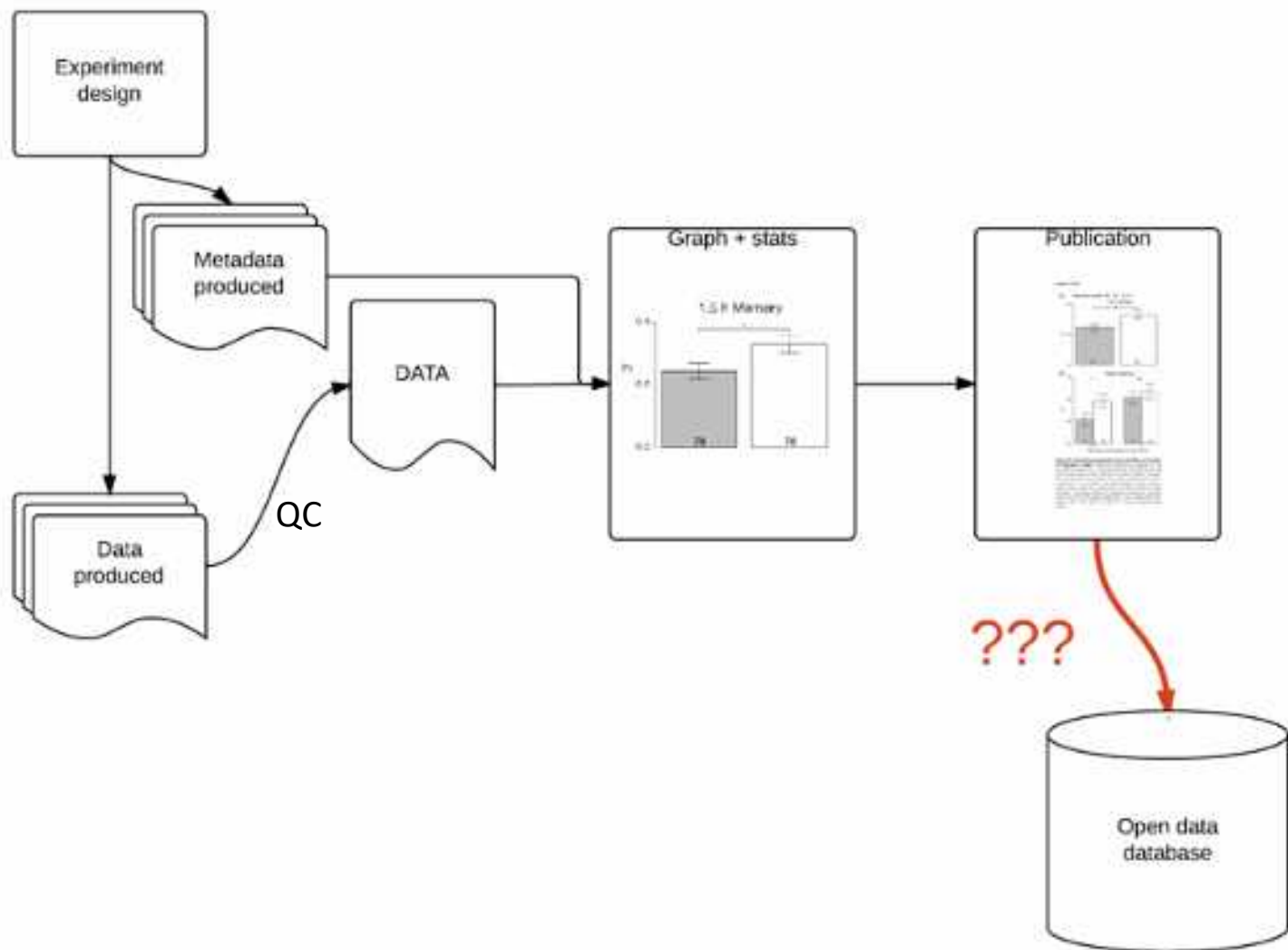
Federated Scholarly Information Network



THE BASE OF THE PYRAMID



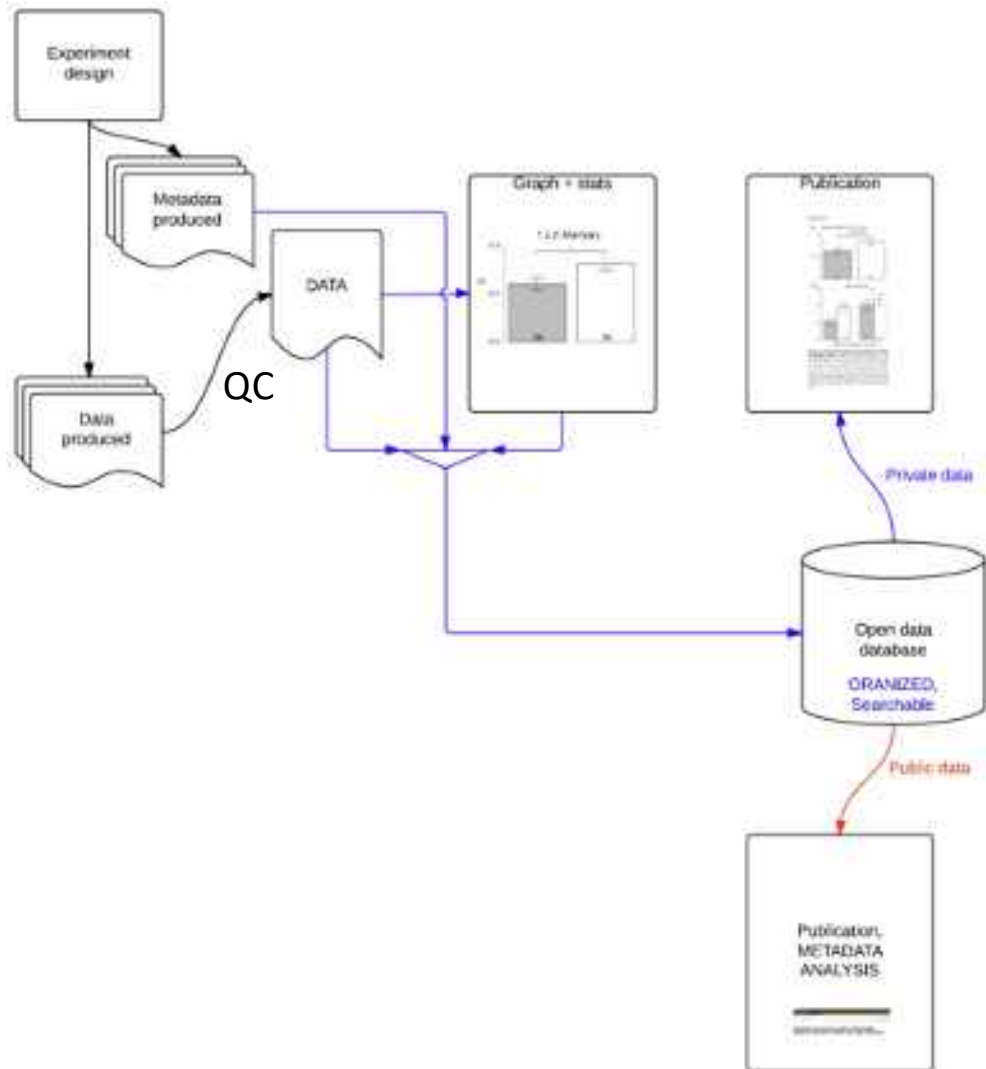
How to automate research data
management – two examples

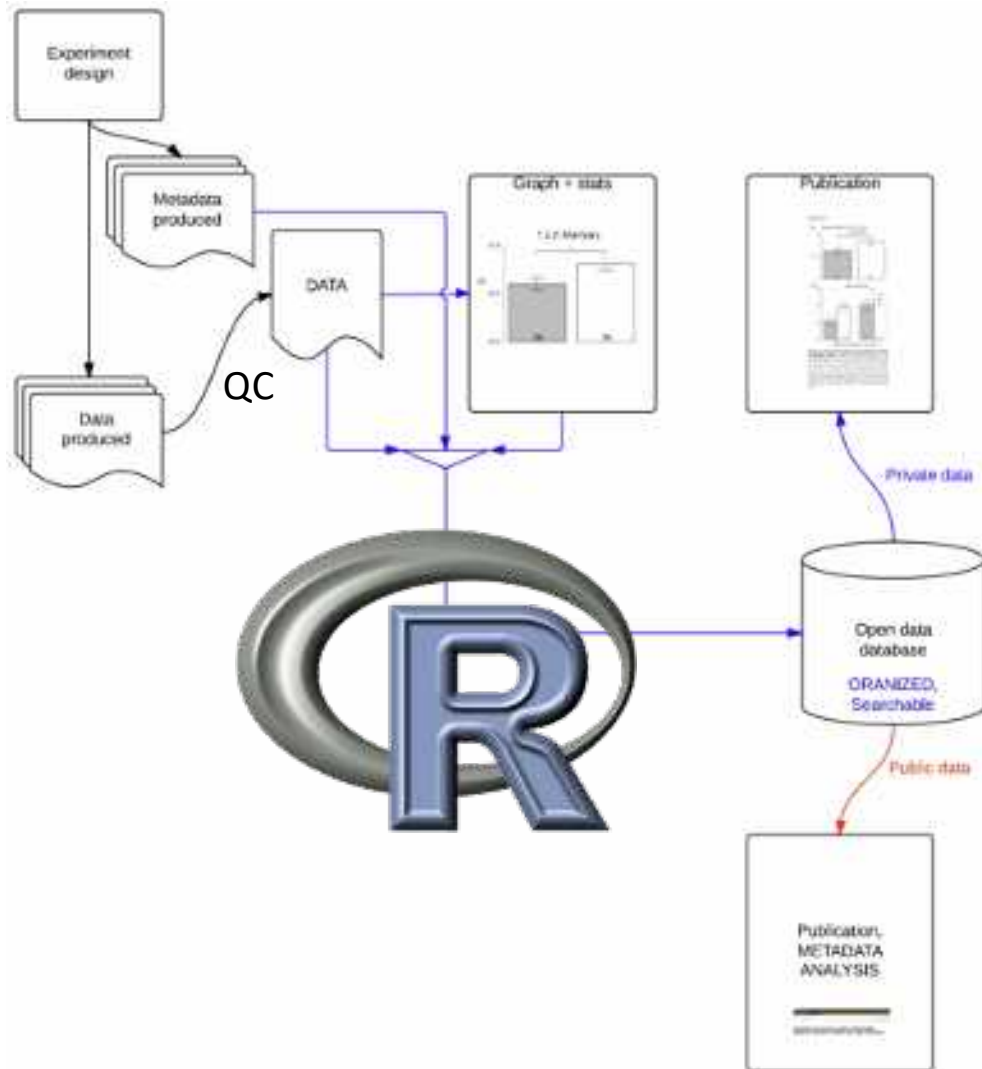


PAST PROJECT

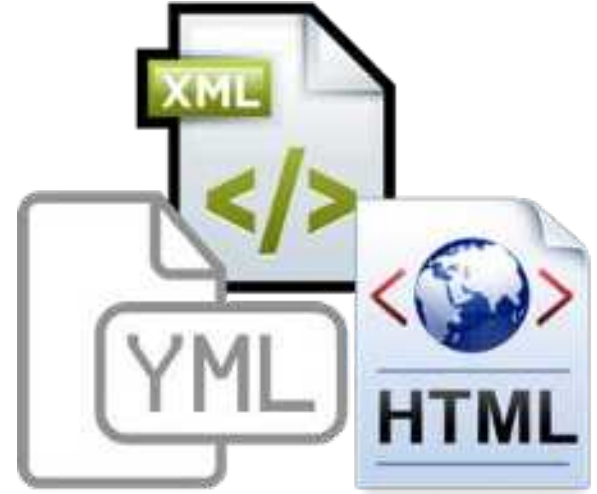


Automatically depositing raw data and evaluations

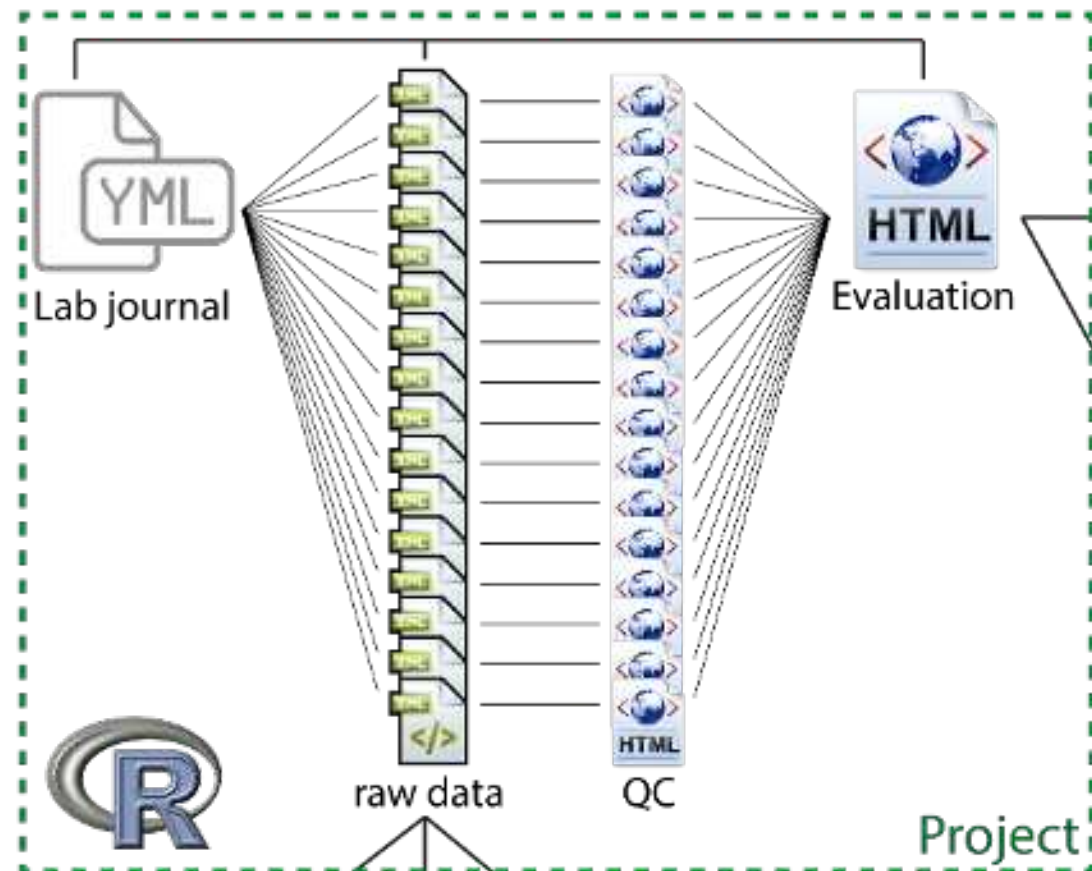


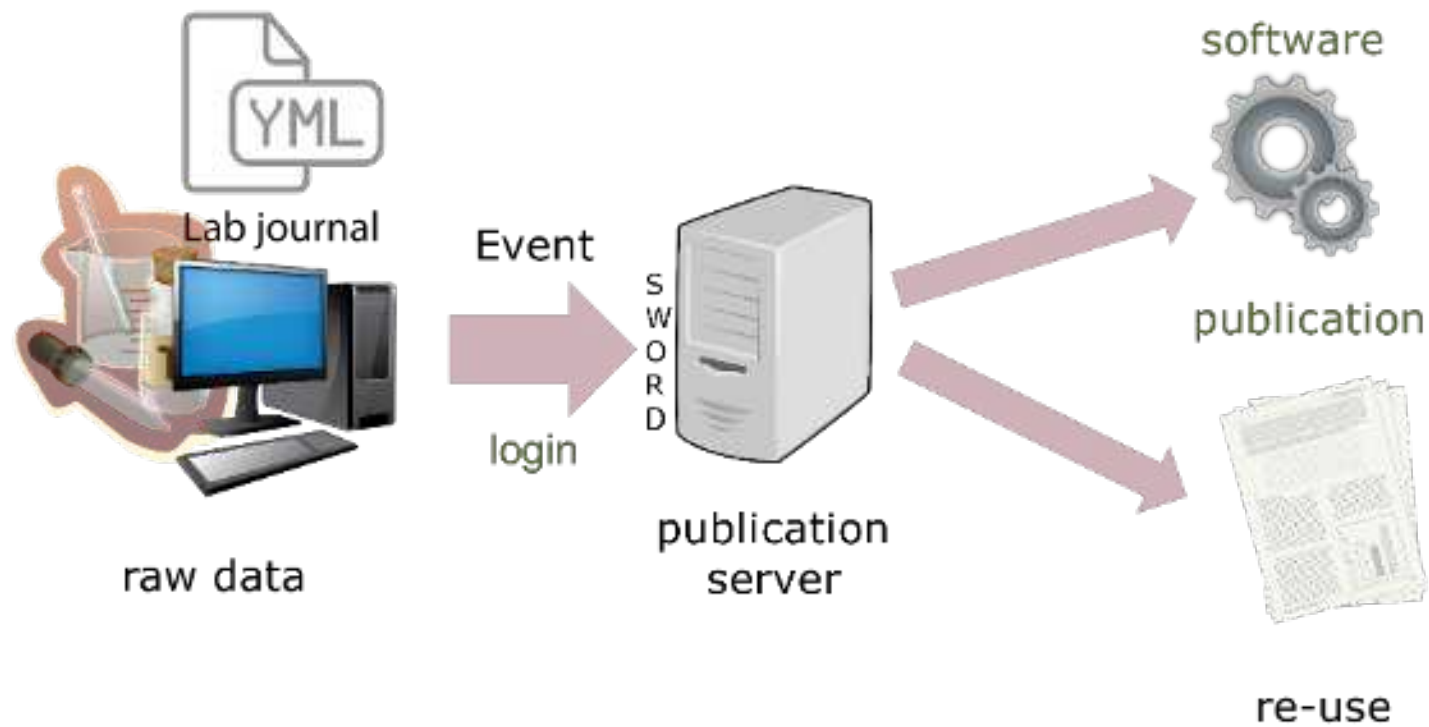


CURRENT PROJECT



Automatically linking raw data, data models, lab journals and publications





Demonstration

<https://epub.uni-regensburg.de/75181/>

University of Regensburg Login | Register

UR Publish Search/Browse Quick Links DE | EN

Home - Universität

Brembs, Björn

Torque learning with foraging knock-down

Brembs, Björn (2025). *Torque learning with foraging knock-down*. [Dataset (in progress)] [Unpublished]
Date of publication of this fulltext: 10 Mar 2025 12:56
[Dataset (in progress)]

 Data
Download (HTML | 4MB)

arXiv Lizenz: ODC-PDDL-1.0

↓ Abstract ↓ Alternative links to fulltext ↓ Involved institutions ↓ Details
↓ Export bibliographical data

Abstract

Standard torque learning in flies with RNAi knock-down of the foraging gene (PKG) in all neurons (glav driver, F8sc000458)

What can you do?

1. Ask your supervisor where your infrastructure for sharing your code, data and text is
2. Ask everybody why sharing a picture on your phone is easier than sharing your text, data or code
3. Ask your library why they pay more to corporate journals than for your infrastructure.

Reliability of the scholarly literature

Cancer (5 years):



~880,000 or ~176,000/a

Psychology (5 years):



~327,000 or ~65,000/a

Subtract 20% error

Unreliable articles in total: ~1M or ~200,000/a

Main Problems with the IF

- Negotiable



- Irreproducible



- Mathematically unsound



The Impact Factor

Journal X IF 2023=

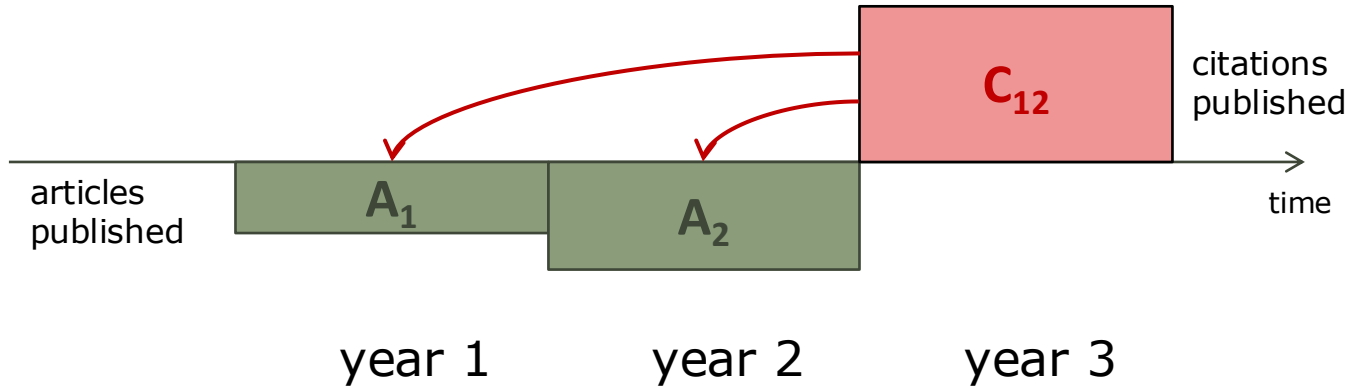
All citations from TR indexed journals in 2023 to papers in journal X
Number of citable articles published in journal X in 20021/22



€; 84888-130,000/year subscription rates
Covers ~11,500 journals (Scopus covers ~16,500)

The Impact Factor

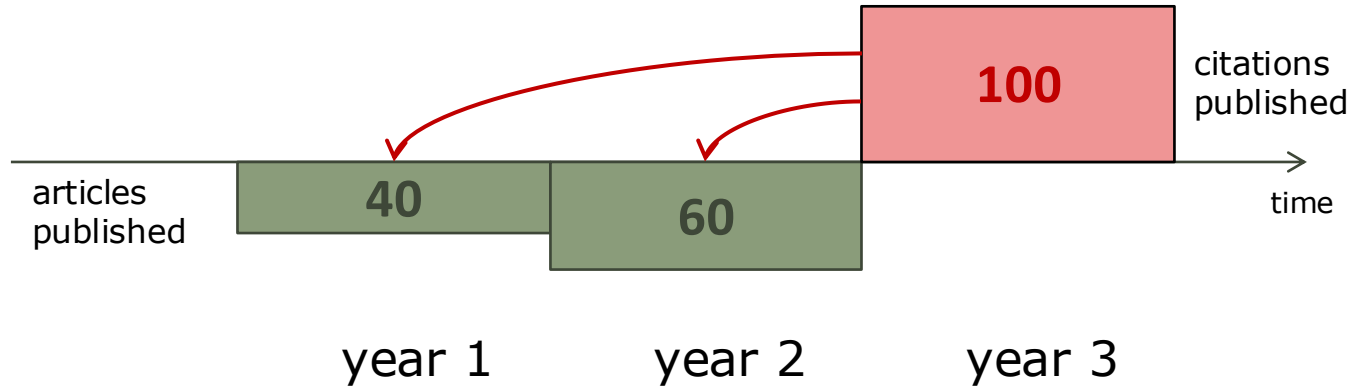
introduced in the 1950's by Eugene Garfield: ISI



$$IF(\text{year } 3) = \frac{C_{12}}{A_1 + A_2}$$

The Impact Factor

introduced in the 1950's by Eugene Garfield: ISI



$$IF(\text{year } 3) = \frac{100}{40 + 60} = 1$$

Negotiable

- PLoS Medicine, IF 2-11 (8.4)

(The *PLoS Medicine* Editors (2006) The Impact Factor Game. *PLoS Med* 3(6): e291.
<http://www.plosmedicine.org/article/info:doi/10.1371%2Fjournal.pmed.0030291>)

- Current Biology IF from 7 to 11 in 2003
 - Bought by Cell Press (Elsevier1"in": 889...



Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
☐	CURR BIOL	0960-9822	20020	7.007	2.713	341	3.5	3.7
Cited Journal Citing Journal Source Data Journal Self Cites								

[Cited Journal](#)[Citing Journal](#)[Source Data](#)

Journal Impact Factor

Cites in 2002 to items published in: 2001 = 3314 Number of items published in: 2001 = 528

2000 = 3917

2000 = 504

Sum: 7231

Sum: 1032

Calculation: $\frac{\text{Cites to recent items}}{\text{Number of recent items}} = 7.007$

Number of recent items 1032

Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
☐	CURR BIOL	0960-9822	22589	11.910	2.683	331	3.8	4.0
Cited Journal Citing Journal Source Data Journal Self Cites								

[Cited Journal](#)[Citing Journal](#)[Source Data](#)[Journal Self Cites](#)

Journal Impact Factor

Cites in 2003 to items published in: 2002 = 3628 Number of items published in: 2002 = 334

2001 = 3923

2001 = 300

Sum: 7551

Sum: 634

Calculation: $\frac{\text{Cites to recent items}}{\text{Number of recent items}} = 11.910$

Number of recent items 634

Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
☐	CURR BIOL	0960-9822	20020	7.007	2.713	341	3.5	3.7

[Cited Journal](#) [Citing Journal](#) [Source Data](#) [Journal Self Cites](#)
[Cited Journal](#)[Citing Journal](#)[Source Data](#)

Journal Impact Factor

Cites in 2002 to items published in: 2001 = 3314 Number of items published in: 2001 = 528

2000 = 3917

2000 = 504

Sum: 7231

Sum: 1032

Calculation: $\frac{\text{Cites to recent items}}{\text{Number of recent items}} = 7.007$

Number of recent items 1032

Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
☐	CURR BIOL	0960-9822	22589	11.910	2.683	331	3.8	4.0

[Cited Journal](#) [Citing Journal](#) [Source Data](#) [Journal Self Cites](#)
[Cited Journal](#)[Citing Journal](#)[Source Data](#)[Journal Self Cites](#)

Journal Impact Factor

Cites in 2003 to items published in: 2002 = 3628 Number of items published in: 2002 = 334

2001 = 3923

2001 = 300

Sum: 7551

Sum: 634

Calculation: $\frac{\text{Cites to recent items}}{\text{Number of recent items}} = 11.910$

Number of recent items 634

Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
☐	CURR BIOL	0960-9822	20020	7.007	2.713	341	3.5	3.7

[Cited Journal](#) [Citing Journal](#) [Source Data](#) [Journal Self Cites](#)
[Cited Journal](#)[Citing Journal](#)[Source Data](#)

Journal Impact Factor

Cites in 2002 to items published in: 2001 = 3314 Number of items published in: 2001 = 528

2000 = 3917

2000 = 504

Sum: 7231

Sum: 1032

Calculation: $\frac{\text{Cites to recent items}}{\text{Number of recent items}} = 7.007$

Number of recent items 1032

Journal: CURRENT BIOLOGY

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
☐	CURR BIOL	0960-9822	22589	11.910	2.683	331	3.8	4.0

[Cited Journal](#) [Citing Journal](#) [Source Data](#) [Journal Self Cites](#)
[Cited Journal](#)[Citing Journal](#)[Source Data](#)[Journal Self Cites](#)

Journal Impact Factor

Cites in 2003 to items published in: 2002 = 3628 Number of items published in: 2002 = 334

2001 = 3923

2001 = 300

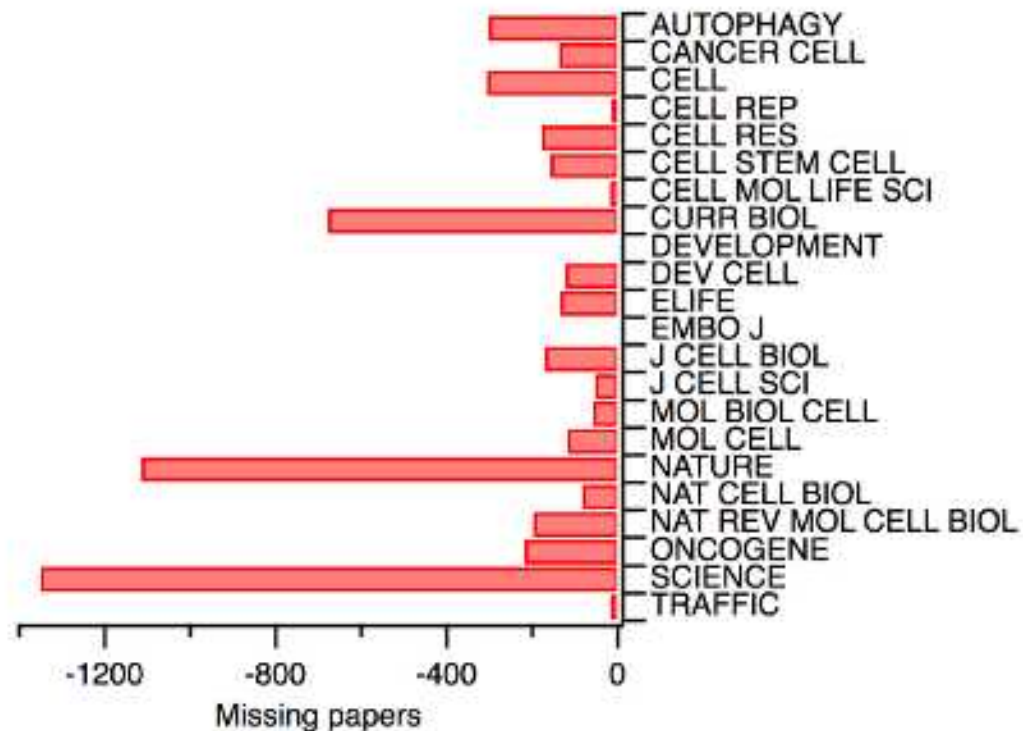
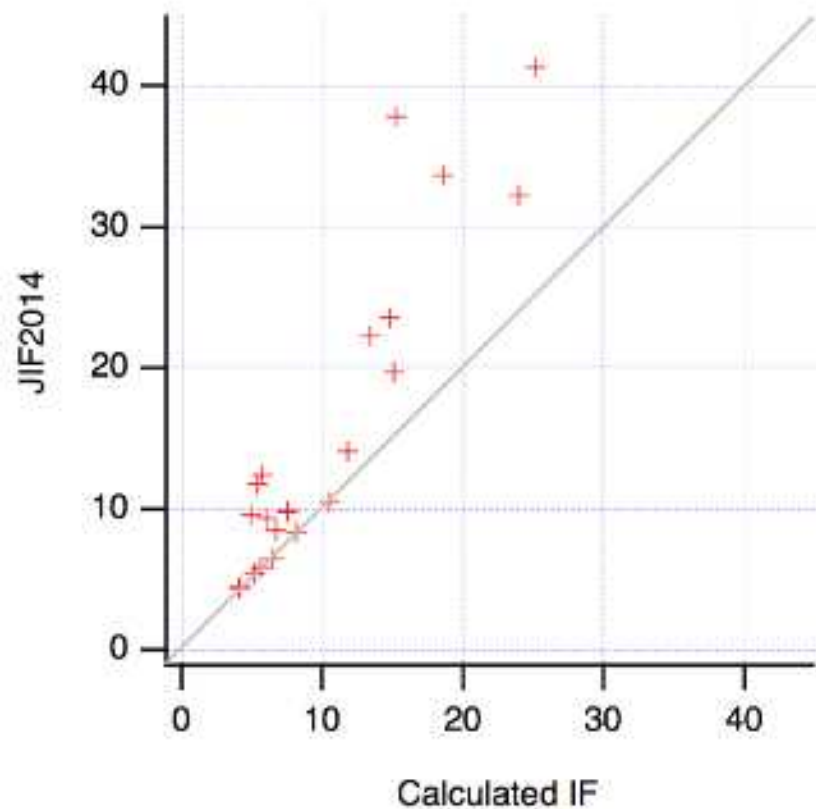
Sum: 7551

Sum: 634

Calculation: $\frac{\text{Cites to recent items}}{\text{Number of recent items}} = 11.910$

Number of recent items 634

Negotiable



[Home](#)[News](#)[Journals](#)[Topics](#)[Careers](#)[Science](#)[Science Translational Medicine](#)[Science Signaling](#)[Science Advances](#)**SHARE****POLICY FORUM** | AGRICULTURE POLICY

EU agricultural reform fails on biodiversity

G. Pe'er^{*†}, L. V. Dicks, P. Visconti, R. Arlettaz, A. Báldi, T. G. Benton, S. Collins, M. Dieterich, R. D. Gregory, F. Hartig, K. Henle, P. R. Hobson, D. Kleijn, R. K. Neumann, T. Robijns, J. Schmidt, A. Schwartz, W. J. Sutherland, A. Turbé, F. Wulf, A. V. Scott

[†]Corresponding author: guy.peer@ufz.de

Science 06 Jun 2014;
Vol. 344, Issue 6188, pp. 1090-1092
DOI: 10.1126/science.1253425

19 months later

[\[HTML\]](#) **EU agricultural reform fails on biodiversity**

G Pe'er, [LV Dicks](#), [P Visconti](#), [R Arlettaz](#), [A Báldi](#)... - Science, 2014 - sciencemag.org

Summary In December 2013, the European Union (EU) enacted the reformed Common Agricultural Policy (CAP) for 2014–2020, allocating almost 40% of the EU's budget and influencing management of half of its terrestrial area. Many EU politicians are announcing ...

[Cited by 81](#) [Related articles](#) [All 12 versions](#) [Web of Science: 24](#) [Cite](#) [Save](#)

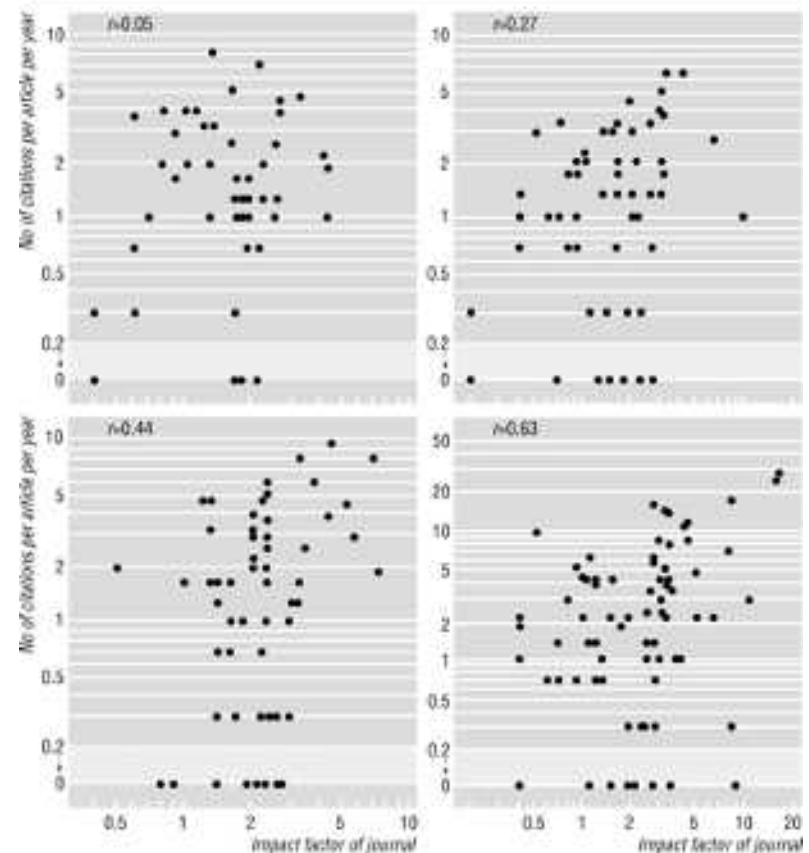
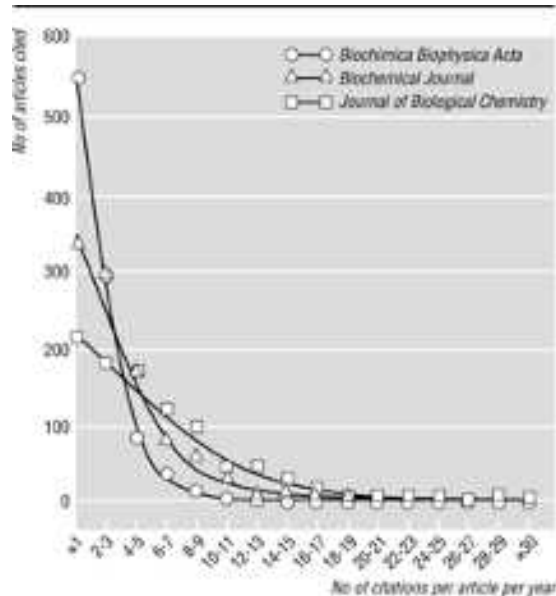
Not Reproducible

- Rockefeller University Press bought their data from Thomson Reuters
- Up to 19% deviation from published records
- Second dataset still not correct



Not Mathematically Sound

- Left-skewed distributions
- Weak correlation of individual article citation rate with journal IF



Not Mathematically Sound

