

Open Science and Research Data Management

Academic copyright: from the Republic of Science
to the Empire of Intellectual Monopolies (Part I)

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Part I

1. The Republic of Science and the Academic Copyright
2. The Empire of Intellectual Monopolies
3. A New hHope: Open Science as Public and Democratic Science

Part II

1. The Empire Strikes Back
2. Return of the Jedi?
3. Conclusions

A Law & Political Economy approach

- «Building on the energy of the emerging law and political economy movement, the LPE Project aims to reconnect conversations about the economy to questions of dignity, belonging, and power. The Project aims to transform legal scholarship and pedagogy by centering issues of **economic power, racial and gender subordination**, and meaningful **democratic inclusion**. It aims to move beyond postwar models of the liberal welfare state in order to develop **new policy solutions, intellectual approaches, and political strategies** adequate to the **crises of our time**»
- A. KAPCZYNSKI ET AL., New Law and Political Economy Project Launched, 29.04.2019, <https://law.yale.edu/yls-today/news/new-law-and-political-economy-project-launched>

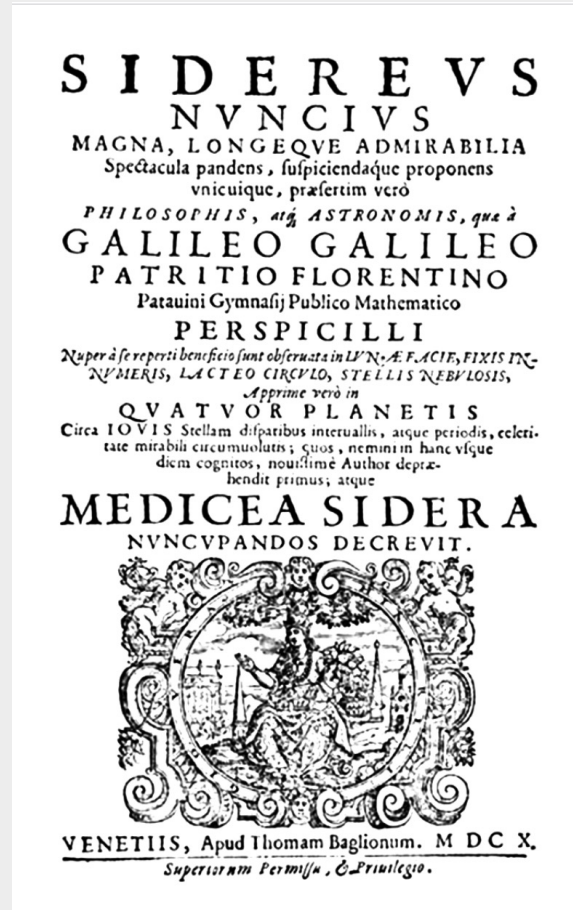
Today. Outline

1. The Republic of Science and the Academic Copyright
2. The Empire of Intellectual Monopolies
3. A New Hope: Open Science as Public and Democratic Science

The Republic of Science



1. Open Access ante litteram (Galilei 1610)



- Galileo Galilei a Belisario Vinta, 1610: «Parmi necessario, per aumentare il grido di questi scoprimenti, il fare che con l'effetto stesso **sia veduta et riconosciuta la verità da più persone che sia possibile...**»

1. Merton: social norms of a public and democratic science(1938-1942)

Public and democratic science:

- Communism
- Universalism
- Disinterestedness
- Organized skepticism



1. Merton: social norms of a public and democratic science(1938-1942)

- **Universalism**

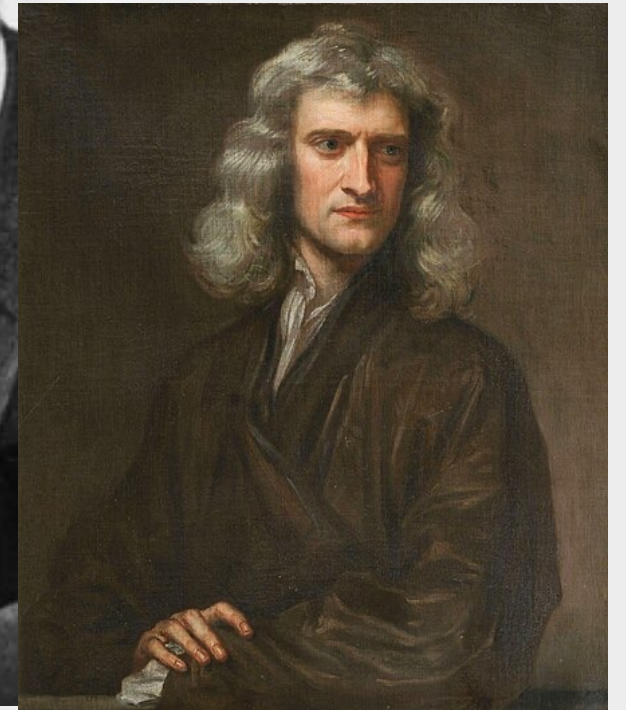
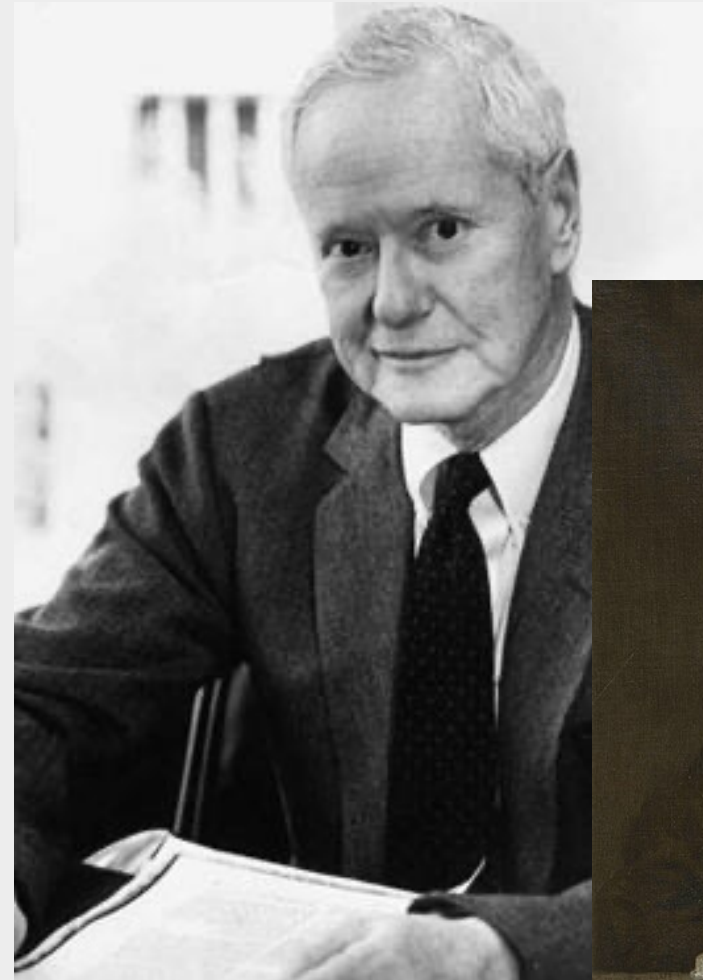
«**Impersonal criteria** of accomplishment and not fixation of status characterize the open democratic society. Insofar as such restraints do persist, they are viewed as obstacles in the path of full democratization».



1. Merton: social norms of a public and democratic science(1938-1942)

- **Communism**

«Newton's remark—'If I have seen farther it is **by standing on the shoulders of giants**'—expresses at once a sense of indebtedness to the **common heritage** and a recognition of the essentially **cooperative** and selectively **cumulative** quality of scientific achievement. ».



1. Merton: social norms of a public and democratic science(1938-1942)

- **Communism**

«The communism of the scientific ethos is **incompatible with the definition of technology as 'private property' in a capitalistic economy.** Current writings on the 'frustration of science' reflect this conflict. Patents proclaim exclusive rights of use and, often, nonuse.».



1. Polanyi: The Republic of Science (1962)



- «**No external authority** can take the place of science in deciding its aims. Science only responds to its own authority, which arises from the mutual acknowledgement of peers. Such authority is transmitted informally from one generation to another, through participation in the scientific community.»

1. Academic copyright: freedom and responsibility

- **Freedom:** e.g. the freedom to choose when and where to publish a scientific text

- **Responsibility:** social norms and law (e.g. plagiarism, scientific fraud)

1. Exercise (10 min. max)

- Try to define copyright
- Write your definition in the chat
- Please don't use web or ChatGBT

1. World Intellectual Property Organization: <https://www.wipo.int/copyright/en/>

- «**Copyright**
- **What is copyright?**
- Copyright (or author's right) is a legal term used to describe the rights that **creators** have over their **literary and artistic works**. Works covered by copyright range from books, music, paintings, sculpture, and films, to computer programs, databases, advertisements, maps, and technical drawings».

1. US Constitution, art. 1, sec. 8, cl.8

<https://www.archives.gov/founding-docs/constitution-transcript#1-1>

- The Congress shall have power [...]
- To promote the progress of science and useful arts, by securing for **limited times** to authors and inventors the **exclusive right** to their respective writings and discoveries;

1. Copyright law: striking a balance

Exclusivity
Vs
Public domain

1. Social norms → copyright law – three pillars

- A) Dichotomy idea/expression
- B) Original ownership of the work
- C) Paternity/attribution

1. Social norms → copyright A) ideas, facts and data in public domain

- **Norms of science.** Norms of science focus their attention on the content of a theory.
- **Copyright.** Copyright law focuses on the mode of expression of intellectual work (the scientific text). **Ideas**, **facts** and **data** - according to the traditional distinction between protected form and unprotected idea - remain in public domain.

1. TRIPs (1994), art. 9.2

«**Copyright protection shall extend to expressions and not to ideas**, procedures, methods of operation or mathematical concepts as such»

1. Social norms → copyright B) human authorship

Norms of science. The ownership of a scientific publication always belongs to its author and never to the institution he/she is affiliated to.

Copyright. The copyright law in conferring ownership on intellectual work adopts general criteria and in particular, the one attributing ownership of a work to its creator

1. Social norms → copyright law: paternity/attribution

- **Social norms.** The social norms of science urge to register, through publication of a printed text, the priority of discovery. They regulates customs and practices about citations and correct quotations
- **Copyright.** Copyright law protects paternity (especially in the civil law legal systems) and regulates the right to quote (e.g., art. 10 Berne Convention)

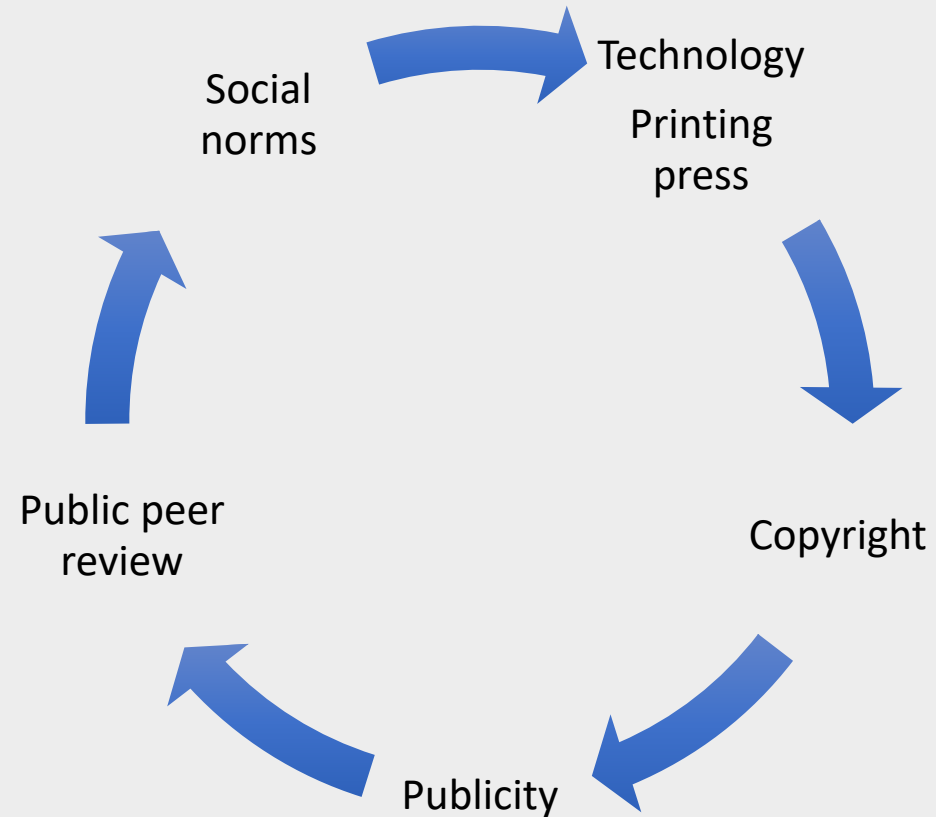
1. Social norms → copyright law C) paternity/attribution

- **Social norms.** Plagiarism as violation of norms of science
- **Copyright.** Plagiarism as copyright infringement

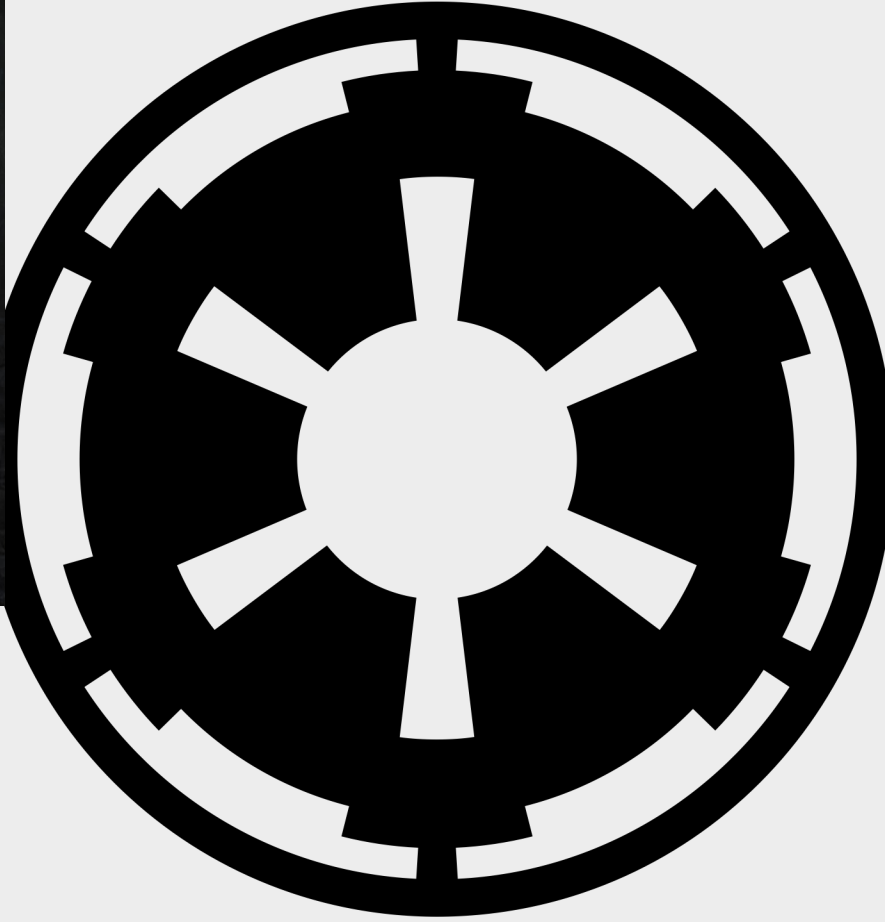
1. Harvard «College Handbook for Students 2020-2021»

- **The College recognizes that the open exchange of ideas plays a vital role in the academic endeavor**, as often it is only through discussion with others that one is fully able to process information or to crystallize an elusive concept. Therefore, students generally are encouraged to engage in conversations with their teachers and classmates about their courses, their research, and even their assignments. These kinds of **discussions and debates** in some ways represent **the essence of life in an academic community**. And yet, **it is important for all scholars to acknowledge clearly when they have relied upon or incorporated the work of others.**

1. Academic copyright: the virtuous circle



2. The Empire of Intellectual Monopolies



2. Exercise: read and highlight (10 min. max)

- «The undersigned author or authors (Author) of the above article (Article) transfers and assigns exclusively to Publisher all Author's right, title and interest in the Article, including, without limitation, the copyright therein. These rights include without limitation mechanical, electronic and visual reproduction; electronic storage and retrieval; and all other forms of electronic publication or any other types of publication including all subsidiary rights».

2. Citation indexes for science



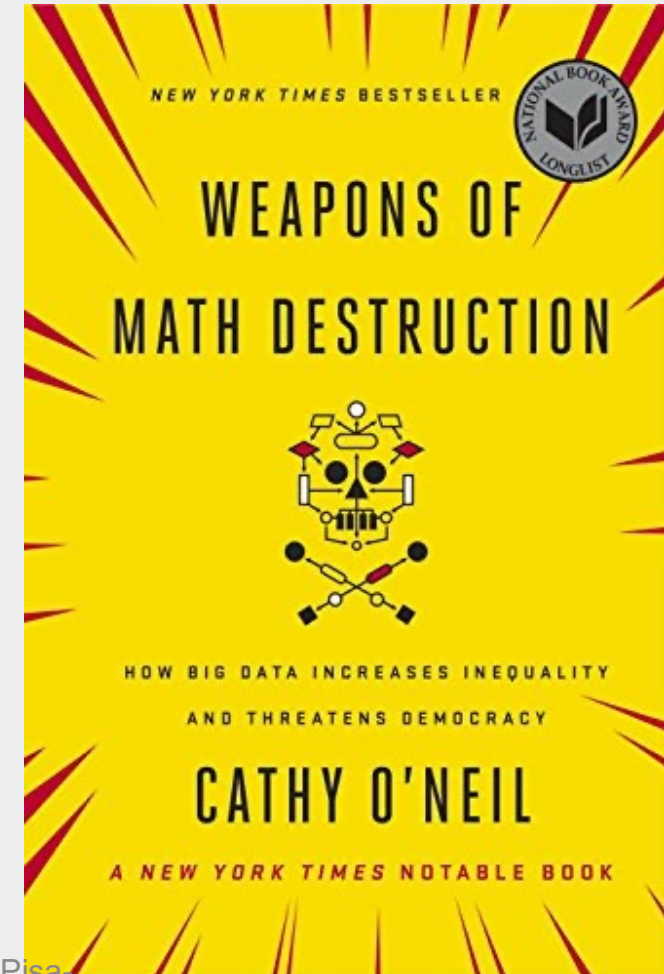
- E. Garfield, Citation Indexes for Science. A New Dimension in Documentation through Association of Ideas, in Science 15 July 1955: Vol. 122 no. 3159, 108, DOI: 10.1126/science.122.3159.108

2. Impact Factor & core journals

- «Garfield’s pragmatic solution to a thorny problem—namely finding ways to manage the tracing of thousands upon thousands of citations—carried with it a very large theoretical consequence. In merging all sorts of little specialty cores that had been culled from the coverage of leading bibliographies, and from interviews of many key scientists, **Garfield, in effect, gave substance and reality to a new notion, that of “core journals” for “core science”.**»
- J.C. Guédon, In Oldenburg’s Long Shadow: Librarians, Research Scientists, Publishers, and the Control of Scientific Publishing, Association of Research Libraries, 2001, <https://www.arl.org/wp-content/uploads/2007/12/in-oldenburgs-long-shadow.pdf>

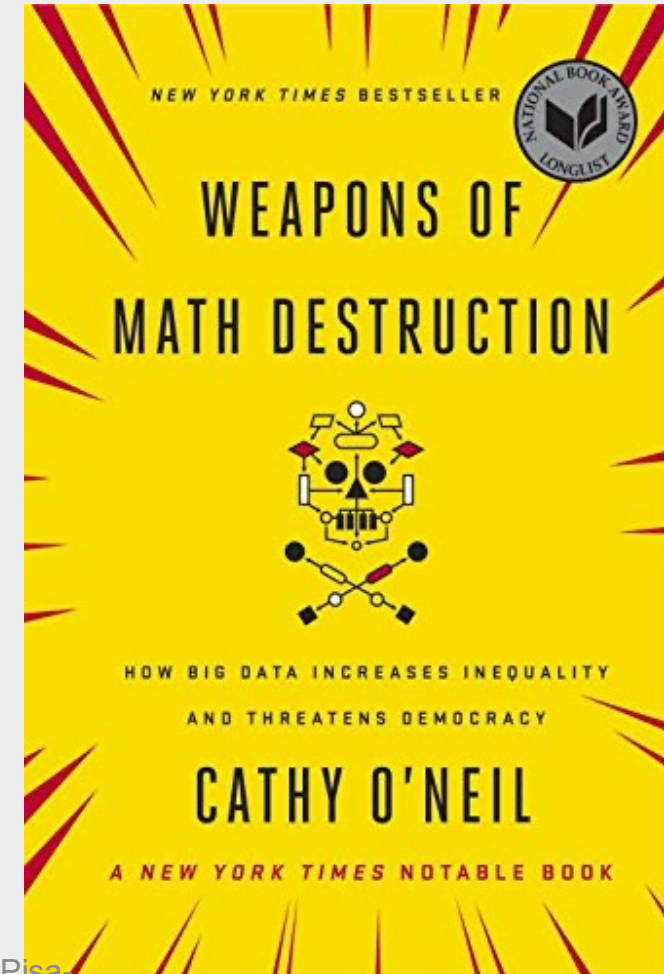
2. From citation indexes to algorithms, software and big data - Cathy O'Neil (2017)

- «The math-powered applications powering the data economy were based on choices made by fallible human beings. Some of these choices were no doubt made with the best intentions. Nevertheless, **many of these models encoded human prejudice, misunderstanding, and bias into the software systems that increasingly managed our lives**».



2. From citation indexes to algorithms, software and big data - Cathy O'Neil (2017)

- «Like gods, these **mathematical models** were **opaque**, their workings invisible to all but the highest priests in their domain: mathematicians and computer scientists. **Their verdicts, even when wrong or harmful, were beyond dispute or appeal.** And they tended to punish the poor and the oppressed in our society, while making the rich richer.».



2. Submission

- ... I submit ergo sum



2. Sign and publish or perish!

Copyright transfer
agreement



A sunset scene with several helicopters flying in the sky over a body of water with palm trees in the foreground. The sky is a warm orange color, and the helicopters are silhouetted against it. The foreground shows the dark silhouettes of palm trees and the water's surface.

2. Intellectual Property (WIPO, WTO etc.): from a Western to a global category

2. Pagano: Intellectual Monopoly Capitalism (2014)

- «Since the 1994 Trade-Related Aspects of Intellectual Property Rights agreements, the **growing commoditisation of knowledge has extended the role of closed science and closed markets at the expense of open science and open markets.**».

Cambridge Journal of Economics Advance Access published August 4, 2014

Cambridge Journal of Economics 2014, 1 of 21
doi:10.1093/cje/beu025

The crisis of intellectual monopoly capitalism

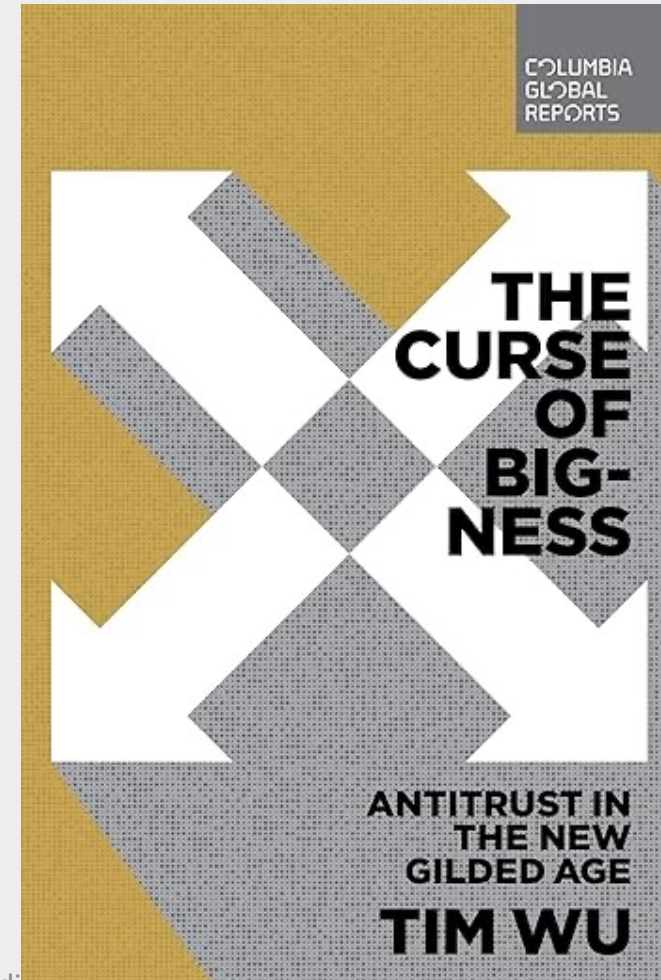
Ugo Pagano*

2. Pagano: Intellectual Monopoly Capitalism (2014)

- «The intrinsic long-term dynamics of this species of capitalism is increasingly characterized by **financialisation**, **inequality** and **stagnation**. In order to exit from the current crisis, **we must change many features of intellectual monopoly capitalism** and rely on an eclectic approach that draws insights from liberal, Keynesian and Marxian traditions».

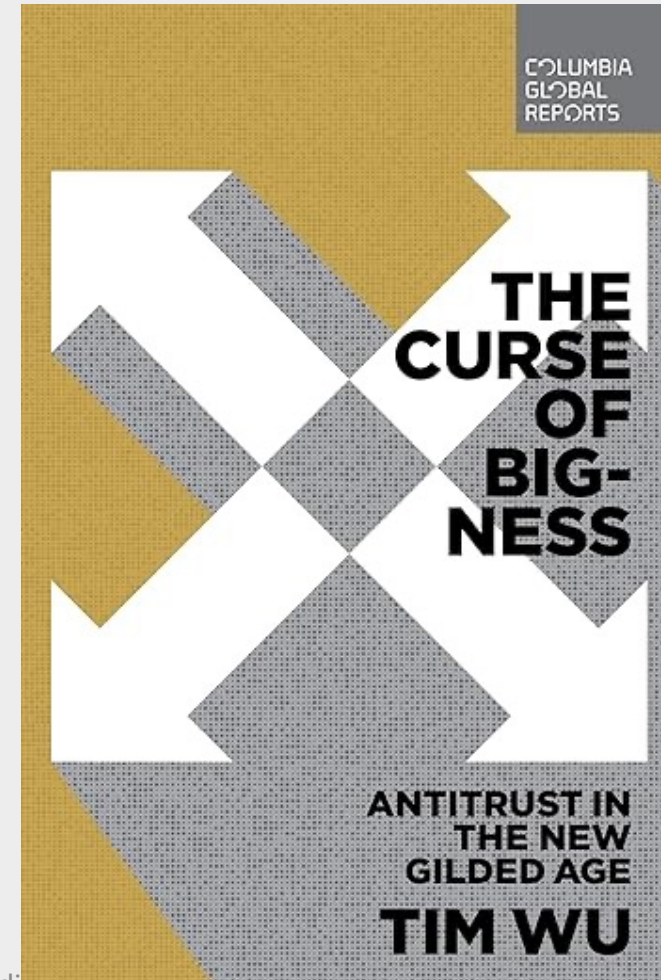
2. Wu: the curse of bigness (2018)

- «Look at the global economy and witness the rule of concentrated **oligopolies** and **monopolies**, in industries like finance, media, airlines, and telecommunications, just to name the most obvious—firms whose size allows them to **treat customers and competitors with impunity**. Most visible in our daily lives is the great power of the **tech platforms** [...]»



2. Wu: the curse of bigness (2018)

- «**Are extreme levels of industrial concentration actually compatible with the premise of rough equality among citizens, industrial freedom, or **democracy** itself?**»



2. Predators



2. Predators. The Oligopoly of Academic Publishers (2015)

- «Combined, the top five most prolific publishers account for more than 50% of all papers published in 2013. Disciplines of the social sciences have the highest level of concentration (70% of papers from the top five publishers), while the humanities have remained relatively independent (20% from top five publishers)».

The Oligopoly of Academic Publishers in the Digital Era

Vincent Larivière , Stefanie Haustein, Philippe Mongeon

Published: June 10, 2015 • <https://doi.org/10.1371/journal.pone.0127502>

Article	Authors	Metrics	Comments	Media Coverage
⌵				

Abstract

Introduction
Methods
Results
Discussion and Conclusion
Acknowledgments
Author Contributions
References

Reader Comments
Figures

Abstract

The consolidation of the scientific publishing industry has been the topic of much debate within and outside the scientific community, especially in relation to major publishers' high profit margins. However, the share of scientific output published in the journals of these major publishers, as well as its evolution over time and across various disciplines, has not yet been analyzed. This paper provides such analysis, based on 45 million documents indexed in the Web of Science over the period 1973-2013. It shows that in both natural and medical sciences (NMS) and social sciences and humanities (SSH), Reed-Elsevier, Wiley-Blackwell, Springer, and Taylor & Francis increased their share of the published output, especially since the advent of the digital era (mid-1990s). Combined, the top five most prolific publishers account for more than 50% of all papers published in 2013. Disciplines of the social sciences have the highest level of concentration (70% of papers from the top five publishers), while the humanities have remained relatively independent (20% from top five publishers). NMS disciplines are in between, mainly because of the strength of their scientific societies, such as the ACS in chemistry or APS in physics. The paper also examines the migration of journals between small and big publishing houses and explores the effect of publisher change on citation impact. It concludes with a discussion on the economics of scholarly publishing.

2. Predators. Top five

Top Publishers by Articles 2023

Rank	Publishers	Articles
1	<u>Elsevier BV</u>	861,274
2	<u>Springer Science and Business Media LLC</u>	446,692
3	<u>MDPI AG</u>	285,191
4	<u>Wiley</u>	250,910
5	<u>Informa UK Limited</u>	132,025

The screenshot shows the Scilit website interface. At the top, there is a navigation bar with the Scilit logo, 'Rankings', 'Publications', 'Sources', and 'Publishers'. Below the navigation bar, there is a sidebar with 'Overview', 'Publishers', 'Journals', and 'Organizations'. The main content area displays 'Scilit Rankings' with a sub-header 'Home > Scilit Rankings' and 'Last update: 25 May 2024'. At the bottom of the main content area, there is a dropdown menu for 'Edition' set to '2023'.

2. Predators. Top five

Top Publishers by Journals 2023

Rank	Publishers	Journals
1	Elsevier BV	2,952
2	Springer Science and Business Media LLC	2,847
3	Informa UK Limited	2,455
4	Wiley	1,581
5	SAGE Publications	1,142



Rankings

Publications ▾

Sources

Publishers

Overview

Publishers

Journals

Organizations

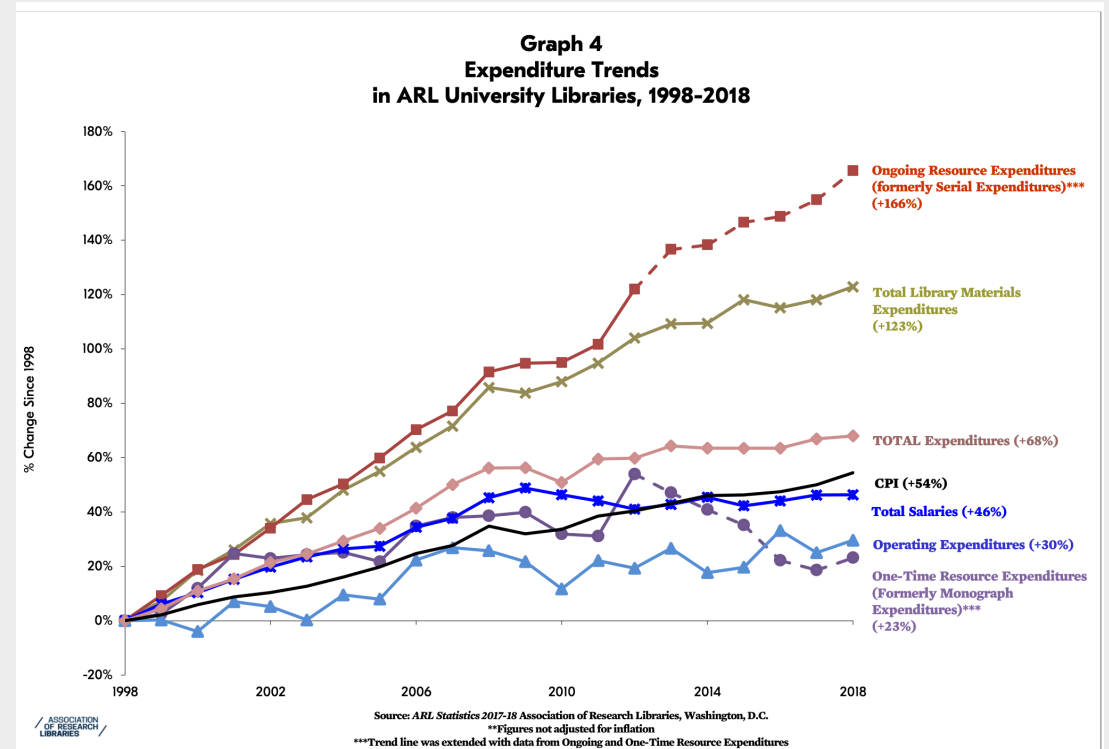
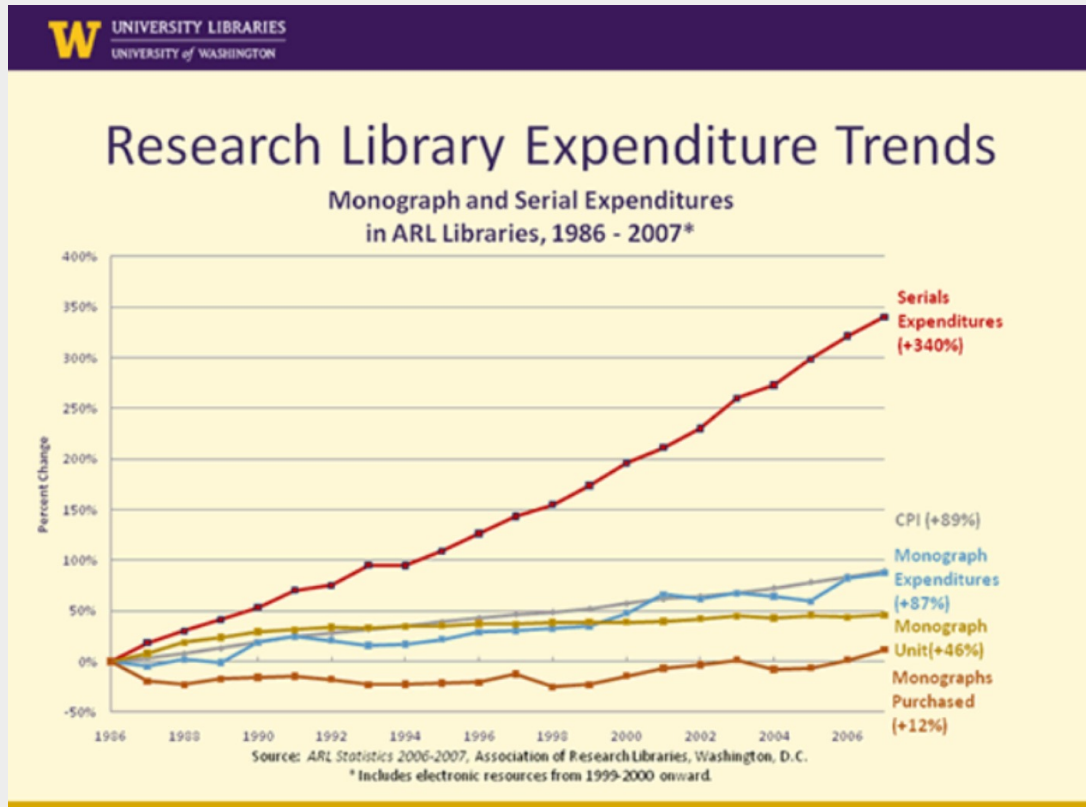
Home > [Scilit Rankings](#)

Scilit Rankings

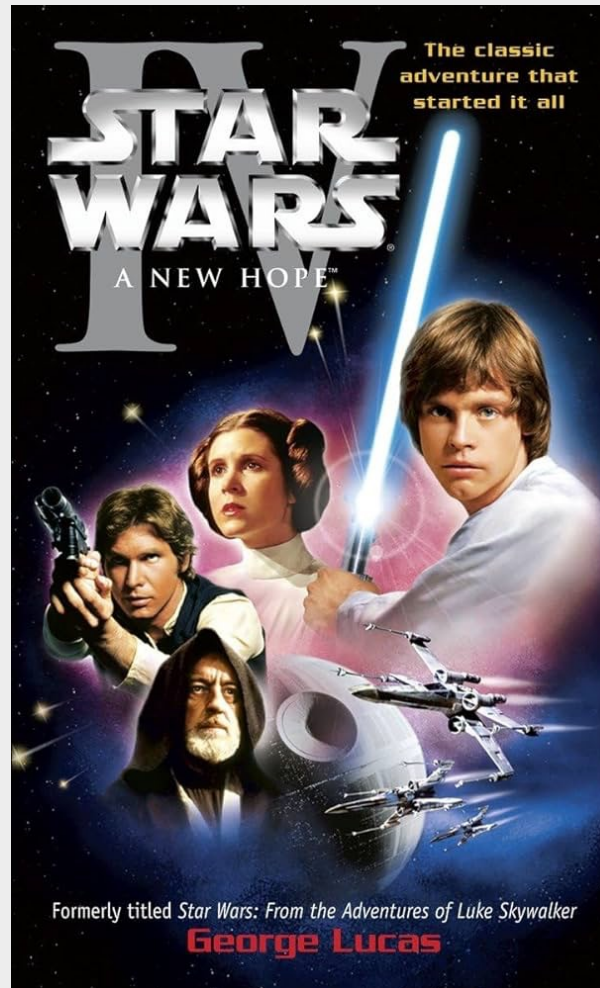
Last update: 25 May 2024

Edition 2023 ▾

2. Predators. Research Library Expenditure (USA)



A new hope



1. Exercise (10 min. max)

- Try to define Open Access
- Write your definition in the chat
- Please don't use web or ChatGBT

3. Free software (1989)




The screenshot shows the GNU Operating System website. At the top, there is a logo for GNU (a ram's head) and the text "GNU Operating System" followed by "Supported by the Free Software Foundation". Below this is a navigation bar with links for "PHILOSOPHY", "LICENSES", "EDUCATION", "SOFTWARE", "DISTROS", "DOCS", "MALWARE", and "HELP". The main heading is "GNU General Public License, version 1". There is a button that says "Skip to license text". Below this is a list of links: "The latest version of the GPL, version 3", "What to do if you see a possible GPL violation", "The GNU General Public License version 1 (GPLv1) in other formats: plain text format, standalone HTML, Markdown, ODF, RTF, Docbook, LaTeX, Texinfo", and "Old versions of the GPL". At the bottom, it says "GNU GENERAL PUBLIC LICENSE Version 1, February 1989" and "Copyright (C) 1989 Free Software Foundation, Inc. 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA". It also states: "Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed."


3. Free software (1989): the four essential freedoms

- The freedom **to run the program** as you wish, for any purpose (freedom 0).
- The freedom **to study how the program works, and change it** so it does your computing as you wish (freedom 1). **Access to the source code is a precondition** for this.
- The freedom **to redistribute copies** so you can help others (freedom 2).
- The freedom **to distribute copies of your modified versions** to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. **Access to the source code is a precondition** for this.

3. Paul Ginsparg e ArXiv (1991)

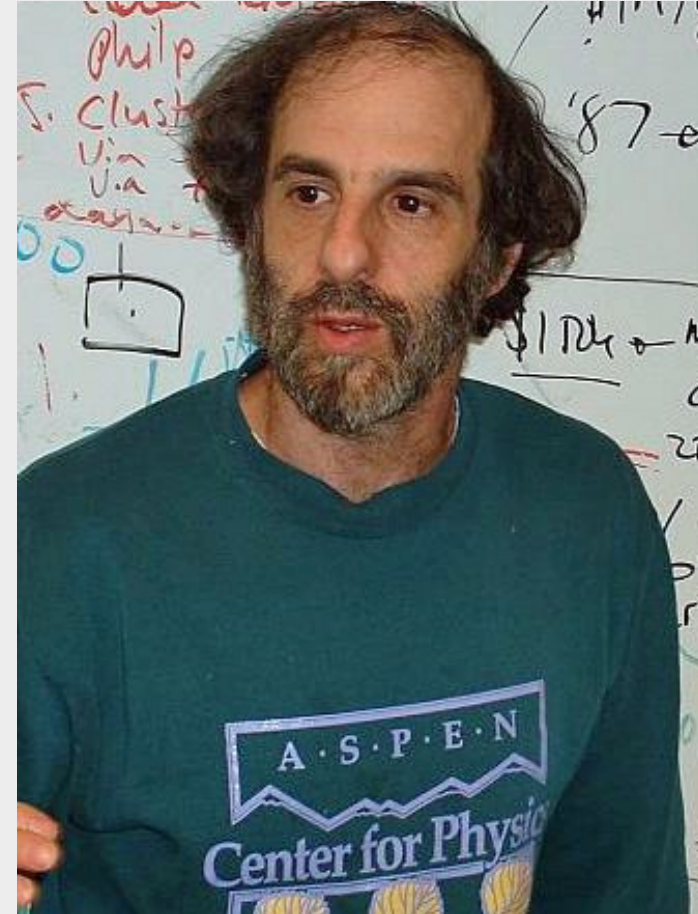


Cornell University



arXiv

arXiv is a free distribution service and an open-access archive for nearly 2.4 million scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics. Materials on this site are not peer-reviewed by arXiv.



It was twenty years ago today ...

Paul Ginsparg

Physics and Information Science, Cornell University

To mark the 20th anniversary of the commencement of hep-th@xxx.lanl.gov (now arXiv.org), I've adapted this article from one¹ that first appeared in Physics World and was later reprinted (with permission) in Learned Publishing. This version is closer to my original draft, with some updates for this occasion, plus an astounding 2⁵ added footnotes.²

3. Paul Ginsparg (2011)

- «At the Aspen Center for Physics, in Colorado, in late June 1991, a stray comment from a physicist, concerned about emailed articles overrunning his disk allocation while traveling, suggested to me the creation of a centralized automated repository and alerting system, which would send full texts only on demand. That solution would also democratize the exchange of information, leveling the aforementioned research playing field, both internally within institutions and globally for all with network access.
- Thus was born **xxx.lanl.gov**, initially an automated email server (and within a few months also an FTP server), powered by a set of csh scripts. It was originally intended for **about 100 submissions per year** from a small subfield of high-energy particle physics»

3. Larry Lessig and Creative Commons (2001)



The spectrum of rights



Copyright

All Rights Reserved

Re-use requires the permission from the copyright owner.

Creative Commons

Some Rights Reserved

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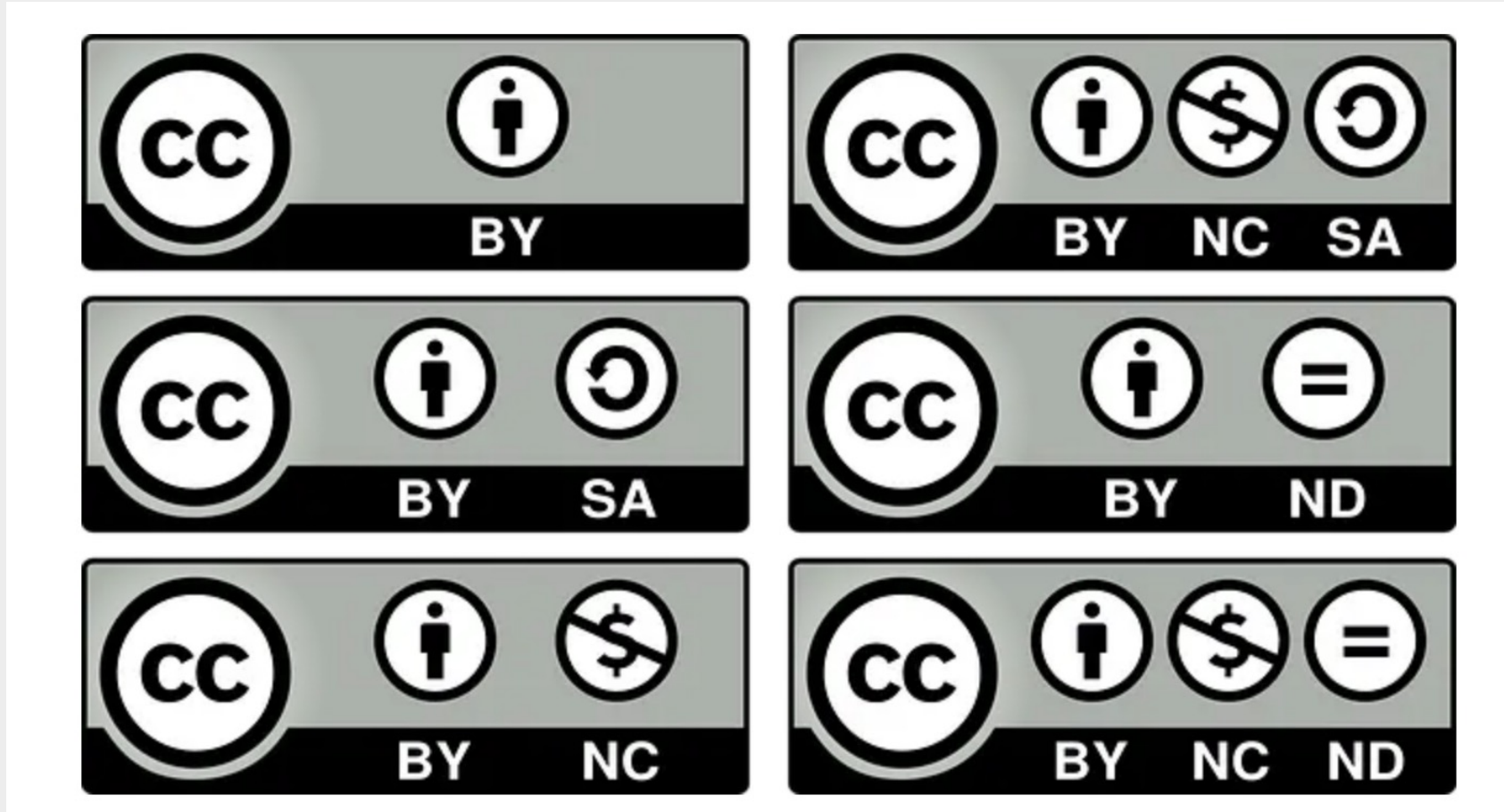
Public Domain

No Rights Reserved

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<https://researchoutreach.org/articles/thought-leaders/license-to-share-how-the-creative-commons-licensing-system-encourages-the-remixing-and-reuse-of-published-materials/>

3. Modularity



3. Three layers



3. Berlin declaration 2003

- 1. Open access contributions must satisfy two conditions: The author(s) and right holder(s) of such contributions grant(s) to all users a free, irrevocable, worldwide, right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship (community standards, will continue to provide the mechanism for enforcement of proper attribution and responsible use of the published work, as they do now), as well as the right to make small numbers of printed copies for their personal use.

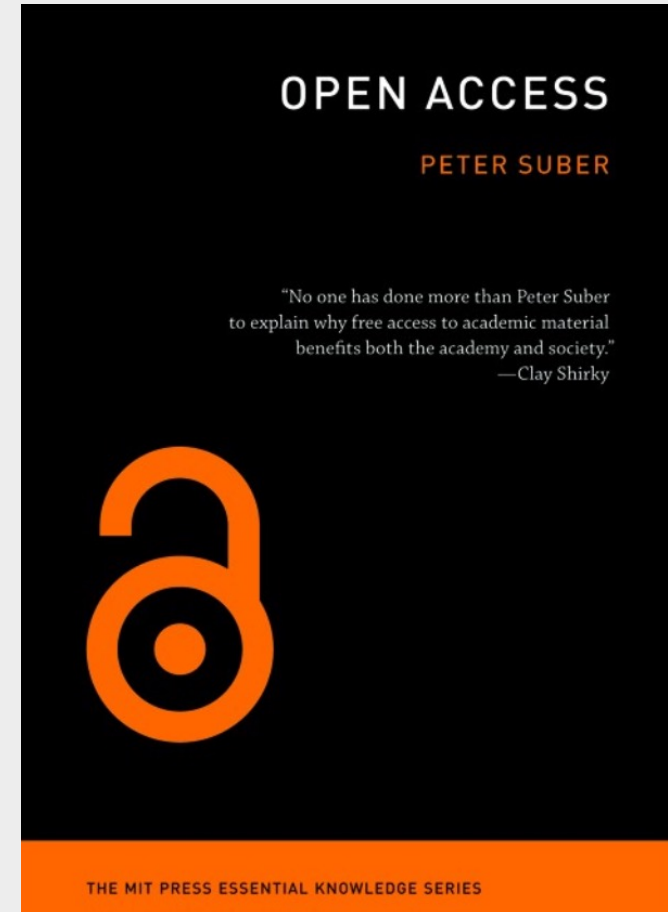
3. Berlin declaration 2003

- 2. A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in an appropriate standard electronic format is deposited (and thus published) in **at least one online repository using suitable technical standards** (such as the Open Archive definitions) that is supported and maintained by an **academic institution, scholarly society, government agency**, or other well-established organization that seeks to enable **open access, unrestricted distribution, interoperability, and long-term archiving**.

3. Open Access: Peter Suber 2012

“Open access (OA) literature is

- digital,
- online,
- free of charge, and
- free of most copyright and licensing restrictions”



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- R. Caso, [The Darkest Hour: Private Information Control and the End of Democratic Science](#), Trento LawTech Research Papers, nr. 35, Trento, Università degli studi di Trento, 2018, in I. De Gennaro, H. Hofmeister, R. Lüfter (eds.), [Academic Freedom in the European Context. Legal, Philosophical and Institutional Perspectives](#), in [Palgrave Critical University Studies](#) book series (PCU), Springer Nature, 2022, 259-288

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- M.C. Pievatolo, [Open science: human emancipation or bureaucratic serfdom?](#), in [SCIRES-IT – SCientific RESearch and Information Technology, Volume 10, Special Issue \(2020\) Open Science: New models of scientific communication and research evaluation](#), Issue edited by P. Gargiulo and Editors in-Chief V. Valzano and M. Cigola

Lecture

- R. Caso, Il diritto d'autore accademico e la mercificazione della scienza, in R. Caso, [La società della mercificazione e della sorveglianza: dalla persona ai dati](#), Milano, [Ledizioni](#), 2021, Cap. 23, p. 30
- R. Caso, [La valutazione autoritaria e la privatizzazione della conoscenza contro la scienza aperta](#), [Trento LawTech Research Paper nr. 52](#), 2022, in AA.VV. [“Perché la valutazione ha fallito. Per una nuova Università pubblica”](#), Morlacchi editore, 2023, 17-39
- R. Caso, [Diritto di ripubblicazione](#), AISA Dizionario della Scienza Aperta, 04.06.2022
- R. Caso, [Proprietà intellettuale](#), AISA, Dizionario della scienza aperta, 26 agosto 2022

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