Open Science and Research Data Management

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

Università di Pisa

2024

Roberto Caso
Part I

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
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»

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 scopritamenti, 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

- **Responsability**: 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

• «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». 
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

- 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

- Social norms
- Public peer review
- Publicity
- Copyright
- Printing press
- Technology
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

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”.*»

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

• «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 2014, 1 of 21
doi:10.1093/cje/beu025

The crisis of intellectual monopoly capitalism

Ugo Pagano*

• «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». 

【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 [...]】

• «Are extreme levels of industrial concentration actually compatible with the premise of rough equality among citizens, industrial freedom, or democracy itself?»
2. Predators

• «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)».
2. Predators. Top five

Top Publishers by Articles 2023

<table>
<thead>
<tr>
<th>Rank</th>
<th>Publishers</th>
<th>Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Elsevier BV</td>
<td>861,274</td>
</tr>
<tr>
<td>2</td>
<td>Springer Science and Business Media LLC</td>
<td>446,692</td>
</tr>
<tr>
<td>3</td>
<td>MDPI AG</td>
<td>285,191</td>
</tr>
<tr>
<td>4</td>
<td>Wiley</td>
<td>250,910</td>
</tr>
<tr>
<td>5</td>
<td>Informa UK Limited</td>
<td>132,025</td>
</tr>
</tbody>
</table>
2. Predators. Top five

<table>
<thead>
<tr>
<th>Rank</th>
<th>Publishers</th>
<th>Journals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Elsevier BV</td>
<td>2,952</td>
</tr>
<tr>
<td>2</td>
<td>Springer Science and Business Media LLC</td>
<td>2,847</td>
</tr>
<tr>
<td>3</td>
<td>Informa UK Limited</td>
<td>2,455</td>
</tr>
<tr>
<td>4</td>
<td>Wiley</td>
<td>1,581</td>
</tr>
<tr>
<td>5</td>
<td>SAGE Publications</td>
<td>1,142</td>
</tr>
</tbody>
</table>
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 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.

• «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.»

Roberto Caso - Academic copyright 1 - Università di Pisa- 2024
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
Re-use is permitted without permission under the specifications shared in the licence.

Public Domain
No Rights Reserved
May be used without permission.

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”
References

• R. Caso, The academic copyright in the age of commodification of scientific research, 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

References


• 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
Letture

• 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
Roberto Caso

E-mail: roberto.caso@unitn.it

Web: http://www5.unitn.it/People/it/Web/Persona/PER0000633/INFO
http://lawtech.jus.unitn.it/
https://www.robertocaso.it/
Copyright

Copyright by Roberto Caso

Licenza Creative Commons

Quest'opera è distribuita con Licenza Creative Commons Attribuzione - Condividi allo stesso modo 4.0 Internazionale

La citazione di testi e la riproduzione di immagini costituisce esercizio dei diritti garantiti dagli art. 2, 21 e 33 Cost. e dall’art. 70 l. 1941/633