Copyright and Open Access in the Digital Age

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Agenda

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Intellectual Property Protection: in a nutshell
## Overview of intellectual property

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*From EPO, *Patent teaching kit*
Some IP found in a mobile phone

Trade marks:
• Made by "Nokia"
• Product "N95"
• Software "Symbian", "Java"

Patents:
• Data-processing methods
• Semiconductor circuits
• Chemical compounds
• ...

Copyrights:
• Software code
• Instruction manual
• Ringtone
• ...

Trade secrets:
?

Designs (some of them registered):
• Form of overall phone
• Arrangement of buttons in oval shape
• Three-dimensional wave form of buttons
• ...

From EPO, Patent teaching kit
IPRs Rationale

• The Statute of Anne (1710): “An act for the encouragement of learning, by vesting the copies of printed books in the authors or purchasers of such copies, during the times therein mentioned”

• U.S. CONST. art. I, Sec. 8, cl. 8 “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”
Copyright
Psychological pressure
READING THIS TEXT CONSTITUTES COPYRIGHT INFRINGEMENT. YOU ARE UNDER ARREST.
A recent law

- Unlike the property on material things (which dates back to the dawn of time, which means the earliest forms of human legal organization).

- **Copyright is a recent law**

- Before the printing technology:
  - Classic world: Greece and Rome
  - Medieval Age: authors (and scribe), painters, sculptors, architects, musicians and theater
A world without copyright...

- Hypothesis to justify the absence of copyright:
  - Economic incentives (patronage) and uniqueness of representation
  - Non economic incentives
  - Not immorality of plagiarism
    - Creativity and plagiarism: an ambiguous relationship (i.e. Shakespeare and following slides)
  - No possibility for a market for piracy (the cost of the original is equal to the cost of the copy (you must pay the scribe))
Which did come first: the egg (protection) or the chicken (its infringement)?

“Only when media technology and market conditions made piracy profitable could copyright arise” (P.E. Geller)
Technology and market

- Before the invention of movable type printing, the original costs the same as the copy (the cost is the payment of the slave, the scribe).

- With movable types, the original (matrix) is very expensive, the copy is cheap (the marginal cost of producing the copies is low).

- The second printer copies the matrix (supporting costs) and then he must support only the marginal costs of producing copies.

- With a new market (the book) and a new business model (selling large-scale copies of the originals with a cover price) → comes the need for new rules
Information as a “public good”

- Information features:
  - Immateriality
  - Inexhaustible
  - Incremental and cumulative nature (“on the shoulders of giants”)

- Information → “Public Good”:
  - Not rival
  - Not excludable

- A market of public goods → Market Failure
Remedies to the market failure

- State remedies for market failure:
  - Direct intervention
  - Awards and grants
  - Monopoly/Property rights (copyright and patents)
    - To create artificially (ie, by the force of law) the excludibility that is missing to information in the state of nature
    - An exclusive right that allows to apply an higher price with respect to the marginal cost in order to incentive the creation and distribution
    - A poised balance → The exclusive right is limited in time and extent
The Origins of Copyright

- Relationship between the Gutenberg invention of the press and the legal protection of literary works:
  - Press invented in the 15th century: first Bible published in 1455
  - Privilege of the Republic of Venice (1469)
The Statute of Anne - 1710

- Declamation: "The encouragement of learning" Operational rules:
  - "The sole liberty of printing and reprinting books ..." (Proprietor), but uncertainty in the nature of law
  - Time limits: 14 years from publication plus another 14 if the author is still alive (for works already published: 21 years from 1710)
- Registration
- Penalties
Copyright Law

- Copyright law grants authors an exclusive rights in their intellectual works.

- The exclusive right embraces

  - Moral rights
  - Economic Rights

- Limits of the exclusive right:

  - Extension (originality; expression/idea dichotomy)
  - Duration
Economic rights

Main economic rights:

• Reproduction (right to make copies)
• Distribution (right to distribute copies)
• Communication (right to communicate)
• Derivative works (right to make derivative works)
Moral rights

Main moral rights:

• Right of attribution (diritto di paternità)

• Right to the integrity of the work
Copyright Law limits: extension

- **Extension:**
  - Originality
  - Expression/Idea Dichotomy
  - First Sale Doctrine (Once a work is sold or distributed on a specific territory with the consent of the right holder, the latter may not control or prevent the further distribution).
Copyright Law limits: duration

- Statute of Anne – 1710: 14 years (+ 14)
- U.S. Copyright Act 1790: 14 years
- Berne Convention art. 7: author's life + 50 years
- Directive 2006/116/EC: author’s life + 70 anni
  - Art. 25, l. 22 aprile 1941, n. 633 (Italian) “Copyright Law”
- Sonny Bono Copyright Extension Act of 1998: author’s life + 70 years
Digital Revolution

- Producing and distribution of tools aimed at easily reproducing copyrighted works:
  - photocopiers,
  - tape recorders,
  - VCRs
- First attempt to contrast the phenomenon by the right holders
  - → suing the producers of these “new” (devil) technologies!
Digital Revolution

Challenges:

- Easy production of copies
- The copy = the original
- Easiness distribution of copies.

...and traditional copyright laws are still there to recognize exclusive rights to creators of original works.
Copyright in the digital age

- Redefinition of the main features of intellectual works:
  - Concept of work
  - Concept of author
  - Concept of creativity
Open Access to Scientific Publications
Open Science

• Free and Open Software

• Open Access to Scientific Publications

• Open Research Data

• Open Educational Resources
“Open access (OA) literature is
• digital,
• online,
• free of charge, and
• free of most copyright and licensing restrictions”
Digital, online
https://www.openarchives.org/pmh/

- Interoperability through Metadata Exchange
- The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) is a low-barrier mechanism for repository interoperability. Data Providers are repositories that expose structured metadata via OAI-PMH. Service Providers then make OAI-PMH service requests to harvest that metadata. OAI-PMH is a set of six verbs or services that are invoked within HTTP.
Free

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Double identity

• Ethics

• Incentives
Double identity

• Bottom up

• Top down
Top down: e.g. UE H2020

Graph: Open access to scientific publication and research data in the wider context of dissemination and exploitation
H2020

• Article 29.2 of the Model Grant Agreement sets out detailed legal requirements on open access to scientific publications: under Horizon 2020, each beneficiary must ensure open access to all peer-reviewed scientific publications relating to its results.
Unitn

• Mandatory deposit in IRIS (closed access)

• Clearing of copyright → eventually publishing in Open Access
Open Access Roads
Green road: e.g. IRIS Unitn
Green Road: e.g. Zenodo

Poisonous Science: the Dark Side of Academic Copyright in the Digital Age

Caso, Roberto

Copyright on academic and scientific publications (papers, articles, essays, books, etc.) is the result of the interaction between formal rules (copyright law), social norms (norms of science) and technology (printing press, digital technologies).

Prior to the digital age, academic copyright has had two main functions:

- **Priority**: The acknowledgment of a paternity (or attribution) right on the scientific publication has facilitated the certification of priority of the scientific discovery described in the text.
- **Dissemination**: The protection of economic rights (reproduction, distribution, etc.) has enabled the alliance between scientific authors and publishers finalized to distribute scientific publications to the public. Usually, scientific authors transfer their economic rights to the publisher because the latter has the economic and technological power to disseminate scientific publications. Nevertheless, scientific authors are mostly interested in reputation and not in the economic return derived from the commercialization of copyright.

According to Robert Merton’s theory, the norms of science are Communism, Universalism, Disinterestedness, and Organized Skepticism (CIUDOS).

Scientists compete for priority but they put their ideas and information in the public domain. The ultimate scope is to share ideas and information because the progress of science depends on “communism” and “organized skepticism.” In other terms, scientific publications are part of the public and critical dialogue. In this perspective, formal law and social norms,
Green road: e.g. arXiv
Gold road (author pay)
Platinum (no fees)
Red road (double dipping)
Academic copyright
Scientific authorship: freedom and responsibility

• Freedom (freedom of speech, academic freedom → authonomy)

• Responsibility (e.g., in terms of scientific misconduct, fraud, plagiarism etc.)
Balancing copyright

(Public) Access

Vs.

(Exclusive) Control
Formal and social norms

• Copyright law

• Social norms
Scientific publications

PLAGIO E CREATIVITÀ:
UN DIALOGO TRA DIRITTO E ALTRI SAPERI

a cura di
ROBERTO CASO

2011
Scientific Publications

• Who is the copyright holder?
  – Default rule $\rightarrow$ the Author, but
  – by contract, the author can transfer the right to the Publisher

• How do you acquire copyright protection?
  – Creation of the work

• How do you transfer copyright?
  – Licenses/Assignments
  – Publishing contracts
Publishing Agreement or Copyright Transfer Agreement

• Usually the scientific author transfers her economic copyright to the publisher without negotiation

• He/she has subject to the publisher decicional power
Contracts

Authors ➔ Publishing Contract – Copyright Transfer Agreement ➔ Publishers

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Business Models and Licenses

- Hierarchical Model
  - Based on traditional copyright
  - Proprietary License (i.e. EULA)
- Not Hierarchical Model
  - Peers play hybrid roles (i.e. software)
  - Open Licenses
Not Hierarchical Model: open logic

Hierarchical Model: fixed roles

User/Programmer

User/Programmer

User/Programmer

User/Programmer

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“*some rights reserved copyright*” !!
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