

the Right  
to Enjoy  
the Benefits  
of  
Science

WORLD CONGRESS  
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OF SCIENTIFIC  
RESEARCH

6<sup>TH</sup> MEETING

**ADDIS ABABA 25-26|02|2020**

Roberto Caso

Open Science vs.  
Intellectual Property in  
a Democratic Order

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# Outline

1. Democratic science in a democratic order, public dialogue and academic copyright
2. Private information control and authoritarian evaluation of science
3. Open Science as public and democratic science



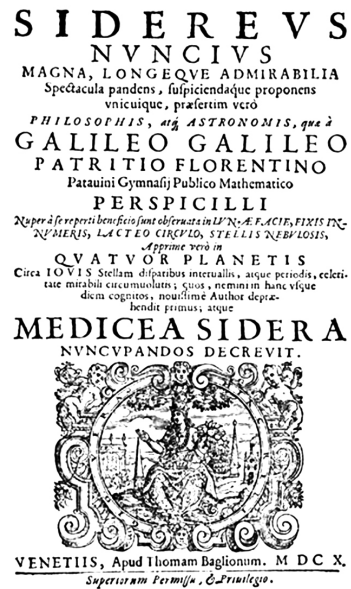
# 1

## Democratic science, public dialogue and academic copyright





# Modern science as open science



PHILOSOPHICAL  
TRANSACTIONS:  
GIVING SOME  
ACCOMPT  
OF THE PRESENT  
Undertakings, Studies, and Labours  
OF THE  
INGENIOUS  
IN MANY  
CONSIDERABLE PARTS  
OF THE  
WORLD

Vol I.  
For Anno 1665, and 1666.

In the SAVOY,  
Printed by T. N. for John Martyn at the Bell, a little with-  
out Temple-Bar, and James Allestry in Duck-Lane,  
Printers to the Royal Society.

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# Robert King Merton



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# Merton: open science in a democratic order

1938, 1942, autonomy, democracy, norms of science

CUDOS:

- Communism
- Universalism
- Disinterestedness
- Organized skepticism

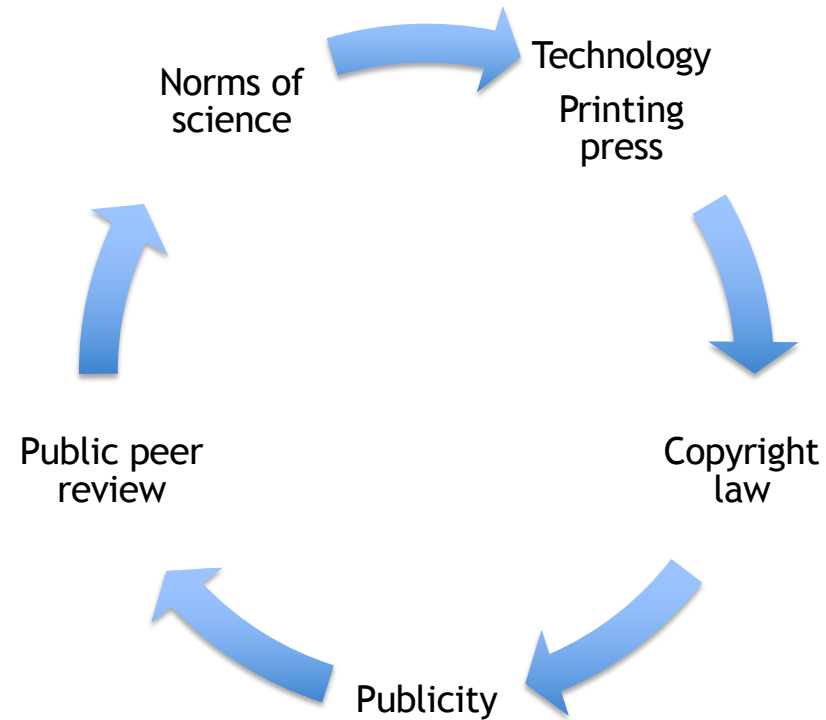


## Merton 1988: symbolism of «intellectual property»

- “I propose the seeming paradox that in science, private property is established by **having its substance freely given to others who might want to make use of it**. I shall argue further that certain institutionalized aspects of this property system, chiefly in the form of **public acknowledgment** of the source of knowledge and information thus freely bestowed on fellow scientists, relate to the social and cognitive structures of science in interesting ways that affect the collective advancement of scientific knowledge».



# “Academic copyright” and publicity





# 2

## Private information control and authoritarian evaluation of science



# Monsters University: be competitive!

Disney · PIXAR  
**M**ONSTERS  
UNIVERSITY



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# Garfield, 1955, the rise of numbers

Science, 122(3159), p.108-11, July 1955.

populations that scarcely need vaccination, because of a low incidence of paralysis, already have an abundance of poliomyelitis strains in the community that are actively immunizing children soon after they are born.

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Also see : Adair WC, Citation Indexes for Scientific Literature, American Documentation 6:31-32, 1955  
<http://garfield.library.upenn.edu/papers/adaircitationindexesforscientificliterature1955.html>

## Citation Indexes for Science

A New Dimension in Documentation

case. Classified indexes are also dependent upon a subject analysis of individual articles and, at best, offer us better consistency of indexing rather than greater specificity or multiplicity in the subject approach. Similarly, terminology is important, but even an ideal standardization of terminology and nomenclature will not solve the problem of subject

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# Edwards & Roy, 2017, perverse incentives

“Over the last 50 years, we argue that incentives for academic scientists have become increasingly perverse in terms of competition for research funding, development of quantitative metrics to measure performance, and a changing business model for higher education itself”





# Metrics and private information control



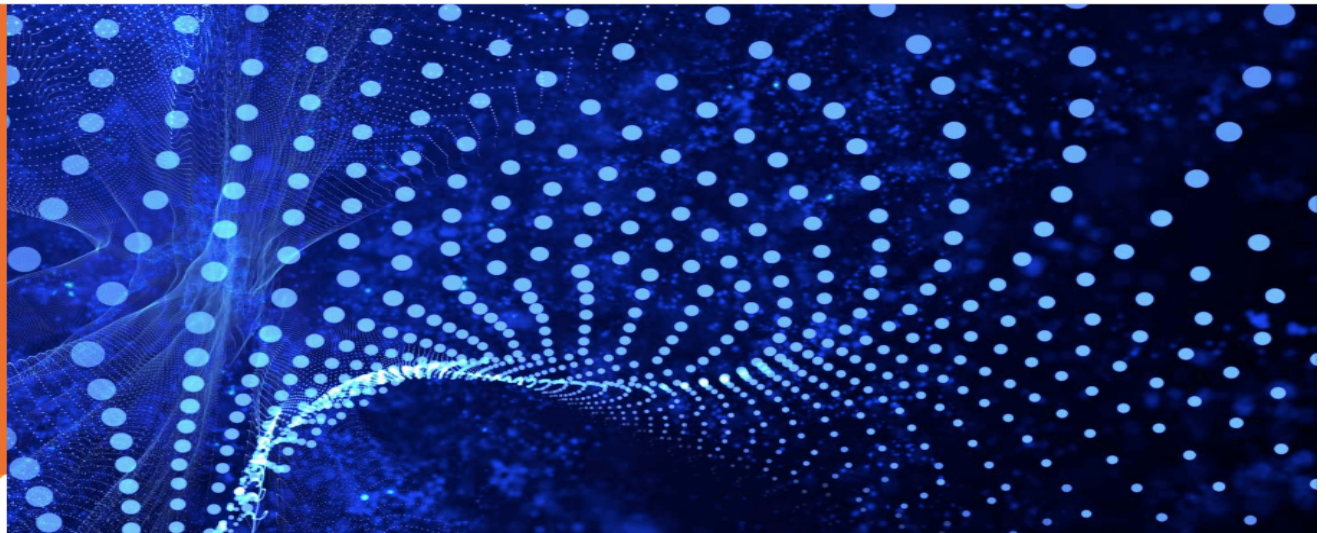
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# SPARC Landscape analysis 2019

- Academic publishing is undergoing a major transition as some of its leaders are moving from a content-provision to a **data analytics business**. [...]
- Through the seamless provision of these services, **these companies can invisibly and strategically influence, and perhaps exert control, over key university decisions** – ranging from student assessment to research integrity to financial planning



# Copyright law

From work of authorship to data, e.g.:

- EU Database sui generis right
- US and EU legal protection of Technological Protection Measures (TPMs)



# Reichman, Okediji, 2012

A fundamental change of attitudes would be necessary. A top priority for policymakers should be to avoid generating legally established fiefdoms, in which a few private rights holders can combine the bulk of all scientific data and literature into monopolized repositories where access and use are restricted and controlled from the top down, and in which the commodified inputs of publicly funded science are distributed on a proprietary basis. Failure to achieve such a shift in priorities places digital and computational science in developed countries at risk of becoming progressively entangled in “copyright thickets”<sup>554</sup> precisely at a time when these countries face stiff chal-



# 3

## Open Science as public and democratic science

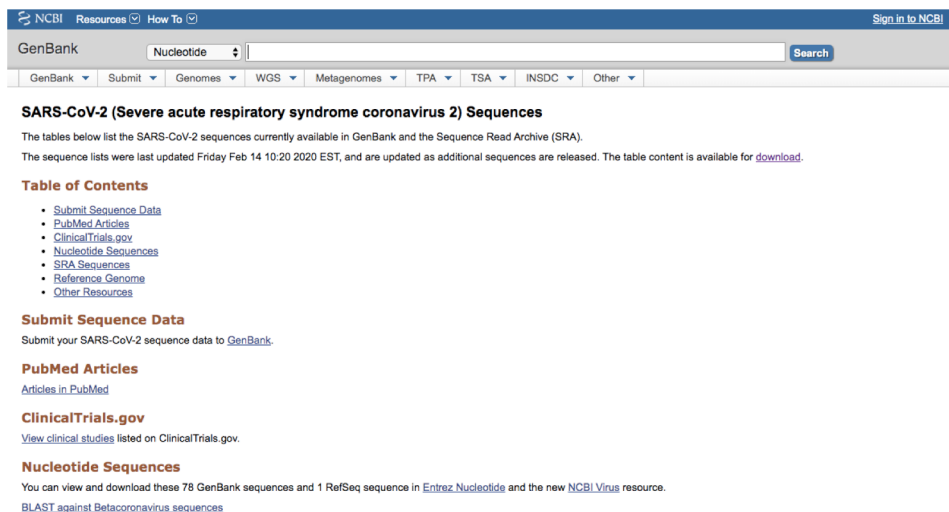


# Openness





# E.g. open science and health care



NCBI Resources How To Sign in to NCBI

GenBank Nucleotide Search

GenBank Submit Genomes WGS Metagenomes TPA TSA INSDC Other

### SARS-CoV-2 (Severe acute respiratory syndrome coronavirus 2) Sequences

The tables below list the SARS-CoV-2 sequences currently available in GenBank and the Sequence Read Archive (SRA). The sequence lists were last updated Friday Feb 14 10:20 2020 EST, and are updated as additional sequences are released. The table content is available for [download](#).

#### Table of Contents

- [Submit Sequence Data](#)
- [PubMed Articles](#)
- [ClinicalTrials.gov](#)
- [Nucleotide Sequences](#)
- [SRA Sequences](#)
- [Reference Genome](#)
- [Other Resources](#)

#### Submit Sequence Data

Submit your SARS-CoV-2 sequence data to [GenBank](#).

#### PubMed Articles

[Articles in PubMed](#)

#### ClinicalTrials.gov

[View clinical studies](#) listed on ClinicalTrials.gov.

#### Nucleotide Sequences

You can view and download these 78 GenBank sequences and 1 RefSeq sequence in [Entrez Nucleotide](#) and the new [NCBI Virus](#) resource. [BLAST against Betacoronavirus sequences](#)



W wellcome

Funding Key issues How we work About us News

f t in e

Press release | 31 January 2020

## Sharing research data and findings relevant to the novel coronavirus (COVID-19) outbreak

The outbreak of the novel coronavirus in China (COVID-19) represents a significant and urgent threat to global health.

We call on researchers, journals and funders to ensure that research findings and data relevant to this outbreak are shared rapidly and openly to inform the public health response and help save lives.

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# Larivière, Shu, Sugimoto 2020



Si ouvrir la recherche sur les coronavirus accélère la production de connaissances dans ces domaines, pourquoi — autres que pour des raisons mercantiles — ne pas ouvrir les résultats de recherche sur tous les problèmes de santé publique?



# Open Access for profit (and personal data processing)

## Elsevier Acquires SSRN

By **ROGER C. SCHONFELD** | MAY 17, 2016  
6 COMMENTS



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Elsevier acquires bepress, a leading service provider used by academic institutions to showcase their research

*Bepress to benefit from Elsevier's technology and analytics to expand offerings to more institutions, while helping Elsevier drive further adoption of its research data management*  
**snowcase their research**

*Bepress to benefit from Elsevier's technology and analytics to expand offerings to more institutions, while helping Elsevier drive further adoption of its research data management*

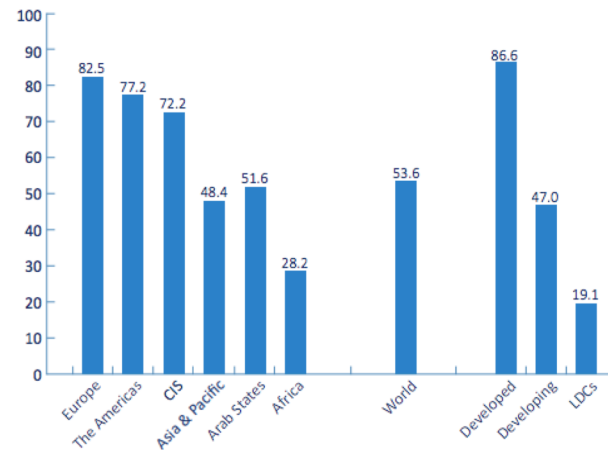
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# Digital divide (source: Measuring digital development Facts and figures, ITU publications, 2019)

## Most of the offline population lives in least developed countries

Percentage of individuals using the Internet, by region and development status, 2019\*

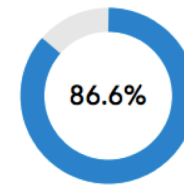


Note: \* ITU estimate. Source: ITU.

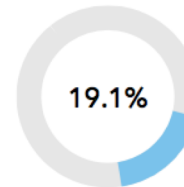
In developed countries, most people are online, with close to 87 per cent of individuals using the Internet.

In the least developed countries (LDCs), on the other hand, only 19 per cent of individuals are online in 2019.

Europe is the region with the highest Internet usage rates, Africa the region



Developed Countries



LDCs



# Data and computational power

- Who is able to access open data?
- Who is able to process open data?





# Policy and ethical perspectives

- Policy: connecting IP law and evaluation of science with democratic goals and the right to/of science
- Reforming IP and copyright law; rethinking science evaluation system
- Ethical: the role of scientist



# Values and principles

Open Science may help hindering the centralization of scientific power only if it becomes aware of the fact that, in the digital age, it has become the heir of all the values and principles that public science has traditionally fostered in the analogic age



# Aaron Swartz “Legacy” 2006



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# Legacy, 2006

«So what jobs do leave a real legacy? [...]

But one good source of them is trying to do things that change the system instead of following it. **For example, the university system encourages people to become professors who do research in certain areas (and thus many people do this); it discourages people from trying to change the nature of the university itself.**

Naturally, doing things like changing the university are much harder than simply becoming yet another professor. But for those who genuinely care about their legacies, it doesn't seem like there's much choice».



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*Thank you!*

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