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Mac 19-21 2016, Belgrade

Knowledge as a commons.
Potential for innovation and creativity through open access and open copyright

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Topics

Creativity

Innovation

Creative destruction

Regulatory instances for knowledge and information

Closed and open information markets

Commercial open access markets

Who pays?

A future for closed information markets

Copyright still needed

Questions

1.Is there a crisis in commercial information markets?

2. Is Open access publishing competitive or even substitutable to commercial publishing?

3. Will commercial publisher accept and even apply open access?

4. Are public institutions wiliing to finance commercial open access publishing?

5. What are the consequences for libraries when open access becomes the default publishing model?

6. Will open access foster creativity in science?

7. Will open access foster innovation in economy?

8. Is there a need for a change in copyright policy?

9. Is there still a need for copyright regulation when access becomes the default publishing model?

Creativity

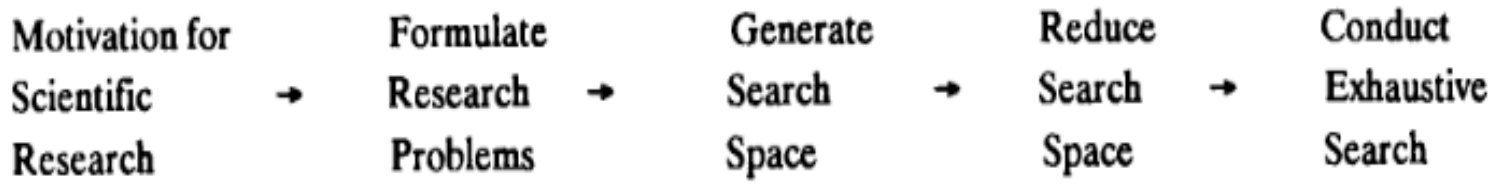
Intellectual Property Clause

Article I, Section 8, Clause 8, of the United States Constitution grants Congress the 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."

Creativity – scientific creativity

highly depends on access to and use of published knowledge



1) Motivation for scientific research.
2) Ability to correctly formulate research problems within a body of knowledge
3) Ability to create a **comprehensive search space** for the solution of a scientific problem.
4) Ability to assemble (or induce) and implemenat of heuristics to **reduce the search spac**e.
5) Patience and stamina for the **exhaustive search for solving the scientific problem within the constrained search space**.

S. Kocabas: Elements of scientifc creativity
https://www.aaai.org/Papers/Symposia/Spring/1993/SS-93-01/SS93-01-006.pdf

Innovation

innovation – the professional skill to make a difference

to make a difference is only possible if one is in the position **to grab and then apply information** which puts existing structures into question thus creating new - different ones.

Innovation

Innovation is paradigm of modernity and integral part of any economic policy - bound with **progress and growth**

From an economic point of view [Schumpeter] innovation is defined by the **transformation of an idea/an invention** (a piece of knowledge)

- into a new profitable **product or service** or
- into profitable **value-added features** of an existung product or service or
- Into new profitable **forms of production** for existing products or
- Into new profitable **business models**
- Into new profitable **financing models**

Innovation

Innovation in the publishing industry/economy

Innovation is not limited to the sector of the general economy but refers also to all forms of **production, processing, representation, distribution and use of knowledge**

Innovation – Creative destruction

According to **Joseph Schumpeter** (interpreting Karl Marx)

The process of innovation is generally based on „creative destruction“:

“the process of **industrial mutation** that incessantly **revolutionizes** the economic structure from within, incessantly **destroying the old one**, **incessantly creating a new one"**

Schumpeter, Joseph A. (1994) [1942]. Capitalism, Socialism and Democracy. London: Routledge. pp. 82–83.

www.econlib.org/library/Enc/CreativeDestruction.html
https://en.wikipedia.org/wiki/Creative_destruction

Innovation – Creative destruction

Manuel Castells applies the concept of creative destruction for an **exploratory theory of informational networks as part of the network society**

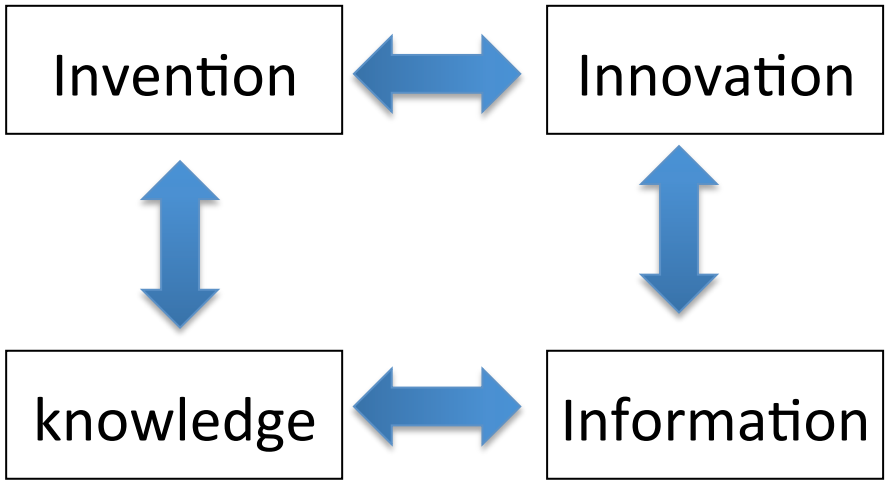
The "s**pirit of informationalism**" is the **culture of "creative destruction"** accelerated to the speed of the optoelectronic circuits that process its signals.

While technological innovation has enabled this unprecedented fluidity, this very process **makes redundant whole areas and populations who are bypassed by informational networks.**

Manuel Castells, *Materials for an exploratory theory of the network society* (2000)

Manuel Castells,The Information Age: Economy, Society and Culture (the first volume of which, The Rise of the Network Society, appeared in 1996)

Interim result

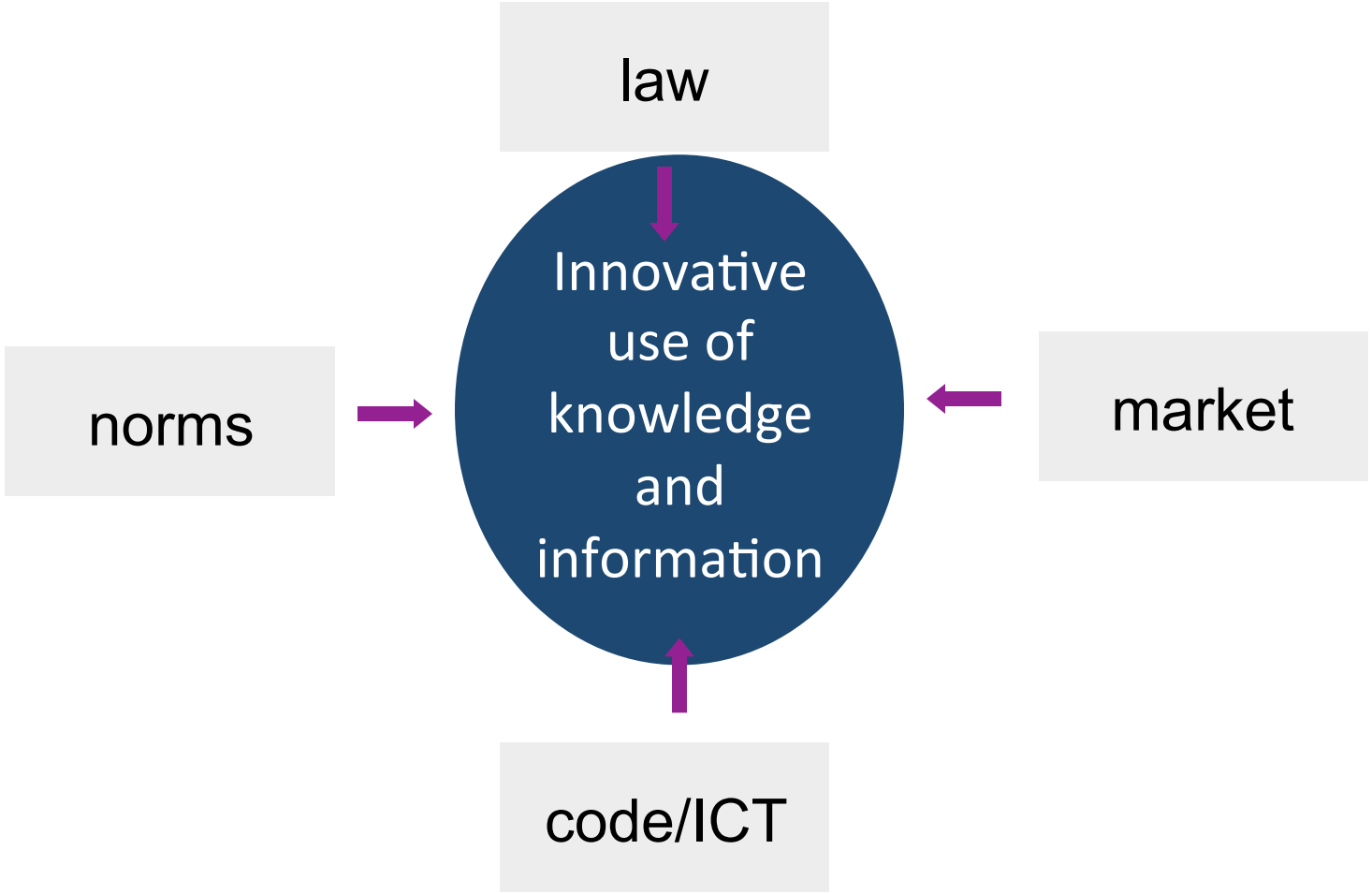


The more permissive (free and open) and the more sustainable the production, dissemination and usage of knowledge and information are

the higher

- The level of innovation
- the level of economic profitability
- the leveL of scientific creativity and inventions

Regulatory instances for knowledge and information



According: Lawrence Lessig: Code and other laws of cyberspace. Basic Books, Perseus Books Group: New York 1999, second edition 2006

Information markets

Informations markets

(1) Proprietary (commercial) closed markets

(2) Free open access exchange markets

(3) Commons-based information markets

(4) Commercial open access markets

(3) Freeconomics markets – zero marginal costs markets

(3) Commercial (closed) value-added markets

Informations markets – commercial knowledge economy

(1) Proprietary (commercial) closed markets

objects

trade with information objects

claimed to

private property rights

protected by copyright law

with the consequence of

exclusive commercial exploitation rightsl

with the consequence of

manifold scarcity

with the consequence of

reduced invention and innovation

Informations markets – commercial knowledge economy

5000–10,000 **journal publishers** globally (5000 in the SCOPUS database)

Science publishing industry **employs** an estimated 110,000 people globally, of which about 40% are employed in the EU

still a very powerful and profitable market

STM **book market** (about $5 billion annually) – ebooks 17% 2012 –rapidly increasing

28,100 active scholarly **peer-reviewed journals** late 2014

Publishing about 2.5 million **articles** a year

More than 50 mio articles subject to retrieval and download

Virtually all STM journals are now **available online**

Increase of costs for publications between 2010 and 2014 In the average 23,9%
http://bit.ly/1yJgsF5

Annual revenues generated from English-language STM journal publishing are estimated at about $10 billion in 2013 - a broader STM information publishing market worth some $25,2 billion

Data-intensive research is **challenging publishers** to create new solutions to link publications to research data (and vice versa), to facilitate data mining

Mark Ware/Michael Mabe; The stm report . an overview of scientific and scholarly journal publishing. STM, Fourth edition March 2015 - http://www.stm-assoc.org/2015_02_20_STM_Report_2015.pdf

Informations markets – commercial knowledge economy

still a very powerful and profitable market

and mainly supported/financed by public money

the equivalent of approx. 90.000 APC to Elsevier

Contract between **Elsevier and France** (Couperin and Agence bibliograph-ique de l'enseignement supérieur)

2014-2018 - 172 Mio. EURO for **closed access journals**

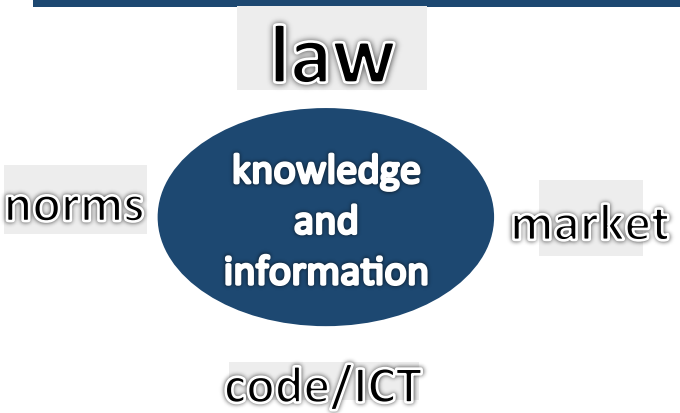
http://wisspub.net/2014/11/12/details-zum-elsevier-deal-in-frankreich/

German science libraries pay about 600 Mio Euros/y for commercial publications

Contract between **Baden-Württemberg and Springer** starting 2015

Free access to 1.917 Springer journals for 51 academic institutions in B.-W.

The influence of copyright to creativity and innovation

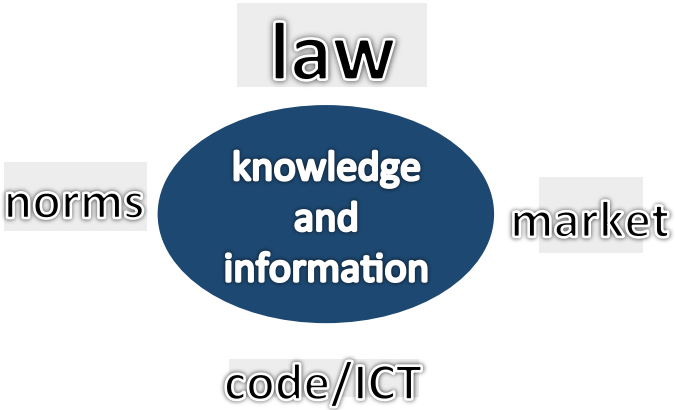


„Everyone says that the **ownership and control of information** is one of the most important forms of **power** in contemporary society … It is intellectual property … that provides the **key to the distribution of wealth, power and access in the information society**.

The **intellectual property regime** could make - or break - the educational, political, scientific and cultural promise of the Net."

J. Boyle: A politics of intellectual property: Environmentalism for the net? (http://www.law.duke.edu/boylesite/intprop.htm)

The influence of copyright to creativity and innovation



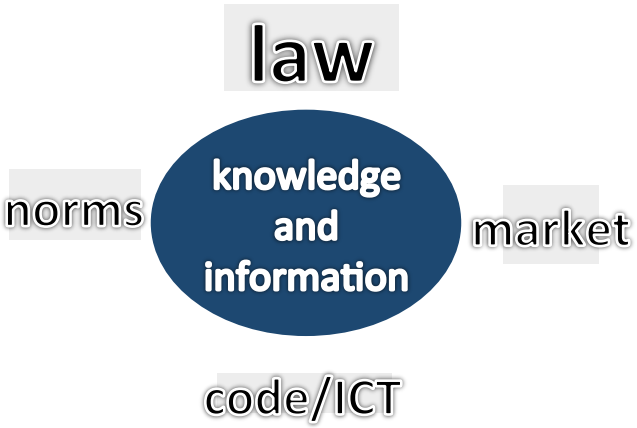
Commercial information markets protected by existing copyright

With the consequence

(Existing) **copyright** regulation/laws turn out to be an **disabling means** for new business models and information services in the Internet **rather than an enabling** one.

Why is that?

Informations markets – commercial knowledge economy



Protected by existing copyright

The copyright myth

Strong copyright will stimulate creativity in science and will further commercial innovation

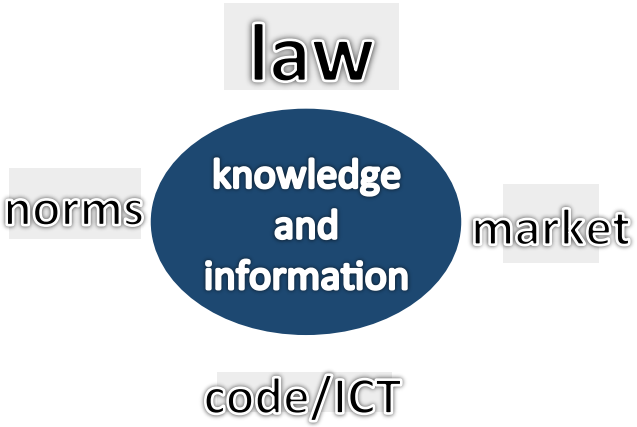
The opposite is true (according to many empirical studies)

The more open the system of copyright limitations is the better creativity and innovation are promoted

Dietmar Harhoff; Joachim Henkel; Eric von Hippel (2003): Profiting from voluntary information spillovers: how users benefit by freely revealing their innovation. Research Policy 32 (2003) 1753–17 -

Christophe Geiger (2010): Promoting Creativity through Copyright Limitations: Reflections on the Concept of Exclusivity in Copyright Law. *Vanderbilt Journal of Entertainment & Technology Law*, vol. 12, No. 3 (spring 2010)

Informations markets – commercial knowledge economy



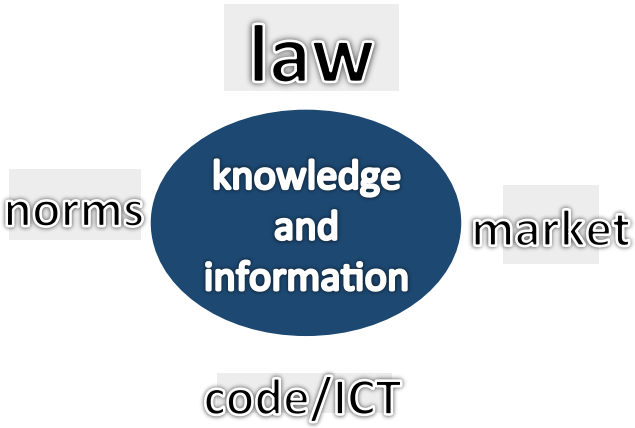
Existing strong copyright supports publishing models and business models from analogous information environments

two examples

"Bestands-akzessorietät" (**strict stock requirement**)

restricted remote access to electronic library objects

Informations markets – commercial knowledge economy



no longer appropriate in
a zero marginal cost
society (Rifkin)

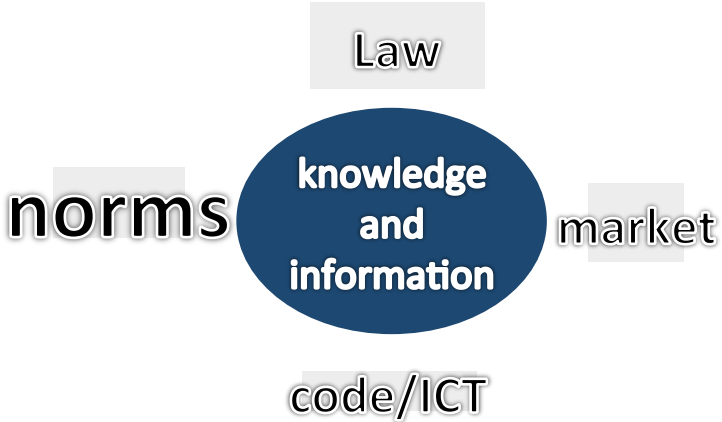
to protect publishers
from creative
destruction and thus
hinders innovation

Attempts to soften the harsher aspects of creative destruction by trying to preserve jobs or protect industries **will lead to stagnation and decline, short-circuiting the march of innovative progress.**

W. Michael Cox and Richard Alm: **Creative Destruction 2008**

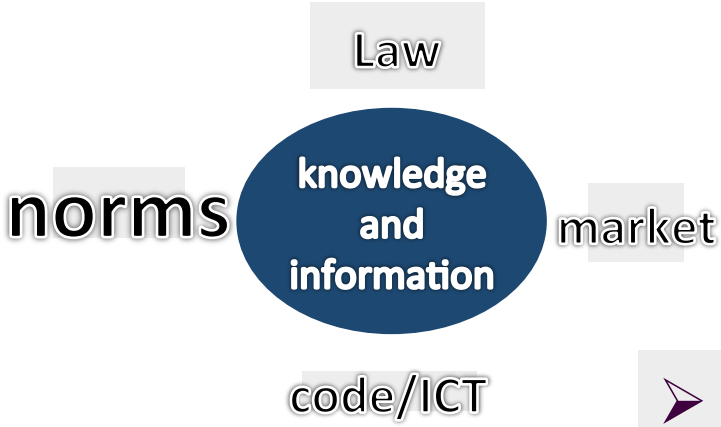
http://www.econlib.org/library/Enc/CreativeDestruction.html

Free open access markets - Commons-based information markets



New moral behaviour towards knowledge and information in electronic environments

Free open access markets - Commons-based information markets

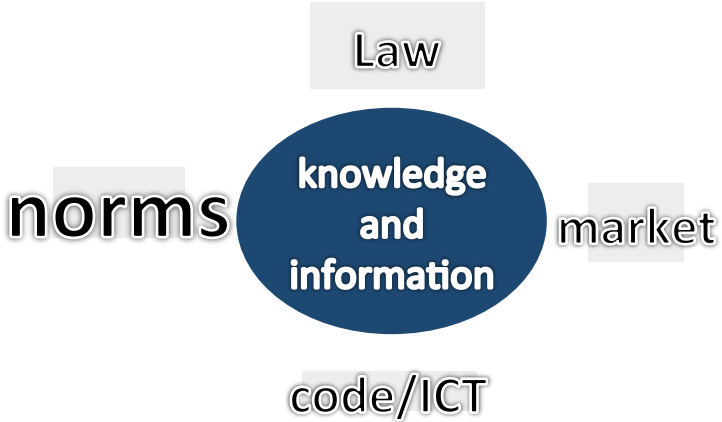


change of moral behavior

- **knowledge sharing**
- **collaboration**
- **participation**
- **open/free access**
- **development rather than growth**
- **sustainability**

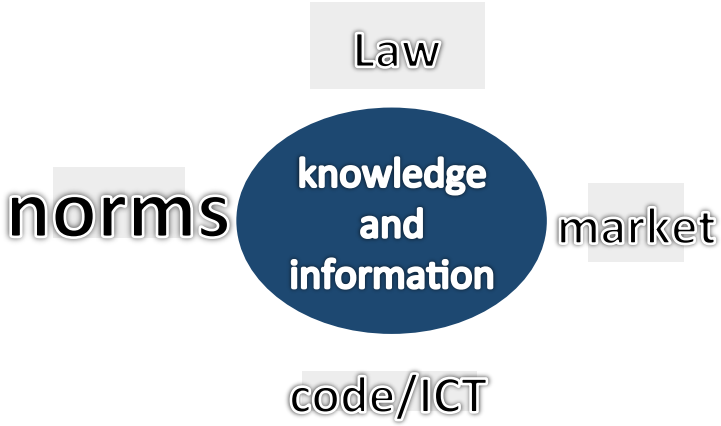
Open Innovation

Free open access markets - Commons-based information markets



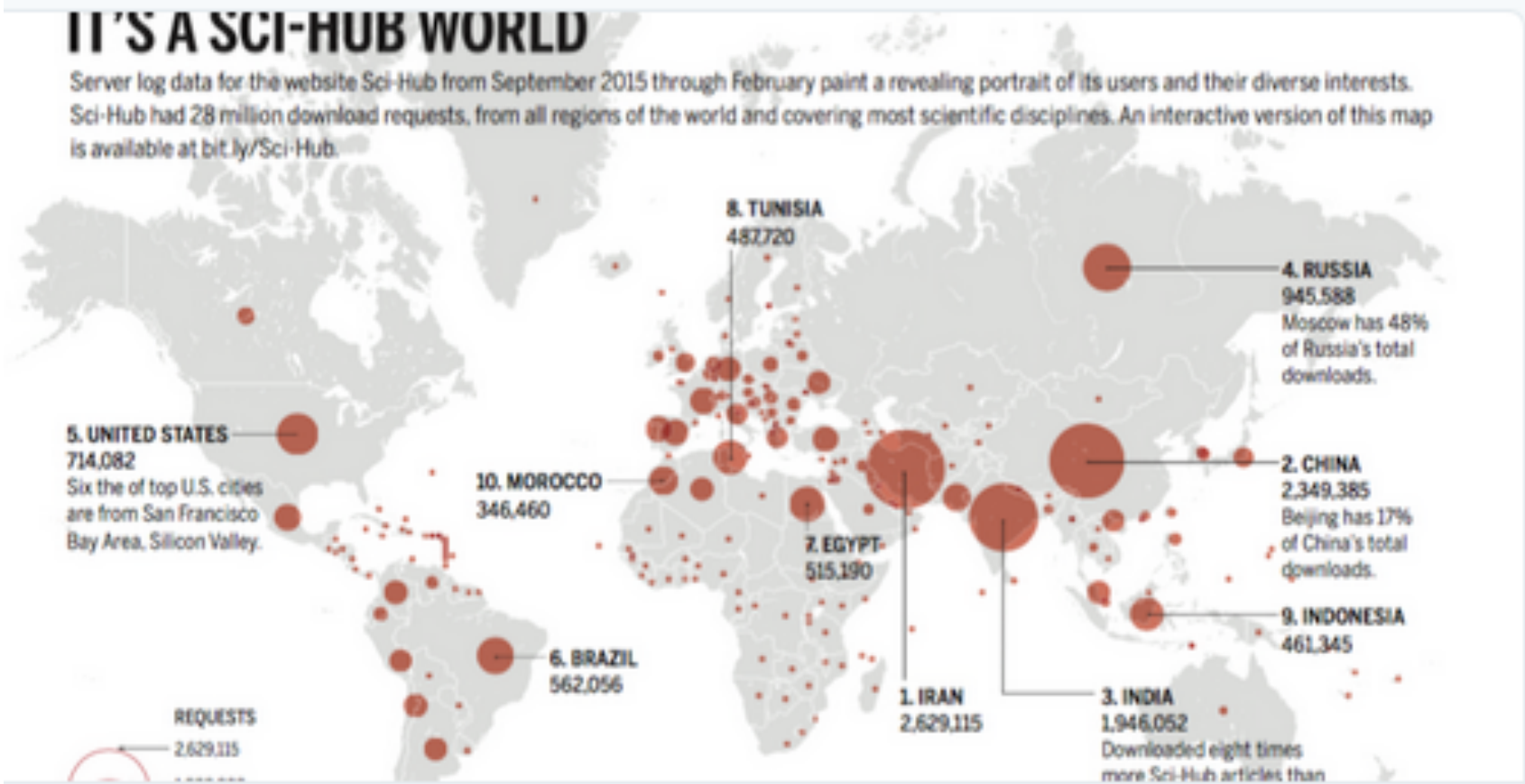
More and more people claim that the **public should have the right to freely access and use scientific work produced in public environments and supported by public money.**

Free use (illegal website?)



Is sci-hub.org (Alexandra Elbakyan) with more than 48 mio freely available scientific articles a solution?

Free use (illegal website?)



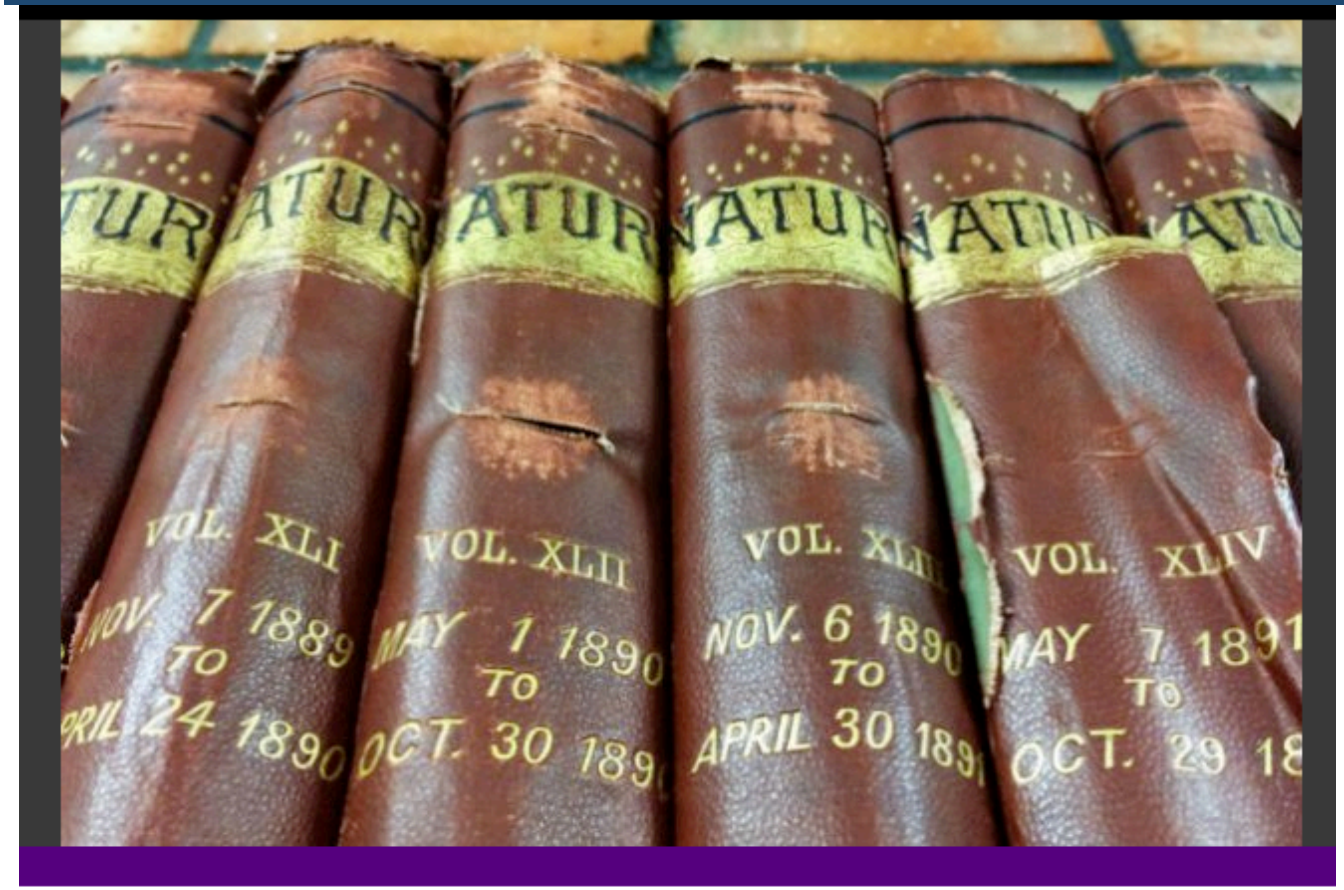
Who's reading millions of stolen research papers on the outlaw websi...

A new report shows Sci-Hub is being used not just in developing countries but in Silicon Valley, the Washington D.C. region, and around major rese...

washingtonpost.com

https://twitter.com/costofknowledge

Free (?) access



Nature makes research papers open-access to the public

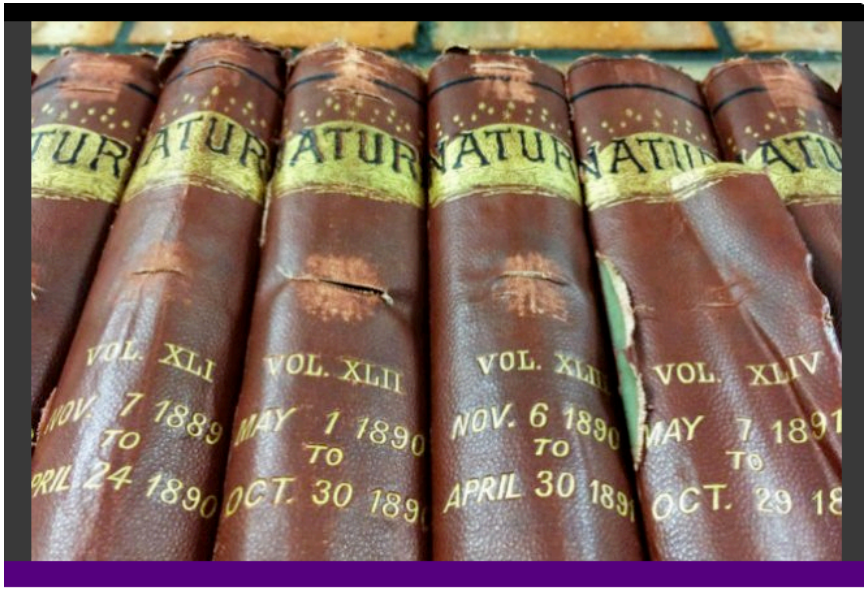
Research papers published by the journal *Nature* will be made free to view online in an effort to make it easier for scientists to share their work with their peers and the public.

http://bit.ly/1YxR8OO

making 48 of its journals free to access, including *Nature Genetics, Nature Medicine* and *Nature Physics*

The PDFs will only be viewable on a web browser, will be annotatable, and **copying and printing will be disabled.** Share and repost links will be made available for use in news articles in social media.

Free (?) access



The PDFs will only be viewable on a web browser, ...**copying and printing will be disabled.**

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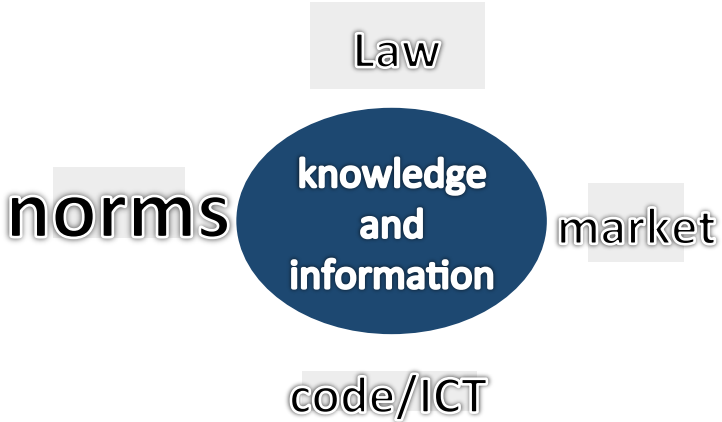
Research papers published by the journal *Nature* will be made fi online in an effort to make it easier for scientists to share their their peers and the public.

http://bit.ly/1YxR8OO

The dynamics of creative destruction will work against firms that rely only on incremental improvements.

Stuart L Hart; Mark B Milste: Global Sustainability and the Creative Destruction of Industries. Sloan Management Review;Fall 1999; 41, 1 – http://bit.ly/1Tk78E4

Free open access markets - Commons-based information markets



More and more authors in science frustrated by publishers´ business models **choose open access** journals and *free licenses* as the **primary** or at least **secondary** means of publication

Open access gold

Open access green

Free open access markets - Commons-based information markets

Open access as an alternative to traditional commercial publishing

golden

Open-Access-based information markets

DOAJ https://doaj.org/

7183 journals, 650572 articles (19.10.2011)

7449 journals, 745962 articles (31.1.2012)

9411 journals, 1099912 articles (1.6.2013)

9741 journals, 1,592,661 articles (26.3.2014)

10,319 journals, 1,852,651 articles (18.3.2015)

8813 Journals, 1,974,607 articles (12.5.2016)

(129 countries)

approx 4 journals/day since 2011

DOAB http://www.doabooks.org/doab

3100 Academic peer-reviewed books from 107 publishers (09.06.2015)

4649 books from **154 publishers** (12.5.2016)

but still only about 4 % of all commercially available articles

Will commercial publishers accept the OA paradigm?

More and more **publishers** (in particularly the four dominating ones) **accept** the **OA-paradigm**

and see their future in OA publishing

Elsevier
Wiley
Thompson
Springer

golden

green

enforced by

Markets

Moral behavior

Users, NGOs science organisations

Research funding organisations

Political commit-ment

Will commercial publishers accept the OA paradigm?

markets

Open access enforced

green

Publishers increasingly agree to open access

green/self archiving

Sherpa/Romeo

http://

www.sherpa.ac.uk/

romeo/

About 80 % of all published articles could be open access available (OA green) – mostly with an embargo time between 6 and 8 months

in reality probably less than 30 %

This will change with the right to a second open publication (added to copyright law) and even more when it will be mandated.

M. Laakso:, M.: Green open access policies of scholarly journal publishers: a study of what, when, and where self-archiving is allowed. Scientometrics 2014. In press. http://dx.doi.org/10.1007/s11192-013-1205-3.

Will commercial publishers accept the OA paradigm?

Authors | gold | Open access enforced

13696 Researchers Taking a Stand. *See the list*

Academics have protested against Elsevier's business practices for years with little effect. These are some of their objections:

1. They charge exorbitantly high prices for subscriptions to individual journals.
2. In the light of these high prices, the only realistic option for many libraries is to agree to buy very large "bundles", which will include many journals that those libraries do not actually want. Elsevier thus makes huge profits by exploiting the fact that some of their journals are essential.

The key to all these issues is the right of authors to achieve easily-accessible distribution of their work. If you would like to declare publicly that you will not support any Elsevier journal unless they radically change how they operate, then you can do so by filling in your details on this page.

Will commercial publishers accept the OA paradigm?

Public foundations

NIH

Open access enforced

golden

require

The law states:

The NIH Public Access Policy ensures that the public has access to the published results of NIH funded research. It **requires** scientists to submit final peer-reviewed journal manuscripts that arise from NIH funds to the digital archive PubMed Central *upon acceptance for publication*. To help advance science and improve human health, the Policy requires that these papers are accessible to the public on PubMed Central no later than 12 months after publication.

The NIH Public Access Policy applies to all peer-reviewed articles that arise, in whole or in part, from direct costs [1] funded by NIH, or from NIH staff, that are accepted for publication on or after April 7, 2008. http://publicaccess.nih.gov/policy.htm

Will commercial publishers accept the OA paradigm?

Open access enforced

Private foundations

require

golden

Wellcome Trust policy tightening (June 2012)

introducing sanctions for non-compliance and a move to CC-BY licenses

Will commercial publishers accept the OA paradigm?

Government

gold

green

UK

Finch Report of the Working Group on Expanding Access to Published Research Findings – the Finch Group
http://www.researchinfonet.org/publish/finch/

Policies on open access to scientific research results should apply to all research that receives public funds.

"Accessibility, sustainability, excellence: how to expand access to research publications"

Professor Dame Janet Finch's recommendations on open access publishing prompted the government's decision.

Who pays?

Public pays for commercial open access

Public pays

APC (article-processing charge) paid by the **authors** respectively by their **institutions**

APC payed by **foundations** or by grants/ sponsorships

APC payed by a **library** for its scientists or by a flat-rate contract

By library/research **budgets**

By research institutions

By **nation-wide (flat-rate) –** contractual agreements

SCOAP-model – a **network of domain-specific institution**s (High-Energy Physics)

etc. etc.

Public pays for commercial open access – reasoable?

Public pays

Is it reasonable and/or is it in line with market principles when **commercial publishing organizations are subsidized** by public institutions?

Would it be more reasonable (efficient?) when **publicly financed organizations** (such as libraries together with research institutions**) build an open access publishing infrastructure by themselves**?

Public pays for commercial open access – reasoable?

Science can make its products publicly available **from its own resources**

- Editors
- Editorial Boards
- Authors transfer their **results into communicable documents, anyway**
- Quality control **by scholars themselves (peer reviewing)**
- **Distribution/making documents publicly available** can by done by **science** itself and/or by support of **intermediary** institutions such as **libraries**
- **Powerful search** engines can **provide access** to distributed resources

Is there a future for commercial publishing in science?

information markets

Licence for applying using rights to new products

open access (gratuit et libre) to information objects

Business models für value-added products

- multimedia presentation
- hypertextification, dossiers
- summaries, translations
- retrieval, text and data mining tools
- innovative reviewing models
- personal und institutional background information
- etc. etc.

Simple publishing model

Commercial right to a secondary exploitation of information objects

reversing OA green

realized by authors in education and science

modified and developed in collaborative working environments

legally protected by free licences (cf. CC-BY)

Is there still a need for copyright regulation in science and education?

Is there still a need for copyright related to science and education?

When everything will be published in the open access paradigm

yes

protection of moral rights

right to decide when and how to publish

attribution of authorship

protection of works´ authenticity

no

With comprehensive community open access

no need for exploitation rights

no need for contractual licensing agreements

But is it momentarily a realistic perspective?

Is there still a need for copyright related to science and education?

yes

in addition to the protection of moral rights

protection and exceptions for published works from the pre-OA-era (still about 90%)

protection of new commercially produced value-added services

protection and exceptions for special products in the **close access paradigm**

- **multimedia presentation**
- **hypertextification, dossiers**
- **summaries, translations**
- **retrieval and data mining**
- **innovative reviewing models**
- **personal und institutional background information**
- **etc. etc.**

A future market-oriented model for commercial publishing independent from public subsidy?

Questions – Answers

1.Is there a crisis in commercial information markets?	ja	
2. Is Open access publishing competitive or even substitutable to commercial publishing?	ja	
3. Will commercial publisher accept and even apply open access?	ja	
4. Are public institutions wiliing to finance commercial open access publishing? Should they?	ja	??
5. What are the consequences for libraries when open access becomes the default publishing model?		??
6. Will open access foster creativity in science?	ja	
7. Will open access foster innovation in economy?	ja	
8. Is there a need for a change in copyright policy?	ja	
9. Is there still a need for copyright regulation when access becomes the default publishing model?	ja	

Thank you very much for your attention

time for discussion (?)

creative commons

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