

Mobile Platforms, Linked Content, and Copyright: Issues and Answers

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Information Environmentalism



IGFBP-5 plays a role in the regulation of cellular senescence via a p53-dependent pathway and in aging-associated vascular diseases

IGFBP-5 plays a role in the
regulation of cellular senescence
via a p53-dependent pathway
and in aging-associated
vascular diseases



signal transduction genes pyramidal neurons

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Web

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In the absence of mossy fiber input, the CA3 **pyramidal neurons** exhibit ... of a number of **genes** involved in activity-dependent **signal transduction**, ...

www.ingentaconnect.com/content/els/01970186/1999/00000034/00000004/art00011 -

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Distal dendrites of hippocampal CA1 **pyramidal neurons** receive direct Dopamine (DA) receptor-mediated **signal transduction** and **gene** expression play a ...

research.janelia.org/Dudman/publications_abstract.html - 22k - [Cached](#) - [Similar pages](#)

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DARPP-32 is specifically localized to **neurons** containing dopamine Citation: H. K. Manji, I. I. Gottesman, T. D. Gould, **Signal Transduction** and ...

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In this issue of **Neuron**, Fransen et al. identify important principles for Dopamine (DA) receptor-mediated **signal transduction** and **gene** expression play ...

www.columbia.edu/~jtd2001/pages/research/publications.html - 18k - [Cached](#) - [Similar pages](#)

[Biological Research - Signal transduction and gene expression ...](#)

Signal transduction and **gene** expression regulated by calcium release from presynaptic long-term potentiation in hippocampal CA1 **pyramidal neurons**. ...

www.scielo.cl/scielo.php?pid=S0716-97602004000400028&script=sci_arttext - 83k -

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and if you want the tools associated with those genes?

cell lines?

plasmids?

reagents?

methods and protocols?

unpublished data sets?

the research web

Open Access Content



Open Source
Knowledge Management

Open Access
Research Tools

old collaboration:

reading the canon on paper
querying single-access databases
human as mediator
artisanal tool manufacturing
tightly controlled distribution

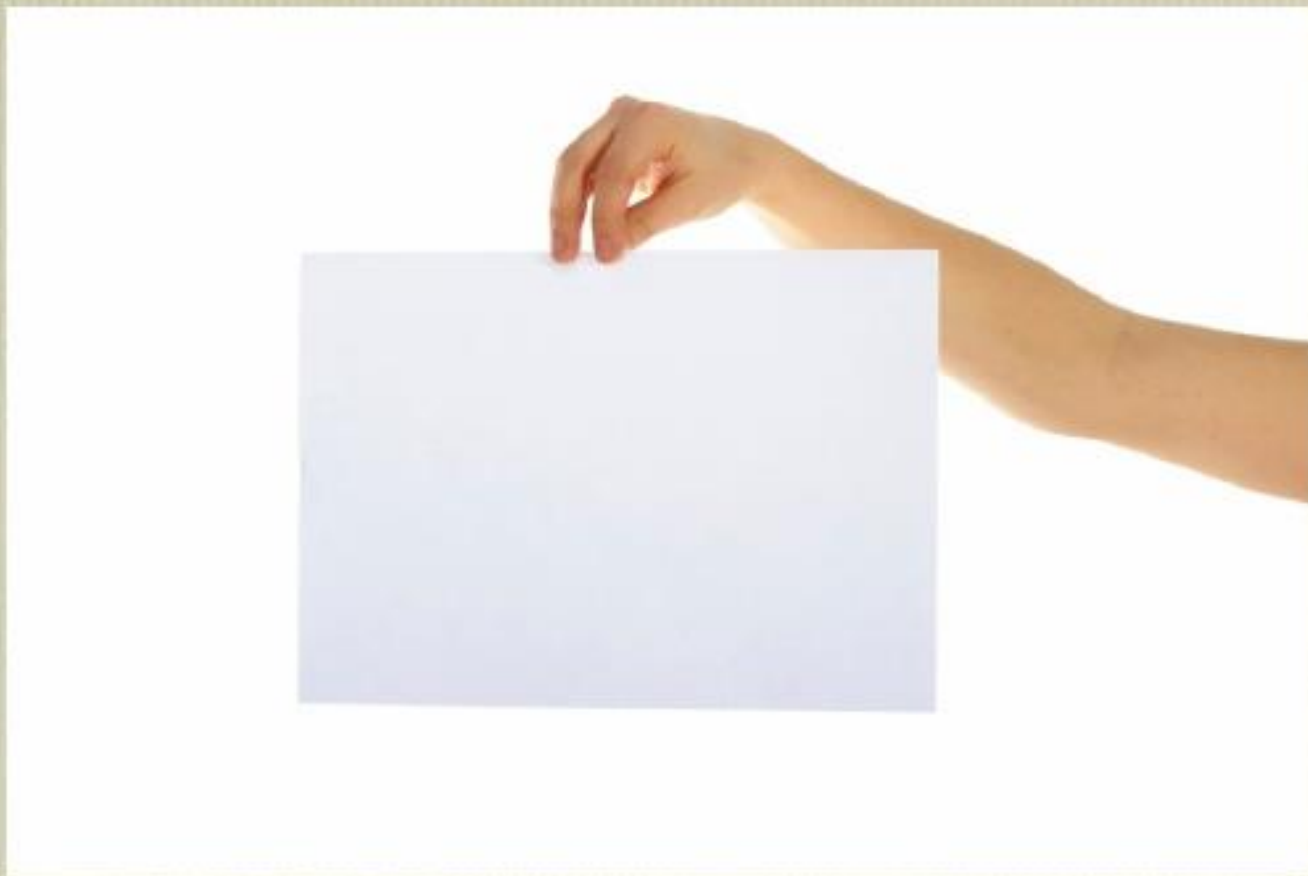
new collaboration:

reading the canon with machines
integrating databases
computer as mediator
industrial tool manufacturing
standardized distribution

the research web

Open Access Content





legal framework for research:
the paper metaphor

(ownership and access)

Scholarly Communication

Looking forward:

1. What is the role of the “paper” in digital environment?
 - reporting data – why not just publish the data?
 - materials and methods? (is this just metadata?)

Scholarly Communication

Looking forward:

2. The “paper” is a networked object.
 - format it like one
 - make the links to inputs and outputs express
 - including links to non-digital objects (naming challenge)

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Looking forward:

3. Networked objects have relationships
 - Possible for publishers to make these visible upon publication?
 - e.g., What line(s) of research is this result connected to?
 - part of a family or portfolio of papers?

Scholarly Communication

Looking forward:

4. Digital technology and stability of the record

- the digitally networked object can grow, change, be deleted
- how to preserve timeline?
- how to prevent link rot?

The Role of Copyright

The Role of Copyright

- Three dimensions of copyright
 - Subject matter (**the nouns** - what can be copyrighted)
 - Scope (**the verbs** - what rights come with a copyright)
 - Duration (when the rights expire).

Facts v. Expression

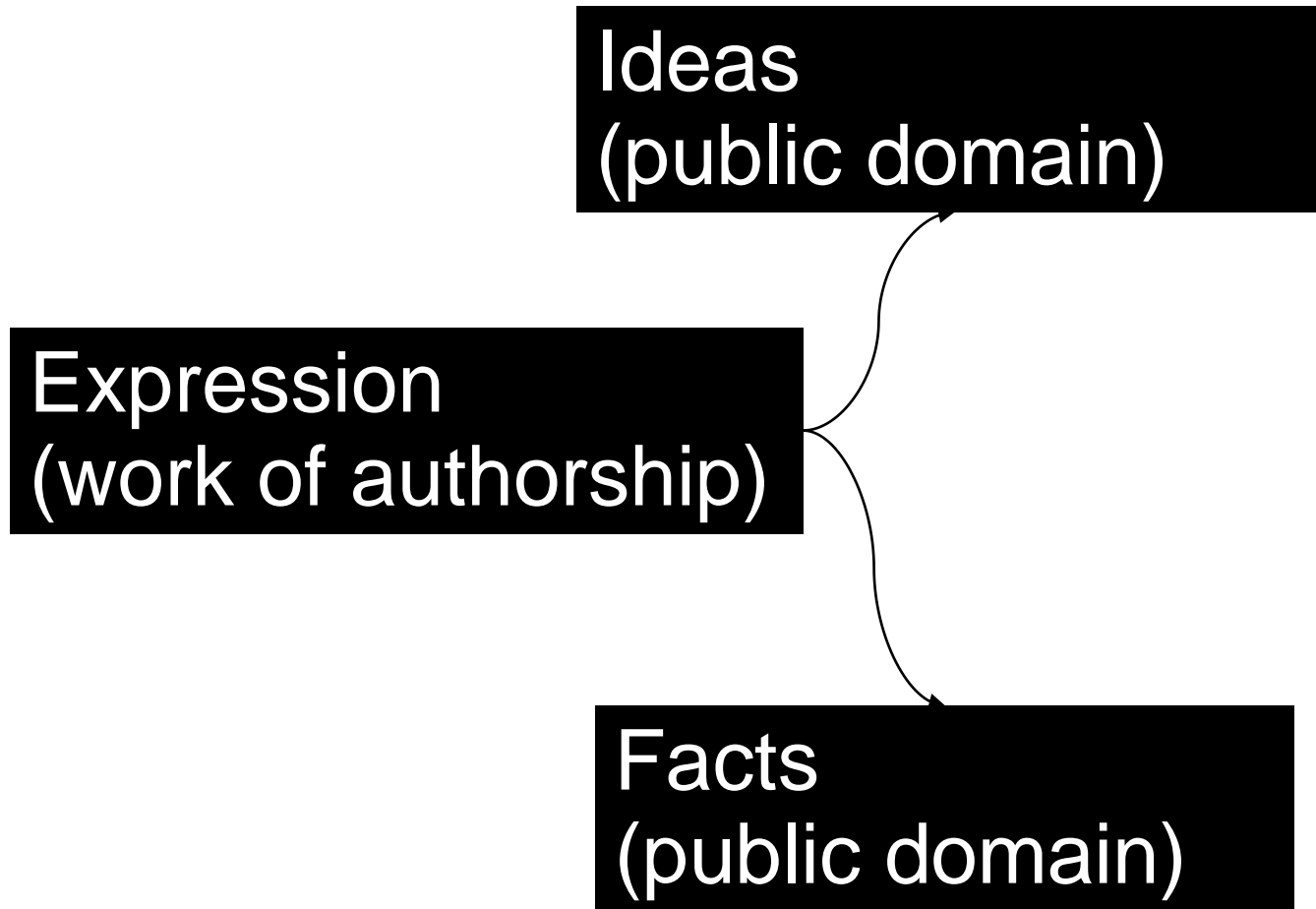
➤ **Nouns**

- Which aspects of linked content does copyright apply to?
- E.g., Does copyright apply to data elements, datasets, figures, tables, charts, etc.?
- A: It depends.

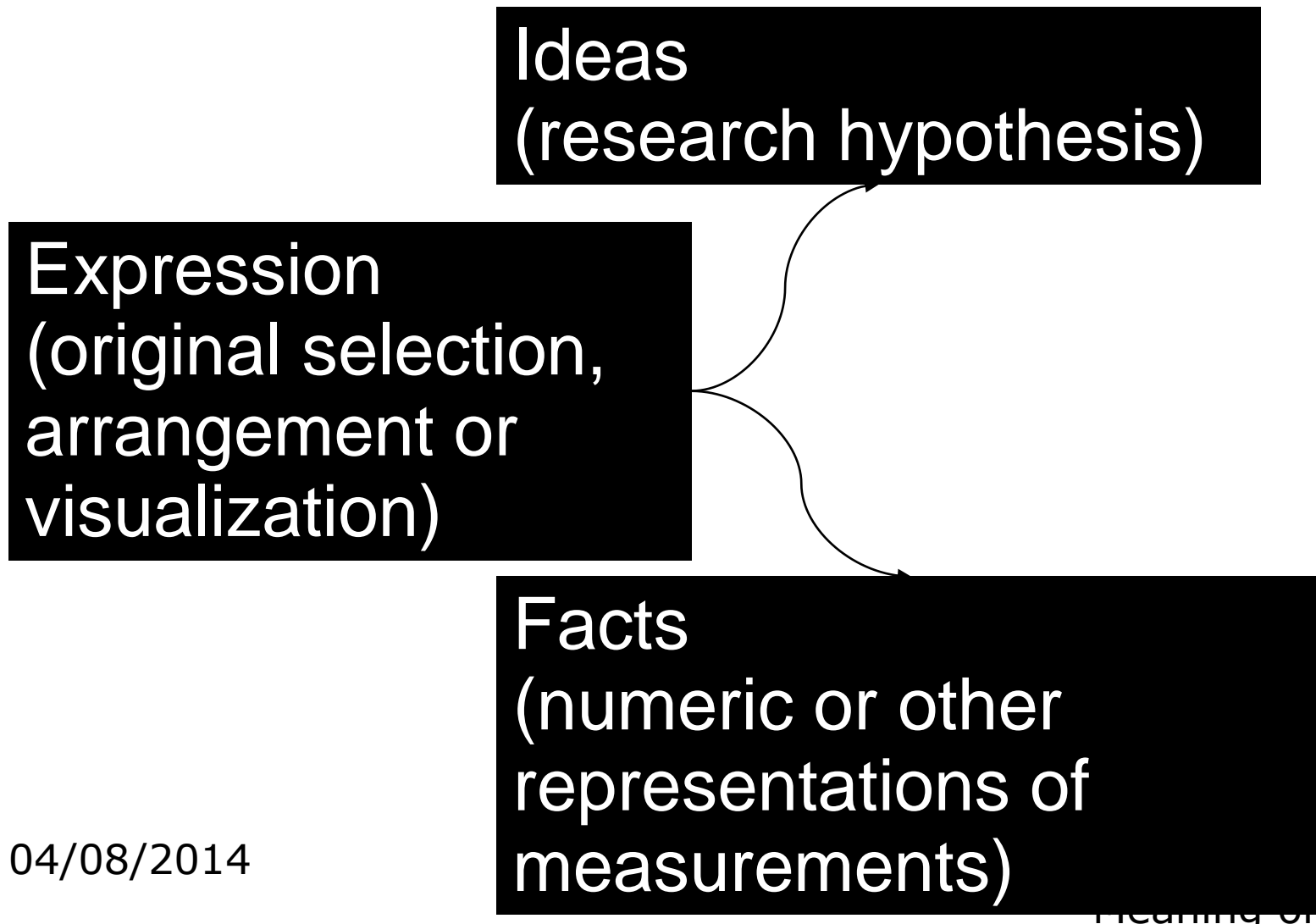
Data

- Copyright only attaches to “works of authorship” – this is the author’s original expression of ideas, facts, etc.
- Facts and ideas are free to copy.

Copyright



Copyright in datasets



Data

- Many datasets, databases, figures, charts, tables, etc. likely have a copyrighted layer and a public domain (factual) layer.
- Raw sensor data or data organized according to a general standard likely has no copyright constraints.

Data

- Copyright attaches to expression that reflects some creative or editorial choice about how to express facts or ideas.
- E.g., selection and arrangement of data (e.g., field names, hierarchies, visualizations)

Copyright

- ❑ **Verbs – i.e., Scope of Rights**
- ❑ Copyright law gives Author the power to control:
 - Making of copies
 - Distributing copies
 - Public performances
 - Public displays
 - Communication to the public
 - Adaptations of copyrighted work



Linking

Scope of Rights

Linking generally is not covered by copyright

- Definitely not in the US, except when one knowingly links to infringing content
- In the EU, as long as the link is to already-available content, then it is not a new “communication to the public” of the copyrighted work

Copyright

Scope of Rights

Author's rights are subject to limitations and exceptions, e.g.

- Fair use (US, S. Korea, Israel, Philippines)
- Fair dealing (UK, Canada, Australia . . .)
- Itemized list, private study, research ... (rest of the world)
- First sale

Text and Data Mining

- Copyright's application to text and data mining varies by country.
- If mining is for the public domain layer of information – facts, concordances, associations, etc.
- Then copyright does not restrict mining in the US.
- It is debatable whether copyright restricts mining in places with private study or research exceptions and limitations.

Text and Data Mining

- However, in most countries a researcher (or her library) can forfeit the freedom to mine as part of a contract.

indexing: disallowed.

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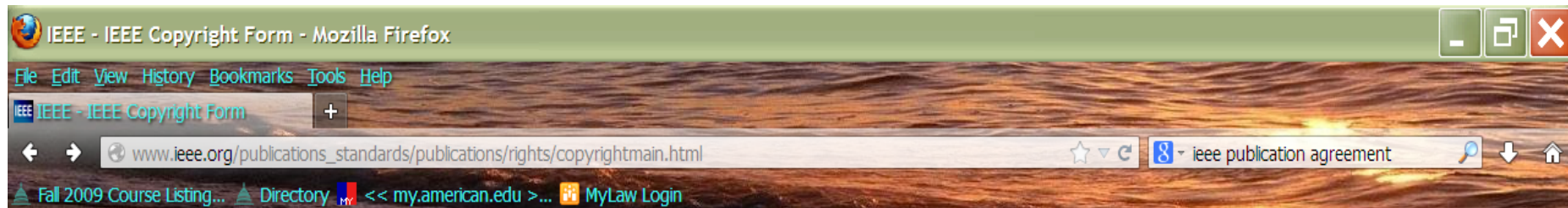
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➤ Copyright Basics – Ownership and Licensing

- Copyright is transferable
- To transfer some or all of the exclusive rights, author(s) must do so in writing and sign it.
- **NB** – The author(s) who transfer(s) must be an author for copyright purposes – i.e. the one(s) who did the writing.



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Cell, 06 March 2012

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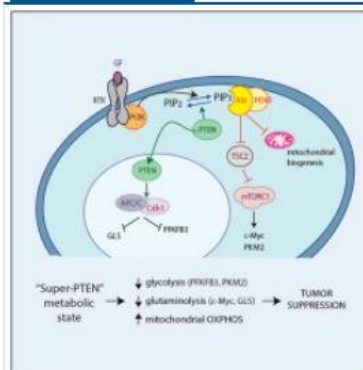
10.1016/j.cell.2012.02.030

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Graphical Abstract



Authors

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Highlights

- “Super-PTEN” mice are viable and show reduced body size due to decreased cell number
- PTEN elevation shifts cellular metabolism to a tumor-suppressive anti-Warburg state
- PTEN controls key metabolic pathways through PI3K-dependent and -independent functions
- PTEN negatively impacts tumor metabolic pathways: glycolysis and glutaminolysis

Summary

Decremental loss of PTEN results in cancer susceptibility and tumor progression. PTEN elevation might therefore be an attractive option for cancer prevention and therapy. We have generated several transgenic mouse lines with PTEN expression elevated to varying levels by taking advantage of bacterial artificial chromosome (BAC)-mediated transgenesis. The “Super-PTEN” mutants are viable and show reduced body size due to decreased cell number, with no effect on cell size. Unexpectedly, PTEN elevation at the organism level results in healthy metabolism characterized by increased energy expenditure and reduced body fat accumulation. Cells derived from these mice show reduced glucose and glutamine uptake and increased mitochondrial oxidative phosphorylation and are resistant to oncogenic transformation. Mechanistically we find that PTEN elevation orchestrates this metabolic switch by regulating PI3K-dependent and -independent pathways and negatively impacting two of the most pronounced metabolic features of tumor cells: glutaminolysis and the Warburg effect.



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Photo by: Mike Licht at <http://www.flickr.com/photos/notionscapital/>

Open Access

- The Open Access movement seeks to realign the free speech values that underlie academic freedom and the pursuit of knowledge . . .
- With the economics of Internet publication

Scholarly Communication

- ❑ Five Audiences that Open Access serves
 - ❑ Serendipitous readers
 - ❑ Under-resourced readers
 - ❑ Interdisciplinary readers
 - ❑ International readers
 - ❑ Machine readers

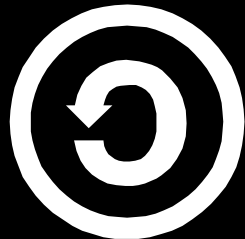
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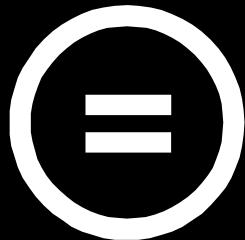
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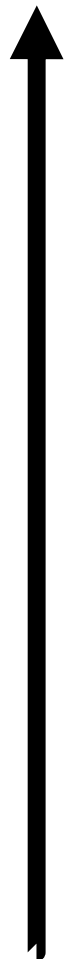


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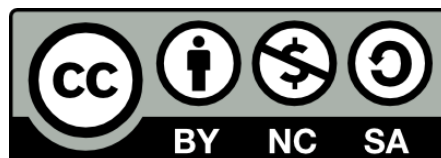
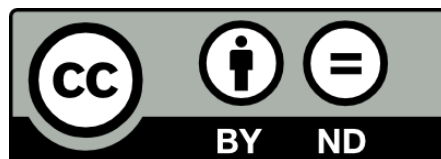
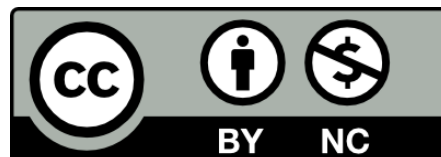
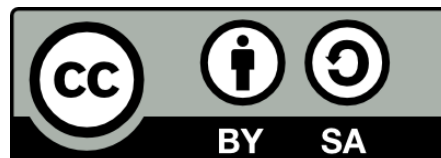


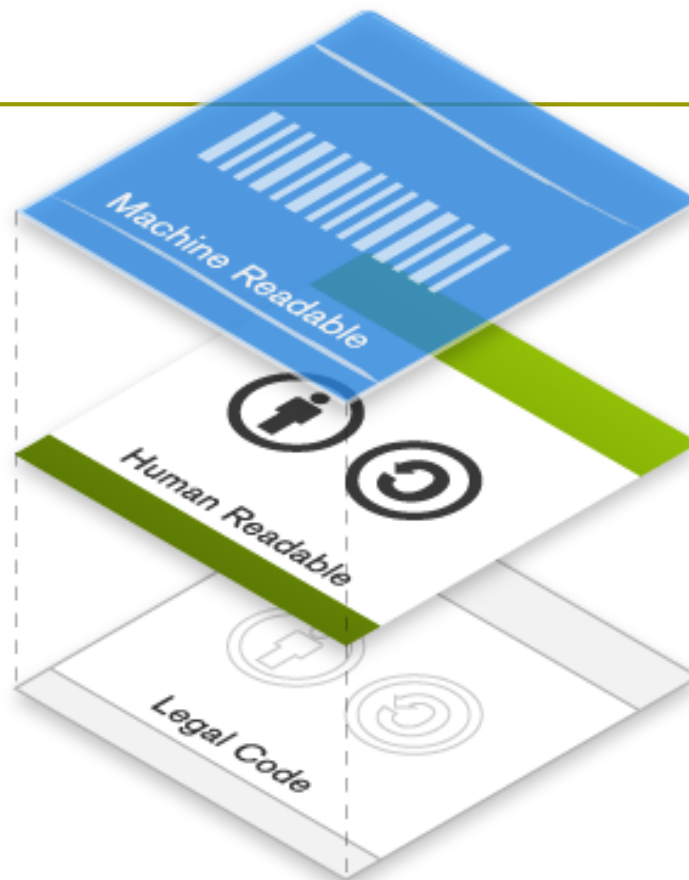


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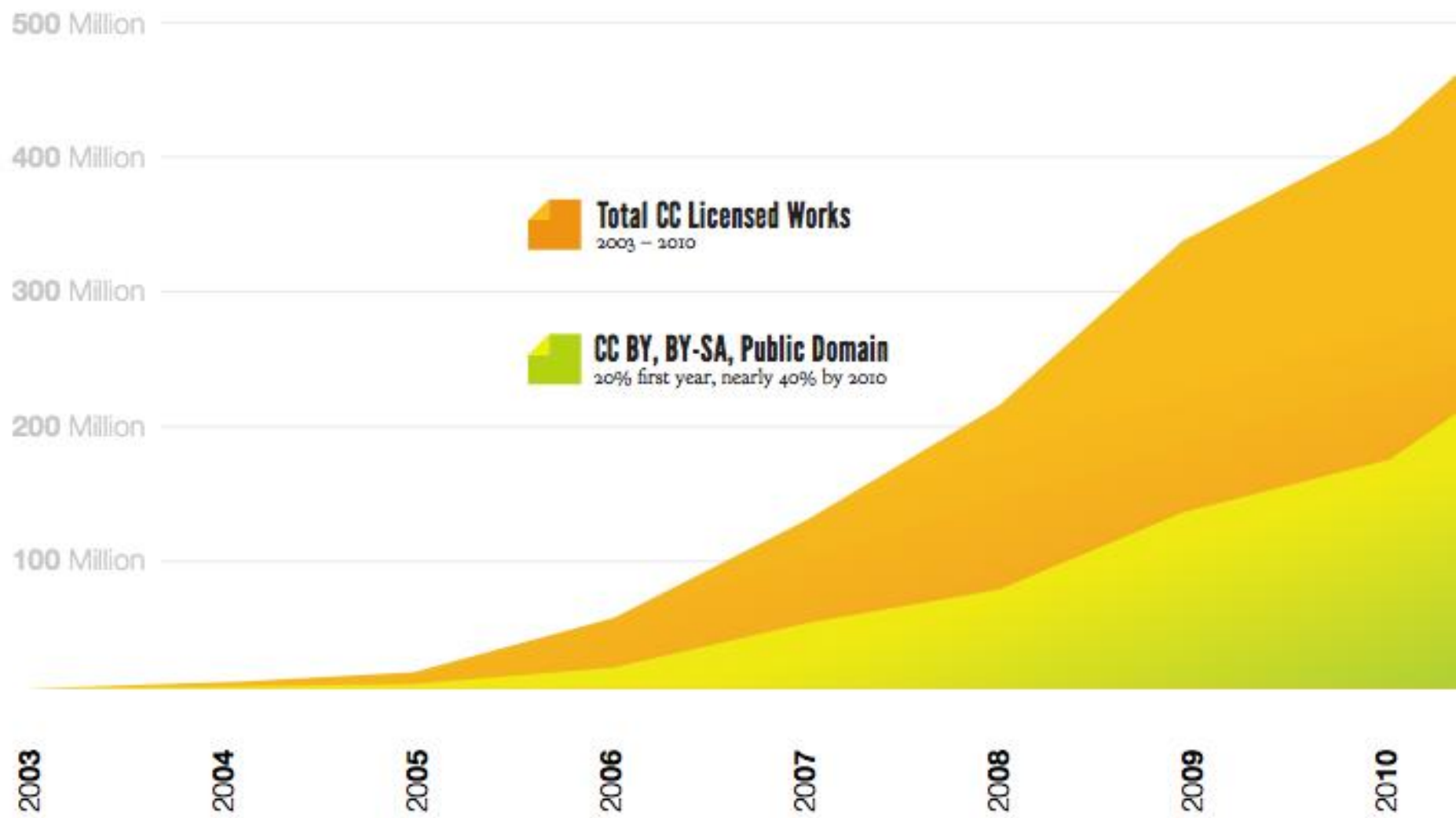
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➤ Discussion?

