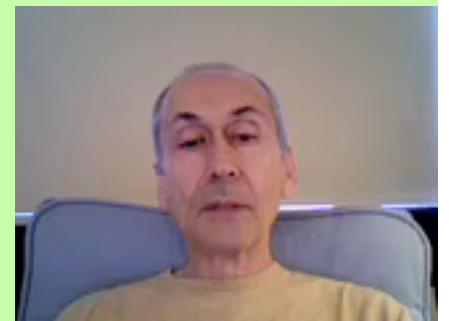


# **Affinities and disaffinities among free software, peer-to-peer access, and open access to peer-reviewed research**

Stevan Harnad  
*UQAM & U Southampton*

Oekonux/P2P Manchester 2009

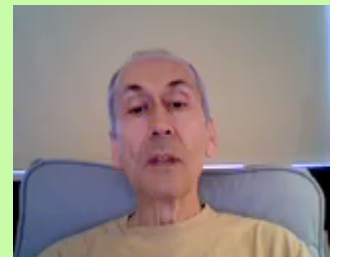


## SUMMARY:

Free/Open Software (notably the first Free Software for creating OAI-compliant Open Access Institutional Repositories, EPrints, created in 2000, distributed under the GNU license, and now used worldwide) has been central to the growth of the Open Access Movement.

However, there are also crucial distinctions that need to be made and understood, among the movements for (1) Free/Open source software, (2) Open Access (to peer-reviewed research), (3) P2P file-sharing, (4) Open Data, (5) Creative Commons licensing, and (5) Wikipedia-style collective writing. Open Access (OA) is focussed primarily on refereed research articles.

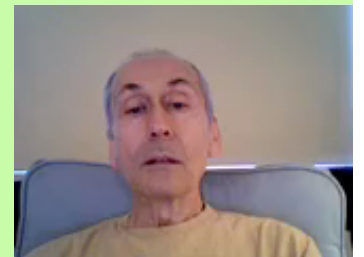
The crucial distinctions revolve mostly around (a) the fundamental difference between author giveaway vs. non-giveaway work and (b) the functional differences between the re-use needs for peer-reviewed research article texts on the one hand, and data, software and other kinds of digital content on the other.



# What is Open Access (OA)?

Free online access  
to refereed research articles

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# Open Access to What?

## ESSENTIAL:

to all 2.5 million annual research articles

published in all 25,000 peer-reviewed journals  
(and peer-reviewed conferences)

in all scholarly and scientific disciplines, worldwide

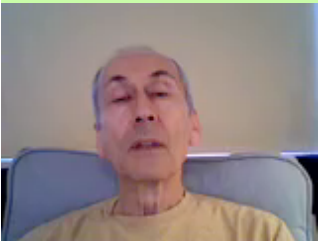
## OPTIONAL:

*(because these are not all author give-aways, written only for usage and impact):*

1. Books
2. Textbooks
3. Magazine articles
4. Newspaper articles
5. Music
6. Video
7. Software
8. "Knowledge"

*(or because author's choice to self-archive can only be encouraged, not required in all cases):*

9. Data
10. Unrefereed Preprints



# There are two ways to provide OA:

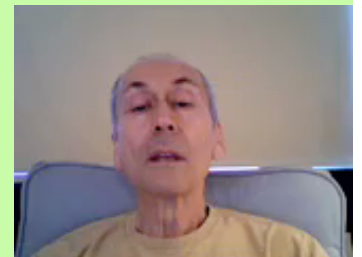
**Green OA Self-Archiving:** Authors self-archive the articles they publish in the 25,000 peer-reviewed journals

**Gold OA Publishing:** authors publish in one of the c. 3500 OA  
<http://www.doaj.org/>

**NB:** *This presentation is exclusively about providing **Green OA**, through university policy reform (by mandating **Green OA Self-Archiving**).*

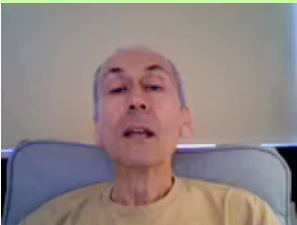
*It is not about **Gold OA Publishing**, which is in the hands of the publishing community, not the university community.*

*(**Green OA** may or may not eventually lead to **Gold OA**, but it will lead with certainty to OA.)*



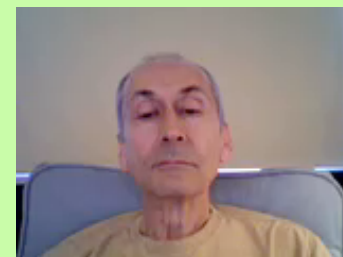
# Why OA?

- OA maximizes research progress: uptake, usage, applications and impact
- **Direct benefit of OA:** research progress
- **Side-Benefits of OA:** developing world access, student access, public access



# How to provide (Green) OA?

- Self-archive in Institutional Repository
- Universities and Funders Mandate Self-Archiving



# Limited Access: Limited Research Impact

12-18 Months

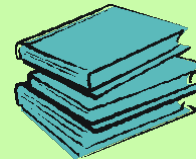
**Impact cycle begins:**  
Research is done



Researchers write pre-refereeing "Pre-Print"



Submitted to Journal



Pre-Print reviewed by Peer Experts – "Peer-Review"



Pre-Print revised by article's Authors

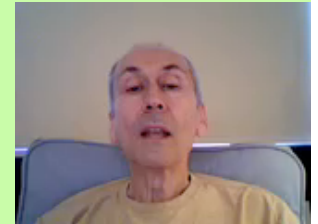
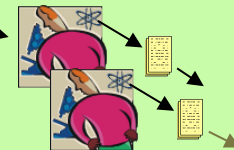
Refereed "Post-Print"  
Accepted, Certified, Published by Journal



Researchers can access the Post-Print if their university has a subscription to the Journal

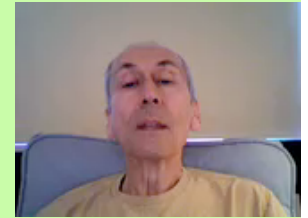


**New impact cycles:**  
New research builds on existing research





# Limited Access: Limited Research Impact



12-18 Months

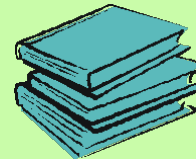
Impact cycle begins:  
Research is done



Researchers write pre-refereeing "Pre-Print"



Submitted to Journal



Pre-Print reviewed by Peer Experts – "Peer-Review"



Pre-Print revised by article's Authors

Refereed "Post-Print"  
Accepted, Certified, Published by Journal

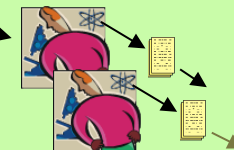


Researchers can access the Post-Print if their university has a subscription to the Journal



**This limited subscription-based access can be supplemented by self-archiving the Postprint in the author's own institutional repository as follows:**

New impact cycles:  
New research builds on existing research



# Maximized Research Access and Impact Through Self-Archiving

12-18 Months

Impact cycle begins:



Researchers write pre-refereeing "Pre-Print"



Submitted to Journal



Pre-Print reviewed by Peer Experts – "Peer-Review"



Pre-Print revised by article's Authors

Refereed "Post-Print" Accepted, Certified, Published by Journal



Researchers can access the Post-Print if their university has a subscription to the Journal

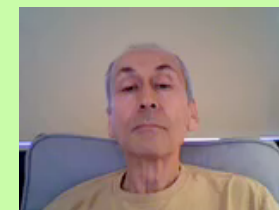
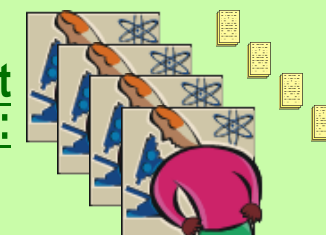


New impact cycles:

New research builds on existing research

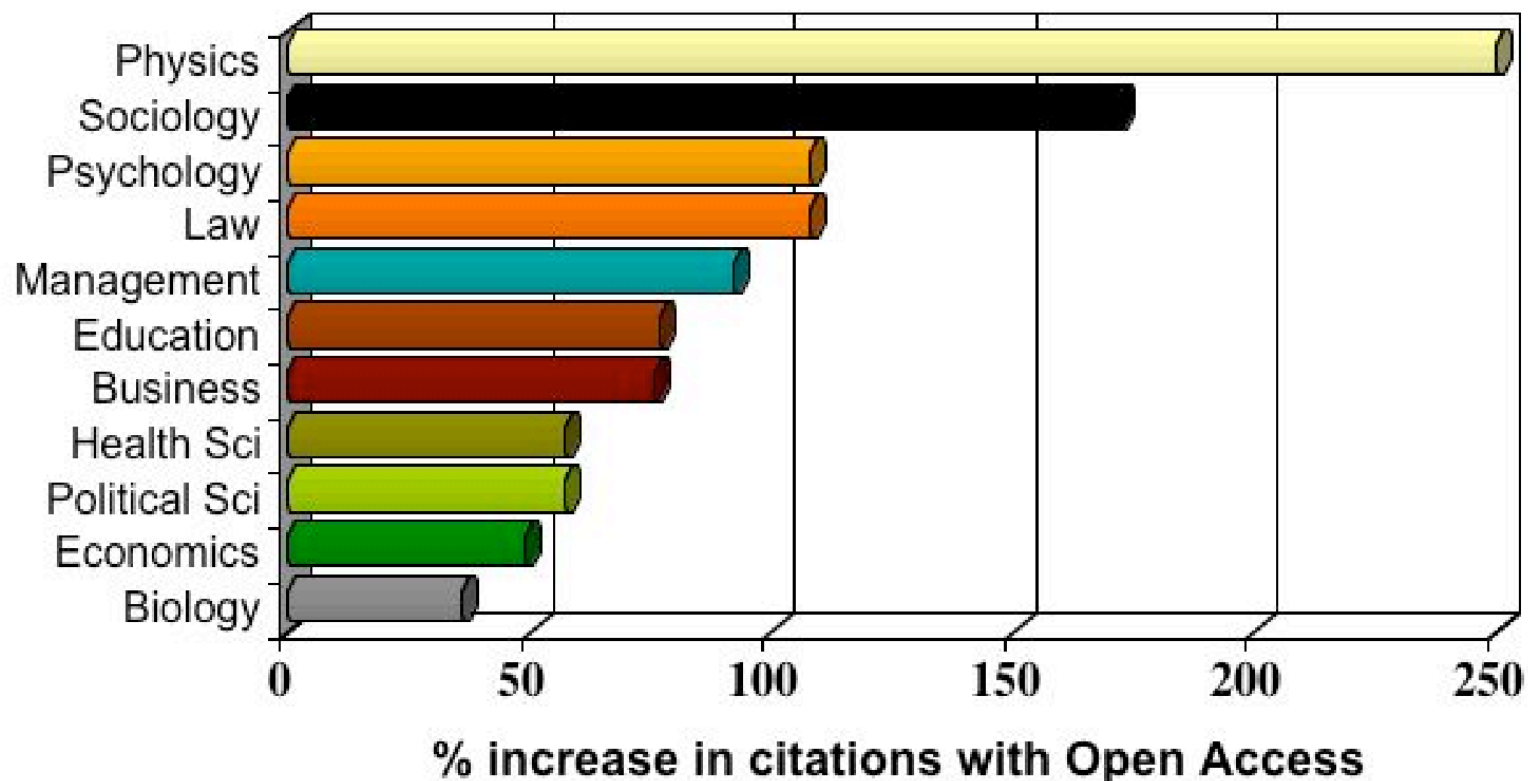
**Post-Print is self-archived in University's Eprint Archive**

More impact cycles:



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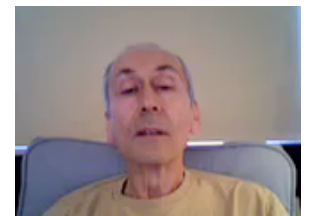
# Open Access increases citations



**Range = 36%-200%**

(Data: Brody & Harnad 2004; Hajjem et al. 2005)

Oekonux/P2P Manchester 2009

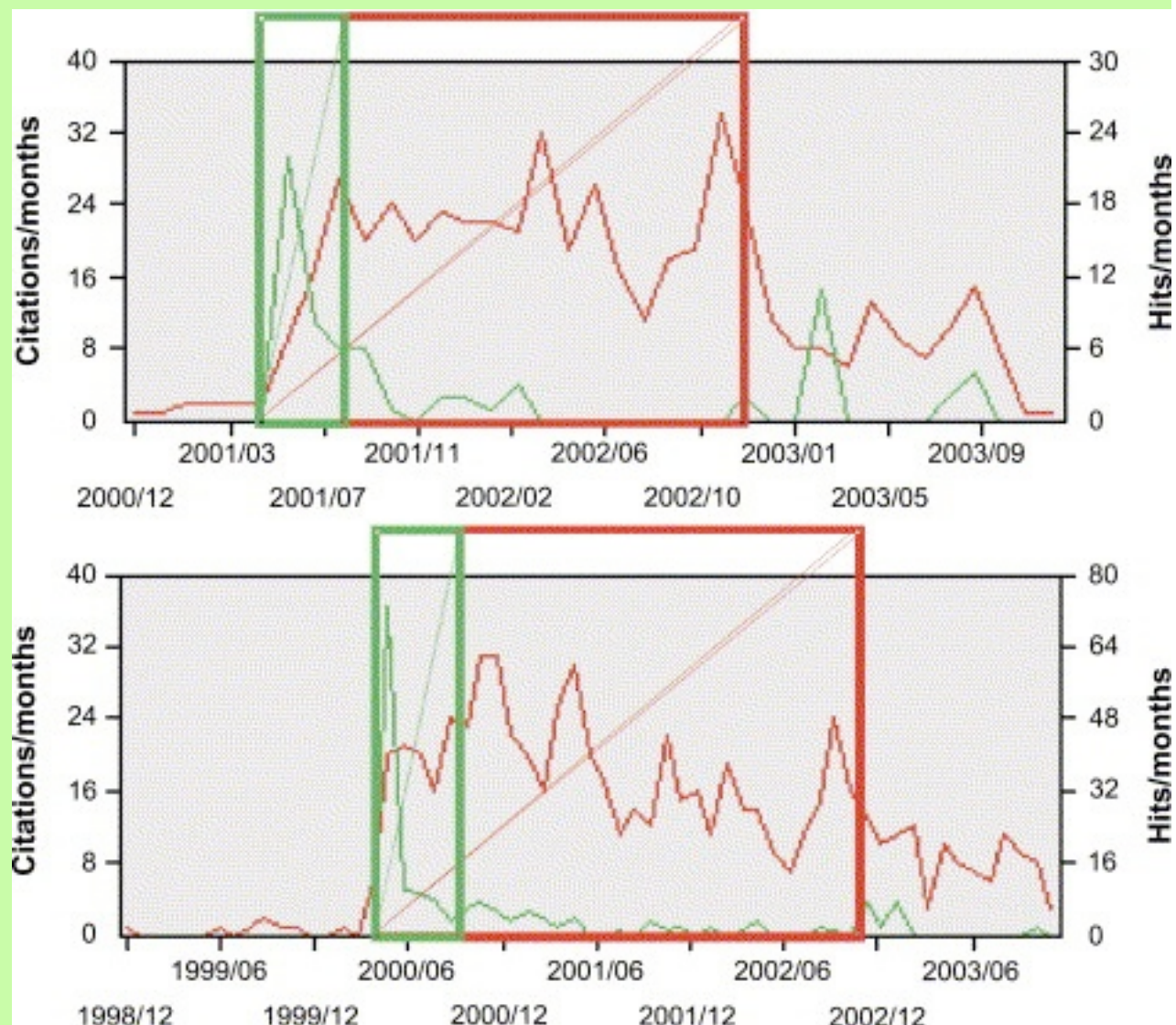
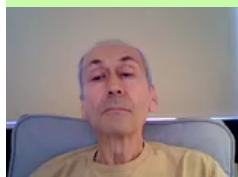


# Usage Advantage + Early Advantage: OA Articles are Downloaded more and early downloads lead to later citations

Data from arXiv

Downloads (“hits”) in the first 6 months correlate with citations 2 years later

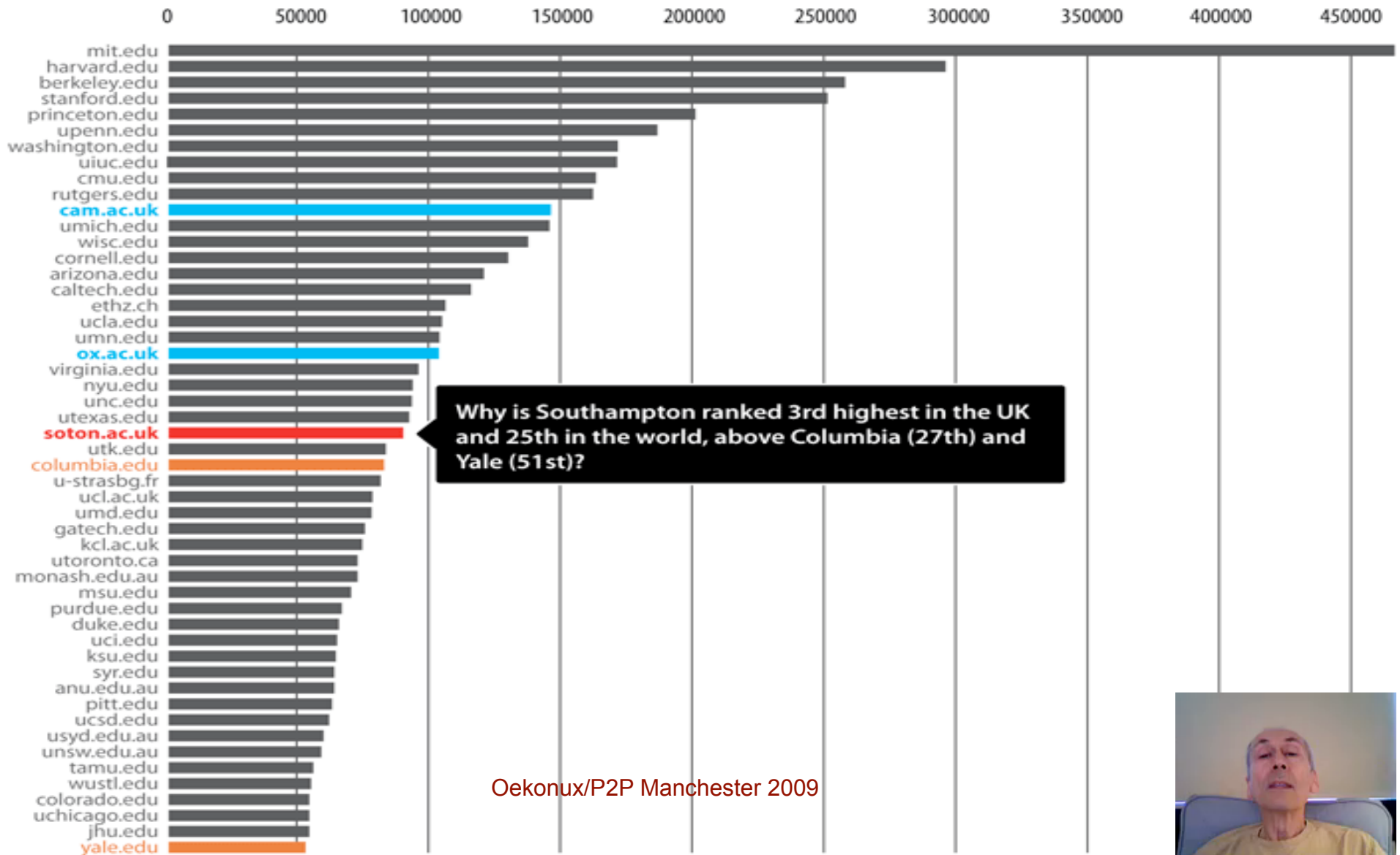
Most articles are not cited at all



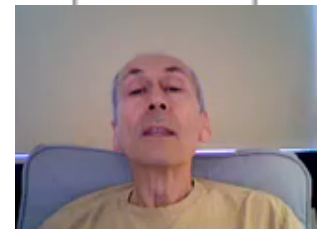
Brody, T., Harnad, S. and Carr, L. (2006) Earlier Web Usage Statistics as Predictors of Later Citation Impact. *Journal of the American Association for Information Science and Technology (JASIST)* 57(8): 1060–1072. <http://eprints.ecs.soton.ac.uk/10713/>

**(Competitive Advantage):** The earlier you mandate Green OA, the sooner (and bigger) your university's competitive advantage: U. Southampton School of Electronics and Computer Science was the first in the world to adopt an OA self-archiving mandate. **(Competitive Advantage vanishes at 100% OA.)**

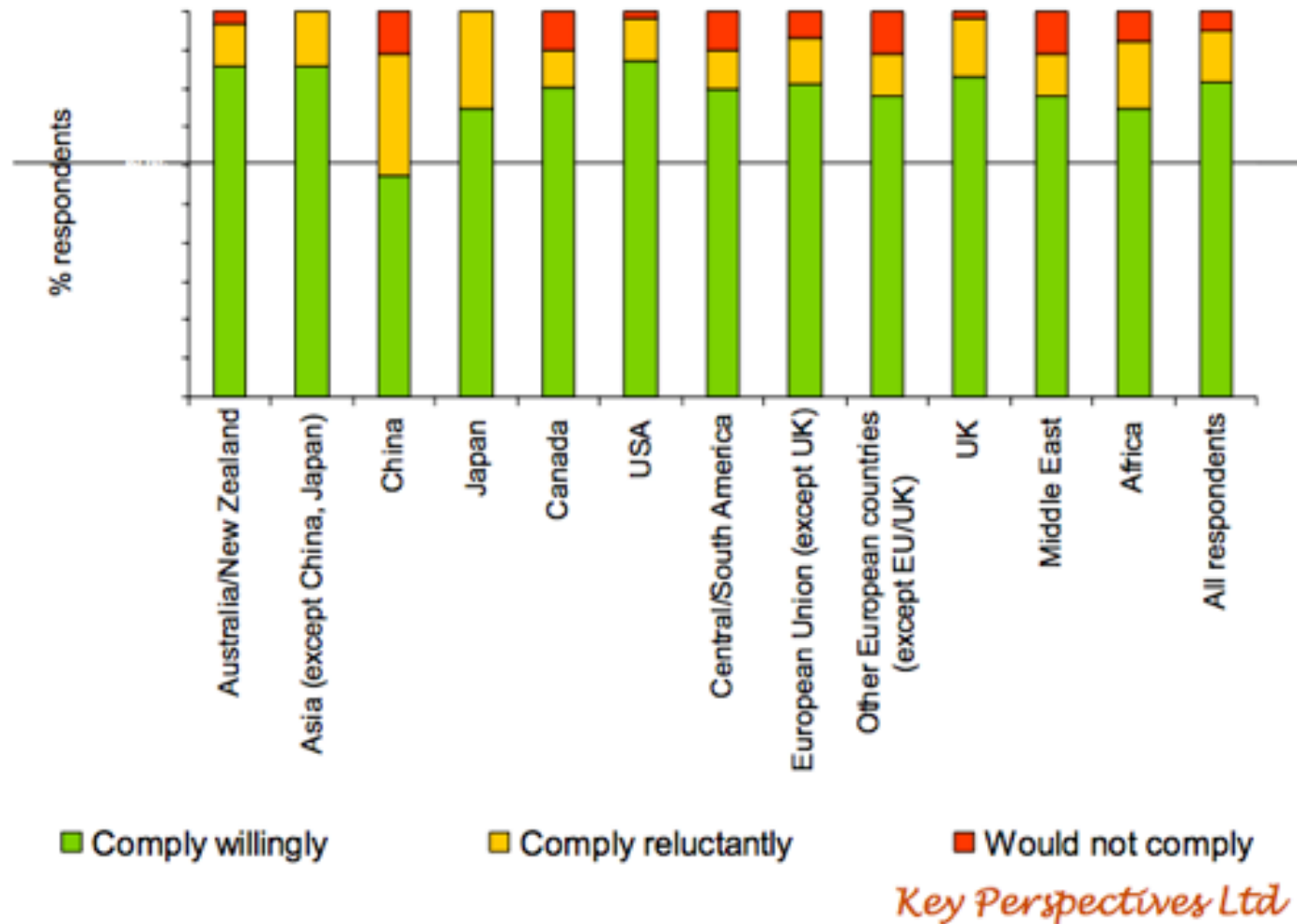
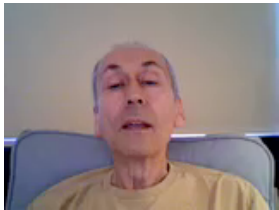
The G-factor International University Ranking measures the importance of universities as a function of the number of links to their websites from the websites of other leading international universities. Copyright Peter Hirst, 2006.



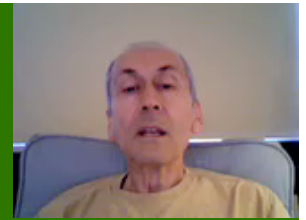
Oekonux/P2P Manchester 2009







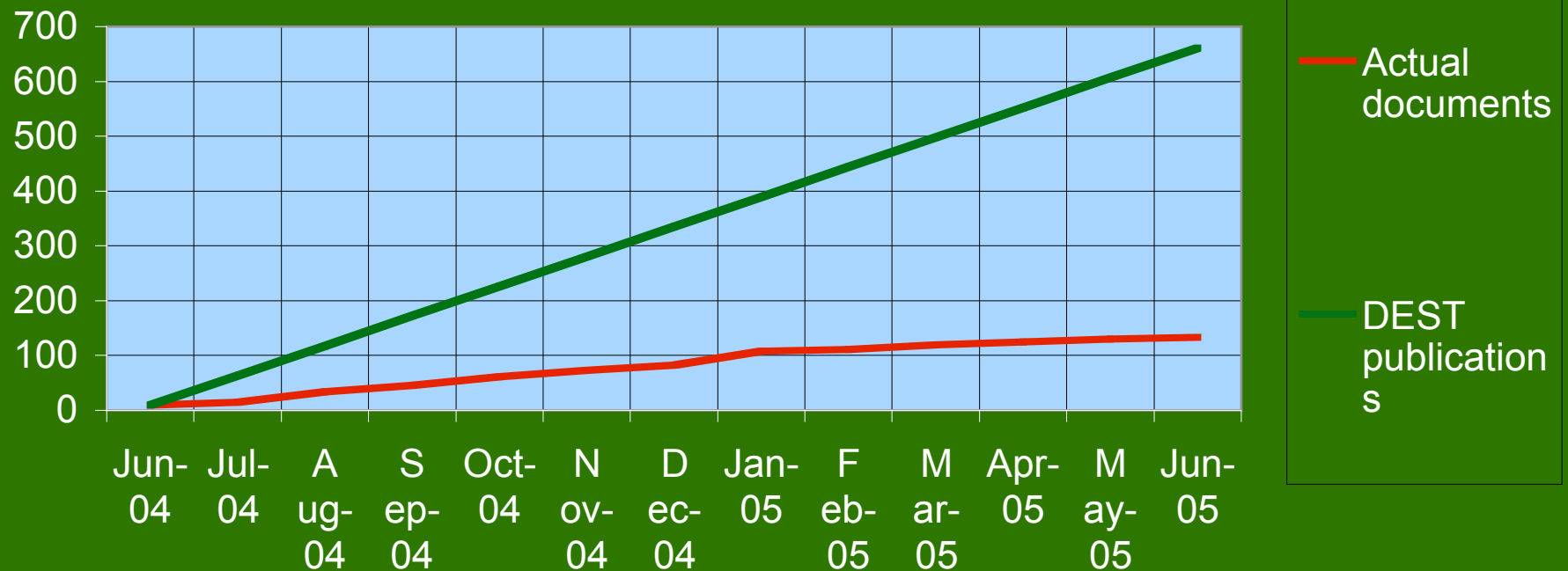
**OA Mandates:** Across all countries and disciplines, 95% of researchers report that they would comply with a self-archiving mandate from their funders and/or employers, and over 80% report that they would do so willingly. -- But only 15% self-archive spontaneously, if it not mandated.



# University of Tasmania

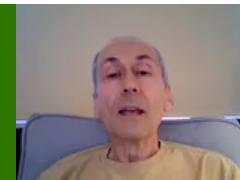
**+Repository -Incentive -Mandate**

Green line: **total annual output**  
Red line: **proportion self-archived**



Data courtesy of Arthur Sale

# University of Queensland +Repository +Incentive -Mandate



Green line: total annual output

Red line: proportion self-archived



Data courtesy of Arthur Sale

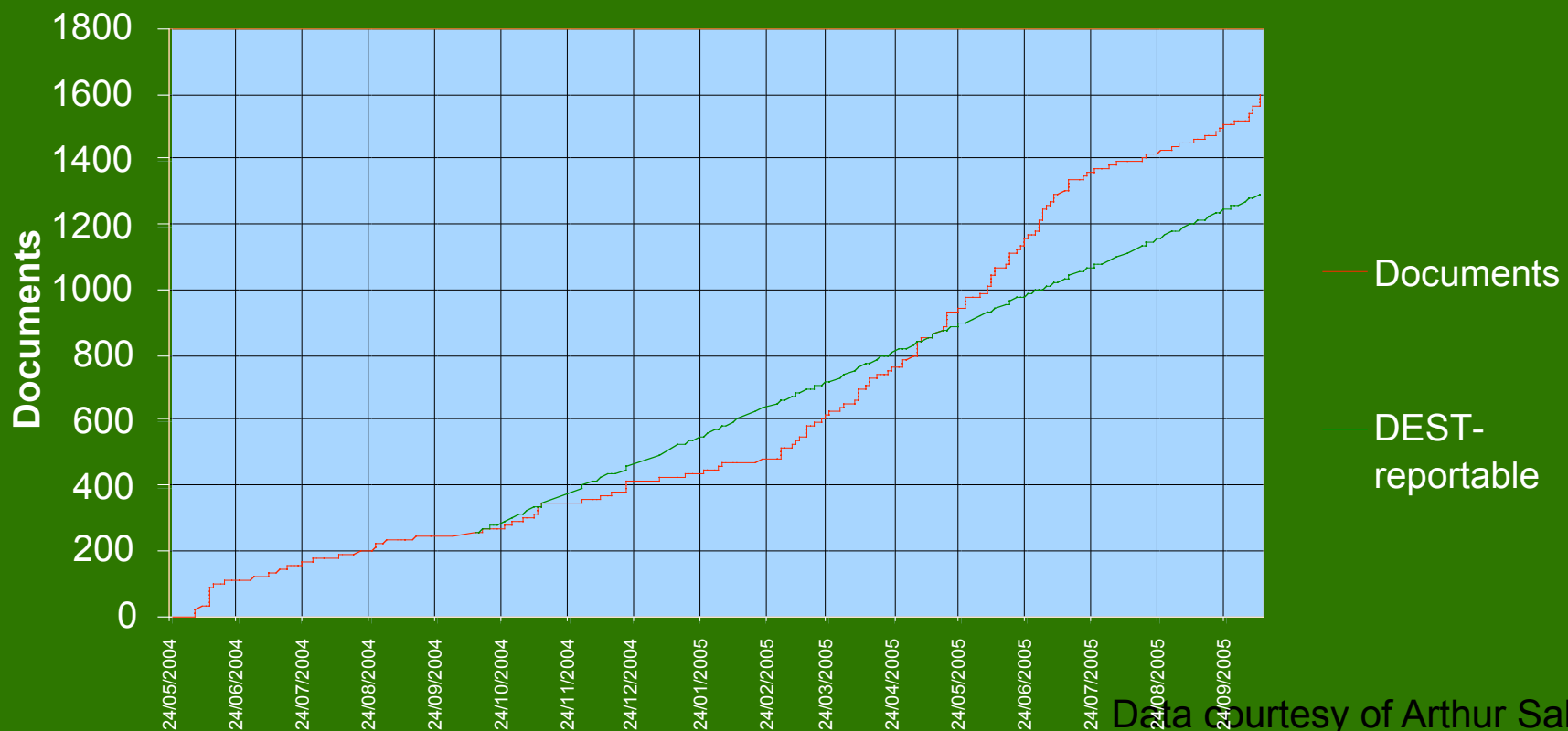
John P. Zenger, University of Manchester, 2009



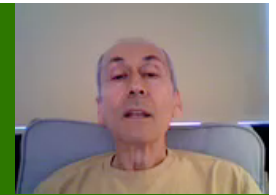
# Queensland University of Technology +Repository +Incentive +Mandate

Green line: total annual output

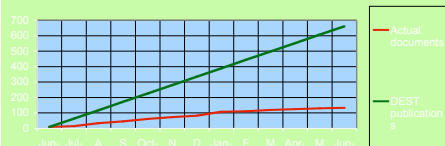
Red line: proportion self-archived



Oekonux/P2P Manchester 2009



Many Repositories  
but few deposits  
because deposit mandates  
are still few:



15% of annual  
2.5 million articles

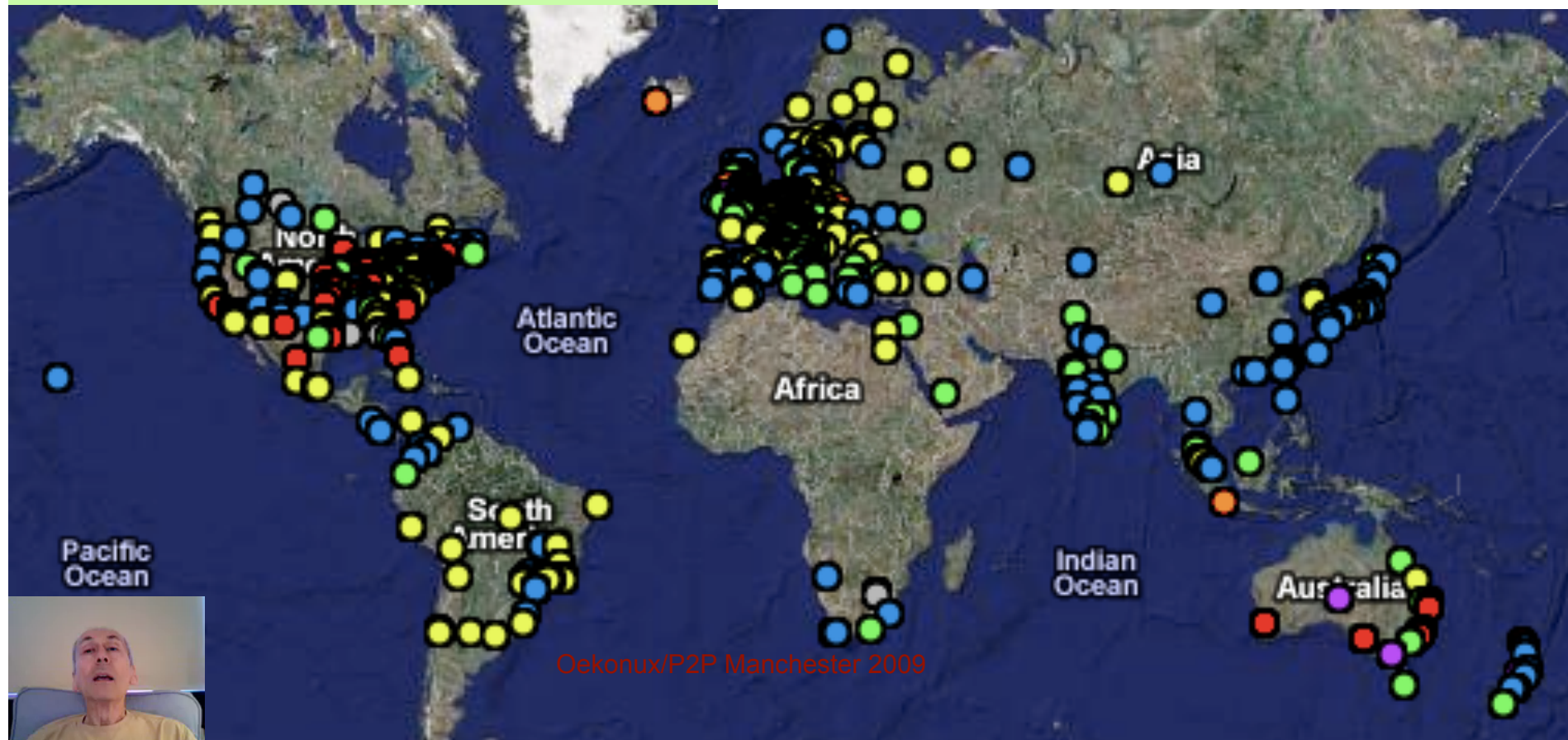
## ROARMAP (Registry of Open Access Repository Material Archiving Policies)

as recommended by the [Berlin Declaration](#)

- [Register your Institutional Policy](#) in ROARMAP
- also [register your Institutional Repository](#) in ROAR

### Summary By Type

30 INSTITUTIONAL Mandates	2	Proposed INSTITUTIONAL Mandate(s)
6 DEPARTMENTAL Mandates	6	Proposed MULTI-INSTITUTIONAL Mandates
34 FUNDER Mandates	6	Proposed FUNDER Mandates
70 TOTAL Mandates	14	TOTAL Proposed Mandates



Oekonux/P2P Manchester 2009

# What About Copyright?

Mandate **ID/OA: Immediate Deposit, Optional Access:**

All articles must be deposited immediately upon acceptance for publication. Publishers have no say over institution-internal record-keeping.

Embargoed articles can be made *Closed Access* instead of *Open Access*.

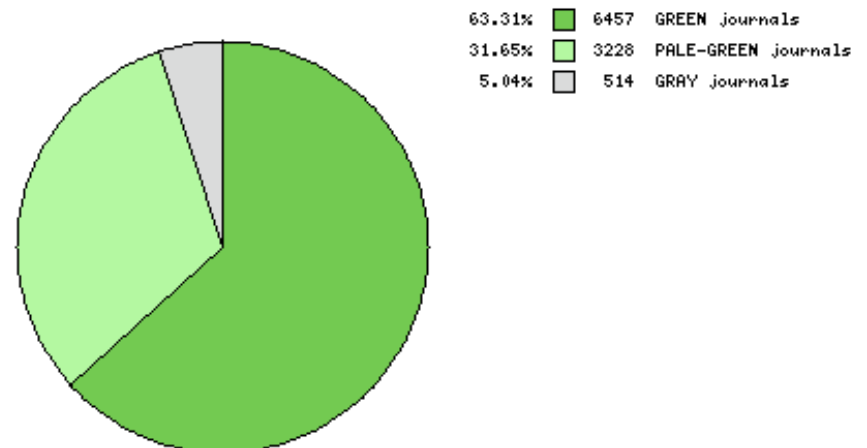
63% of journals are Green  
(already endorse  
immediate OA)

## Journal Policies - Summary Statistics So Far

Current Journal Tally: **95% Green!**

FULL-GREEN = Postprint, PALE-GREEN = Preprint, GRAY = neither yet

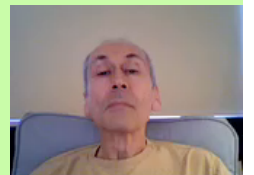
Total number of publishers registered at ROME0 to date: 414



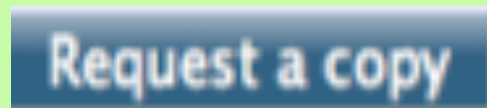
**ROME0/EPRINTS** (Directory of Journal Policies on  
author OA Self-Archiving):

<http://romeo.eprints.org/>

Oekonux/P2P Manchester 2009

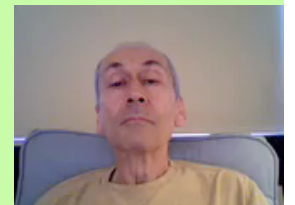


For the articles in the 37% of journals that have an embargo policy, the free EPrints institutional Repository-creating software has a Request a Copy – “P2P” -- Button:



The user who reaches the metadata for a Closed Access article puts his email in a box and clicks.

This sends an automatic email to the author, with a URL on which the author clicks to automatically email the eprint to the requester.

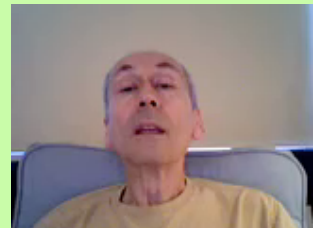


# Harvard's Copyright Reservation Mandate Model (*with opt-out*)

with its new

ID/OA clause  
(*without opt-out*)

## Immediate Deposit/Optional Access



Copyright Reform (and Gold OA) will follow Universal Green OA

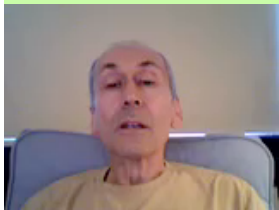
Universal Green OA needs to be mandated

Mandates need to be successfully adopted globally

ID/OA is the weakest OA mandate, hence the easiest to reach  
consensus on adopting

ID/OA moots all copyright concerns

Copyright Reform should not be made a precondition for  
mandating OA

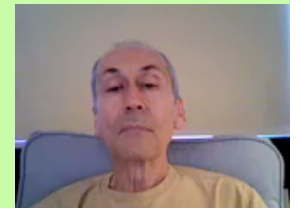


**Open Access,  
Free/Open Software  
P2P file sharing  
Open Data  
Creative Commons Licensing  
Wikipedia**

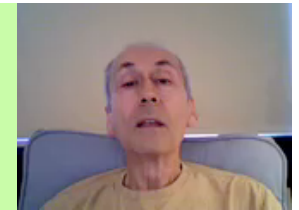
**The Commonalities and Distinctions**

- (1) Exception-Free Creator Give-Away? (Created for uptake, usage and impact alone?)
- (2) Peer-Reviewed?
- (3) Published?
- (4) Publicly Funded?
- (5) Copyright Barrier?
- (\*\*6) Access to code?**
- (7) Modifying/Remixing/"re-using" code?
- (8) Republishing Code?

Oekonux/P2P Manchester 2009



# Open Access



**(\*1) Exception-Free Creator Give-Away** (Created for uptake, usage and impact alone)

**(\*2) Peer-Reviewed**

**(\*3) Published**

(4) Publicly Funded? *Not all (hence funder mandates are not enough)*

(5) Copyright Barrier? *Some (hence ID/OA mandate preferable to license negotiation mandate)*

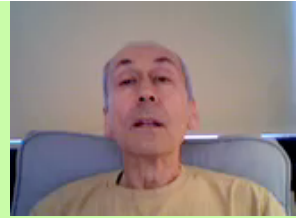
**(\*\*6) Access to code**

(7) Modifying/Remixing/"re-using" code? *No (refereed research article texts not to be modified or re-mixed)*

(8) Republishing Code allowed? No (but no need for published article text – but no need either, if text is already OA)



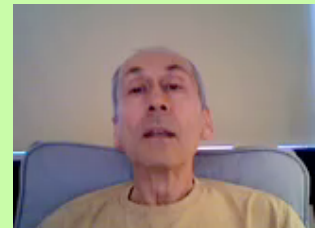
# Free/Open Software



- (1) Exception-Free Creator Give-Away? (Created for uptake, usage and impact alone?) *Not all (nor most, yet)*
- (2) Peer-Reviewed? *Most not*
- (3) Published? *Most not*
- (4) Publicly Funded? *Some only*
- (5) Copyright Barrier? *Some*
- (\*\*6) Access to code**
- (\*7) Modifying/Remixing/"re-using" code**
- (\*8) Republishing Code**

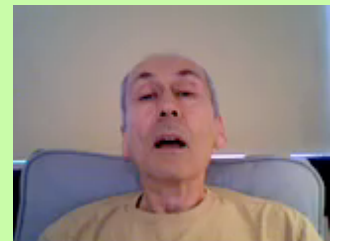
# P2P File-Sharing

- (1) Exception-Free Creator Give-Away? (Created for uptake, usage and impact alone?) *Not all (nor most, yet)*
- (2) Peer-Reviewed? *Most not*
- (3) Published? *Some*
- (4) Publicly Funded? *Most not*
- (5) Copyright Barrier? *Some*
- (\*\*6) Access to code**
- (\*7) Modifying/Remixing/"re-using" code**
- (\*8) Republishing Code**



# Open Data

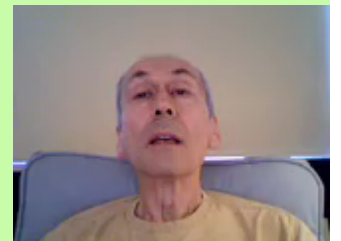
- (1) Exception-Free Creator Give-Away? (Created for uptake, usage and impact alone?) *Not all (nor most, yet)*
- (2) Peer-Reviewed? *Most not*
- (3) Published? *Most not*
- (4) Publicly Funded? *Some only*
- (5) Copyright Barrier? *Most not*
- (\*\*6) Access to code**
- (\*7) Modifying/Remixing/"re-using" code**
- (\*8) Republishing Code**



# Creative Commons Licensing

## (Books, Music, Video)

- (1) Exception-Free Creator Give-Away? (Created for uptake, usage and impact alone?) *Not all (nor most, yet)*
- (2) Peer-Reviewed? *Most not*
- (3) Published? *Some*
- (4) Publicly Funded? *Some only*
- (5) Copyright Barrier? *Most*
- (\*\*6) Access to code**
- (\*7) Modifying/Remixing/"re-using" code**
- (\*8) Republishing Code**



# Wikipedia

**(\*1) Exception-Free Creator Give-Away** (Created for uptake, usage and impact alone)

(2) Peer-Reviewed? *Not*

(3) Published? *Most not*

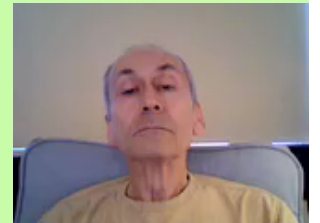
(4) Publicly Funded? *Not*

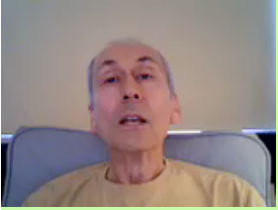
(5) Copyright Barrier *Not*

**(\*\*6) Access to code**

**(\*7) Modifying/Remixing/"re-using" code**

**(\*8) Republishing Code**





# Open Access, Free/Open Software, P2P, Open Data Creative Commons Licensing Wikipedia

The only shared invariant across all 5 is the quest for:

**(\*\*6) Access to code**

And what makes it possible to mandate Open Access to the code (text) for refereed research is that *it is all an author give-away already, written solely for access, uptake, usage and impact, not for fee or royalty.*

## SUMMARY:



Free/Open Software (notably the first Free Software for creating OAI-compliant Open Access Institutional Repositories, EPrints, created in 2000, distributed under the GNU license, and now used worldwide) has been central to the growth of the Open Access Movement.

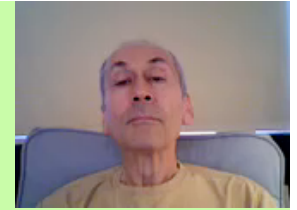
However, there are also crucial distinctions that need to be made and understood, among the movements for (1) Free/Open source software, (2) Open Access (to peer-reviewed research), (3) P2P access, (4) Open Data, (5) Creative Commons licensing, and (5) Wikipedia-style collective writing. Open Access (OA) is focussed primarily on refereed research articles.

The crucial distinctions revolve mostly around (a) the fundamental difference between author giveaway vs. non-giveaway work and (b) the functional differences between the re-use needs for peer-reviewed research article texts on the one hand, and data, software and other kinds of digital content on the other.

**Author's URLs (UQAM & Southampton):**

<http://www.crsc.uqam.ca/>

<http://users.ecs.soton.ac.uk/harnad/>



**BIBLIOGRAPHY ON OA IMPACT ADVANTAGE:**

<http://opcit.eprints.org/oacitation-biblio.html>

**BOAI Self-Archiving FAQ:** <http://www.eprints.org/self-faq/>

**CITEBASE** (scientometric engine): <http://citebase.eprints.org/>

**EPRINTS:** <http://www.eprints.org/>

**OA ARCHIVANGELISM:** <http://openaccess.eprints.org/>

**ROAR** (Registry of OA Repositories): <http://roar.eprints.org/>

**ROARMAP** (Registry of OA Repository Mandates):

<http://www.eprints.org/openaccess/policysignup/>

**ROMEO/EPRINTS** (Directory of Journal Policies on author OA Self-Archiving):

<http://romeo.eprints.org/>