

Beyond Free: Open Learning in a Networked World

for APT 2014 (8th July, Greenwich)

Stephen Downes



What is the problem for which MOOCs are the solution?



Diana Laurillard:

- the answer to the question in terms of what problems MOOCs *have* solved...
- "The problem MOOCs succeed in solving is: to provide free university teaching for highly qualified professionals."

<https://newsletter.alt.ac.uk/2014/06/what-is-the-problem-for-which-moocs-are-the-solution/>

Image: <http://www.londoninternational.ac.uk/community/londonconnection/articles/ga/london-connection-ga-professor-diana-laurillard>

What is the problem MOOCs were *designed* to solve?



- Laurillard writes, "by 2015 there will still be 53m children out of school... UNESCO estimates that [we need 1,600,000 teachers](#) to achieve universal primary education."
- At \$50K per teacher, that's an additional \$80 billion in salaries

<http://unesdoc.unesco.org/images/0022/002256/225660e.pdf>

Image: <http://www.thetimes.co.uk/tto/business/industries/publicsector/article3410805.ece>



We have to find innovative ways of teaching...

... says Laurillard. But more importantly, I say, we have to find more innovative ways of *learning*

Because the problem isn't design; the problem is cost and access. Design is only one way of looking at the problem.

Image: <https://www.uwstout.edu/lib/services/access.cfm>

Who gets to graduate?



http://www.nytimes.com/2014/05/18/magazine/who-gets-to-graduate.html?_r=0

- "whether a student graduates or not seems to depend today almost entirely on just one factor — how much money his or her parents make....
- “it will always be the case that the kids who have need are going to have been denied a lot of the academic preparation and opportunities for identity formation that the affluent kids have been given.”

[Paul Tough](#), [New York Times](#), May 27, 2014

What is the problem for which colleges and universities are the answer?

Hint: if we look at why *they* are starting MOOCs, cost and access aren't very high on the list...



Why they are running MOOCs? What are *their* issues?

- Extend reach and access
- Build and maintain brand
- Reduce costs, raise revenues
- Improve educational outcomes
- Research and innovation in teaching and learning



Meanwhile, the denials that cost is even a problem



- “the benefits of college still outweigh the costs”
- “financial aid programs drive college prices higher”
- Student debt overstated

http://www.ny.frb.org/research/current_issues/ci20-3.pdf

<http://www.aei.org/events/2014/06/25/policies-to-puncture-the-student-loan-bubble/>

<http://www.nytimes.com/2014/06/24/upshot/the-reality-of-student-debt-is-different-from-the-cliches.html>

We're told outright that money is not the problem

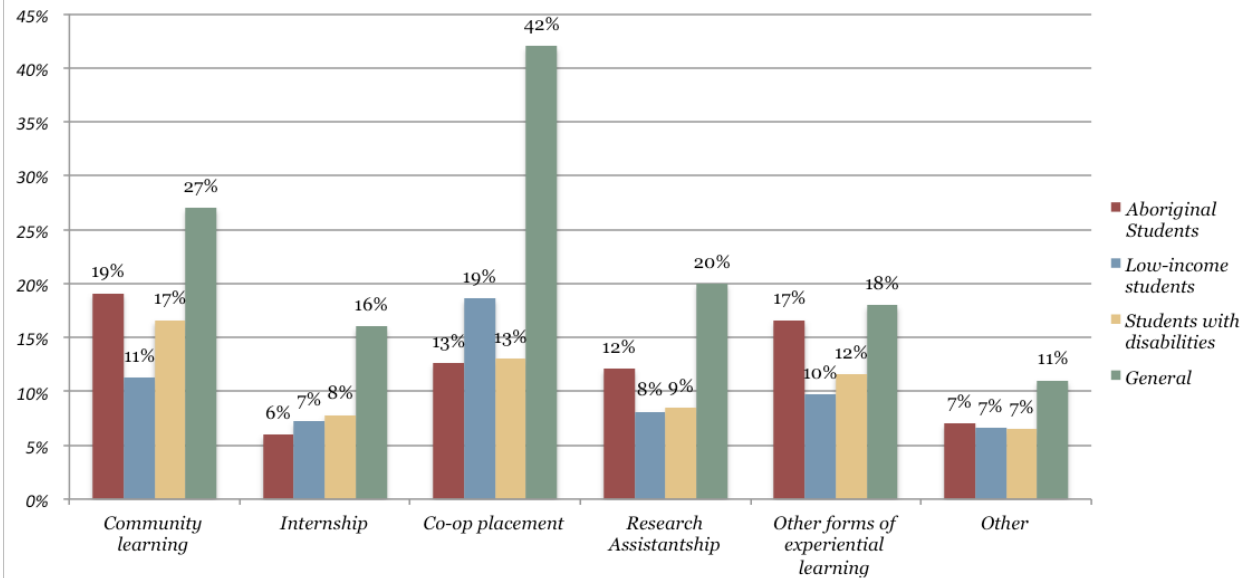
“This challenge is much more than an incremental program here or some fine-tuning there; it involves a culture change in how we all take more accountability for educational outcomes.”
(BMO Financial Group)



<http://www.theglobeandmail.com/news/national/education/education-lab/more-money-wont-fix-need-for-change-in-education/article19309812/>

But for many, cost *is* the problem

Figure 2: Participation in high impact learning experiences by marginalized populations

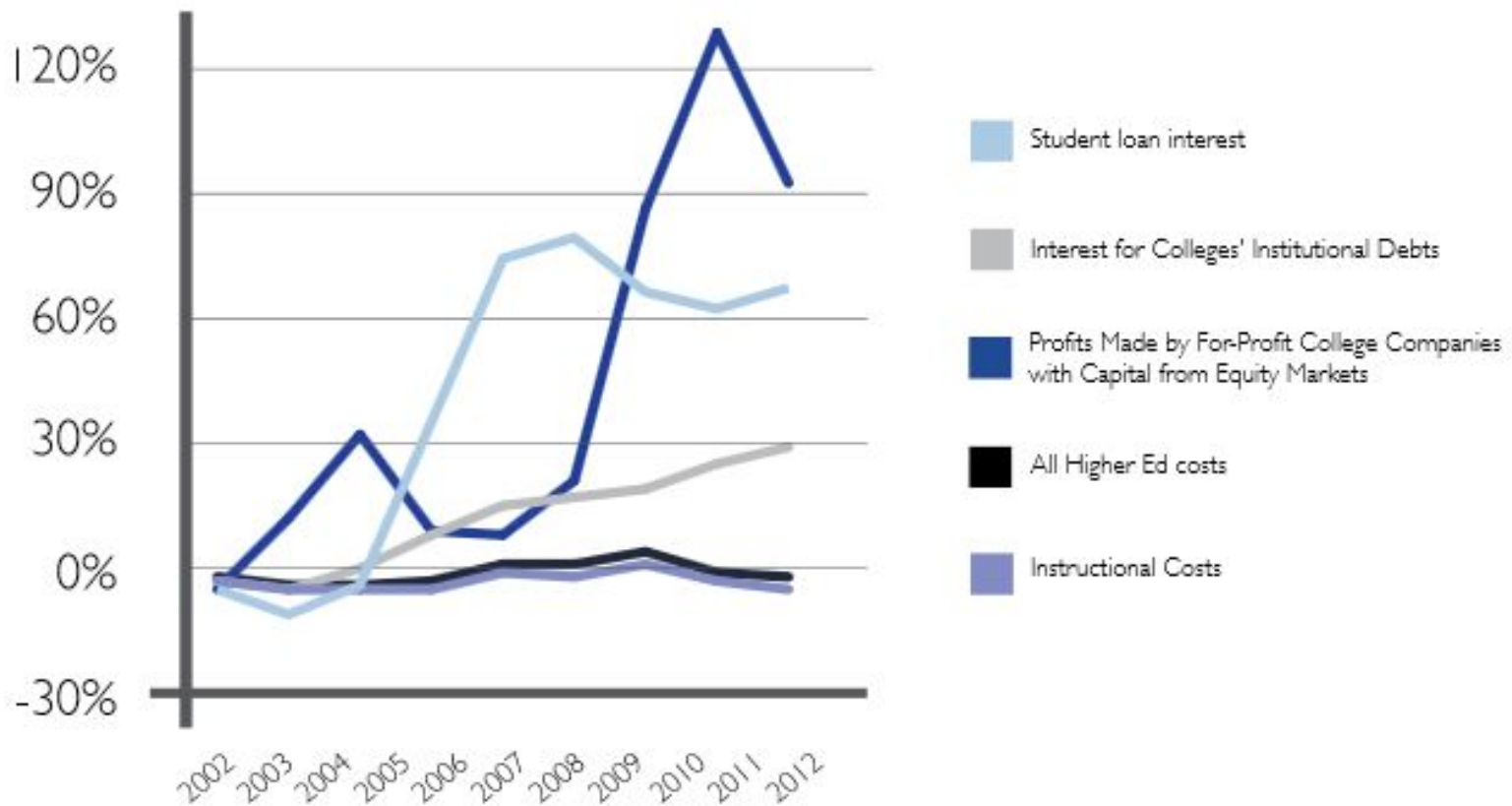


“In general, university participation rates are lower among aboriginals, students with disabilities, and the poor.”

<http://www.ousa.ca/2014/06/10/experiential-learning-opportunities-created-equal/>

And debt, an even bigger problem

FIGURE I: Cumulative Percent Change in Higher Ed Costs Per Student Since 2002

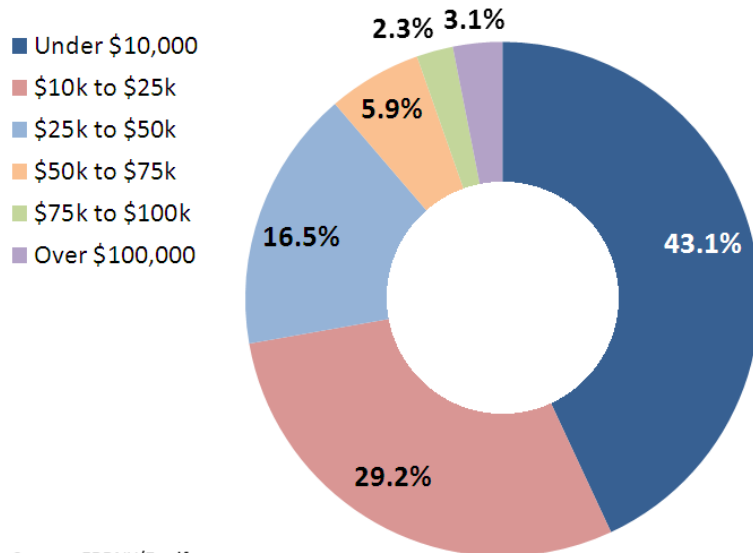


<http://www.aft.org/pdfs/highered/BorrowingAgainstFuture0514.pdf>

Not only students are hurt, so are their families

Student loan borrowers by level of balance

Total number of borrowers: 37 million



Source: FRBNY/Equifax

“the data suggests parents are borrowing more, going back to work, or dipping into their retirement savings in order to financially support their children’s education”

<http://www.casa-acae.com/wp/wp-content/uploads/2014/06/CASAJune5th-NewDataCostEducation.pdf>

Image: <http://tcf.org/blog/detail/graph-student-debt-the-trillion-dollar-threat-to-the-american-middle-class>

Meanwhile, the benefits of digital resources never materialized...

11 publishers are raising their prices all at the same time. "Publishers insist, however, that there was no conspiracy to raise prices and that the previous cost model for e-books wasn't sustainable."



<http://chronicle.com/article/College-Libraries-Push-Back-as/147085/> Image:
<http://www.dailytech.com/Amazon+Flexes+Its+Muscles+to+Punish+Unruly+Publisher+Hatchette/article34968.htm>

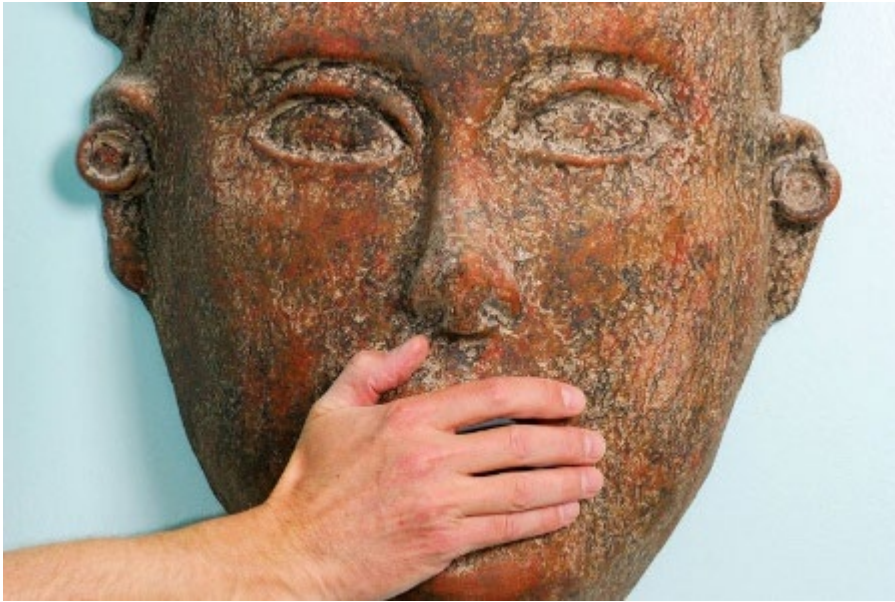
That's one cost even universities agree is a problem

“Journals published by non-profit organisations were two to 10 times better value than those published by commercial companies, such as Elsevier, Springer, Sage, and Taylor & Francis.”



<http://www.theguardian.com/science/2014/jun/16/universities-get-poor-value-academic-journal-publishing-firms>

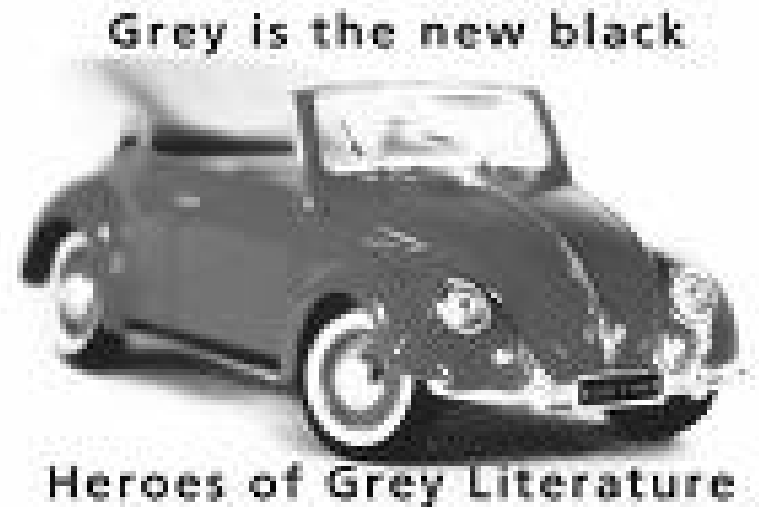
Of course, the journals don't want to publish this sort of data



... and when they do
(only after being
threatened with
mass resignations)
they publish the data
with a disclaimer
suggesting it is
inaccurate

So we see calls to recognize alternative forms of literature

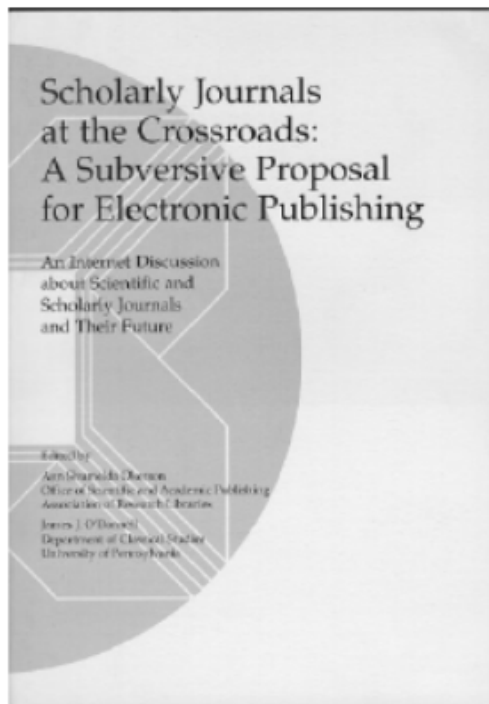
- 'Grey Literature'
- "research and technical reports, briefings and reviews, evaluations, working papers, conference papers, theses, and multimedia content."



<http://tebm-libr.wikipaces.com/file/view/Grey+Literature.ppt>

<http://greyguide.isti.cnr.it/include/pisadeclarationmay2014.pdf>

20 years ago: the “subversive proposal”



- The proposal to free the research literature through self-archiving
- Originally formulated for anonymous FTP and WWW home-page
- Self-archiving's time still waiting to come...

<http://users.ecs.soton.ac.uk/harnad/Tp/Milestones/sld001.htm>

<http://poynder.blogspot.ca/2014/06/the-subversive-proposal-at-20.html>

The growth of a movement

“What drives (Subbiah) Arunachalam is a firm belief that open access holds out the promise of a faster and more effective system for creating and sharing new knowledge...”



<http://poynder.blogspot.ca/2014/06/open-access-in-india-q-with-subbiah.html>

http://en.wikipedia.org/wiki/Subbiah_Arunachalam

No coincidence that WWW-based was created 20 years ago as well

Hill: “the first
accredited school to
offer a course over
the WWW was the
Open University in a
pilot Virtual Summer
School project in the
summer of 1994.”



<http://mfeldstein.com/internet-based-online-education-turns-20-summer/>
<http://faculty.education.ufl.edu/Melzie/Distance/Virtual%20Summer%20School%20Project>

... meanwhile, the benefits of web-based courses were never realized

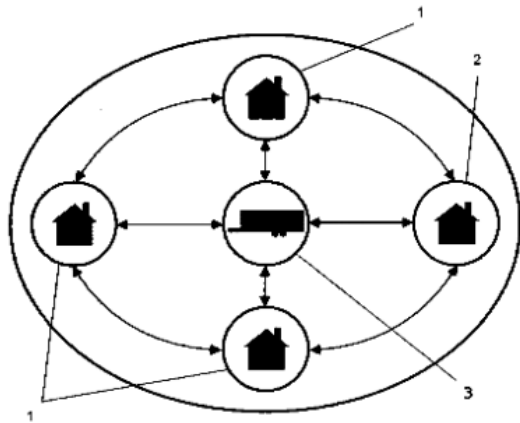


Fig. 1

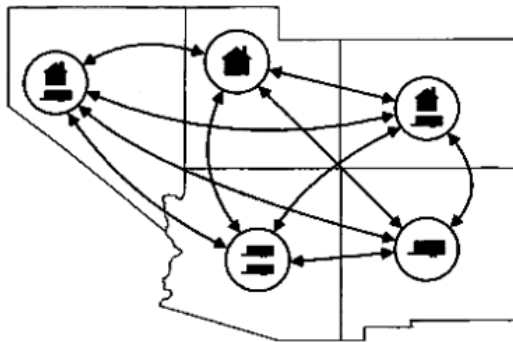


Fig.2

I once did a quick survey of how long it would take me to get completely caught up reading patent applications in just one area of ed tech. It would be, I discovered, several lifetimes.

Calling it a
'patent thicket'
is more than
just a slight
understatement
It's way worse than that

PI - Trademark Details	
Status: 700 - Registered	
PI	
Serial Number	85785006
Registration Number	4473631
Word Mark	PI
Status	700 - Registered
Status Date	2014-01-28
Filing Date	2012-11-21
Registration Number	4473631
Registration Date	2014-01-28
Mark Drawing	5000 - Illustration: Drawing with word(s)/letter(s)/number(s) in Stylized form Typeset
Published for Opposition Date	2013-11-12
Law Office Assigned Location Code	N10
Employee Name	PRATER, JILL I

<http://www.wired.co.uk/news/archive/2014-06/02/pi-trademark-usa>

Image: screen capture from <http://trademarks.justia.com/857/85/pi-85785006.html>

The phenomenon
of *enclosure*
threatens the
common heritage
we thought we all
owned



Study: “... of the 50
titles that had been
digitized, only three
were hosted by
repositories that do not
restrict any type of
subsequent use”

<http://firstmonday.org/ojs/index.php/fm/article/view/4975/4089>

Image: <http://www.publicdomaintreasurehunter.com/2009/01/10/use-public-domain-short-stories-for-blogs/> (who knows where the original was)

... and it's going to get worse

The Sopranos: Season 1, Ep. 1
"Pilot"

★★★★★ (1,184) IMDb 8.7/10



Amazon Instant Video titles can't be watched on this device. Purchases you make will be added to Your Video Library and can be watched on supported devices.

Watch for \$0.00 with Prime

Buy episode 1 with 1-Click® \$2.99

Buy season 1 with 1-Click® \$29.99

Content companies have been creating their own browsers is to be able to implement in-browser digital rights management (DRM) instead of relying on plug-ins like Flash and Silverlight.

<https://blog.mozilla.org/blog/2014/05/14/drm-and-the-challenge-of-serving-users/>

Image: <http://forums.crackberry.com/blackberry-10-apps-f274/amazon-instant-videos-fully-working-browser-849796/>





Content providers
do *not* want people
to have free and
open access

Digital News Report 2014:
“We are seeing that the
next five years will see
a major revenue shift for
news agencies. This
is especially relevant given
the reluctance of people
to pay for news.”

<http://www.digitalnewsreport.org/>



... and their priorities are not our priorities

This includes (*especially*) universities...



As the University of Alberta searches for a new university president at a minimum \$400K salary, at least 56 academics and staff have applied, all in groups of four.

<http://www.cbc.ca/asithappens/features/2014/06/06/university-of-alberta-president-salary-letter/>

The resistance of academic staff to open content is manifest

Report from the University of Greenwich:

- Active change blocking and passive forms of intransigence
- Sharing of resources and artifacts happened only on Moodle, which is a closed system
- No time to effectively learn about and embed open content



<http://terrya.edublogs.org/2014/04/23/greewich-connect-connects-with-us-on-a-number-of-levels/>

Report: http://conference.ocwconsortium.org/2014/wp-content/uploads/2014/02/Paper_30.pdf

Even at the Open Textbook Conference, scepticism prevailed

“Adoption by faculty and instructors remains a major challenge. Diane Salter from Kwantlen Polytechnic University stated that there needs to be an institutional strategy...to raise awareness and get buy-in from faculty.”



<http://www.tonybates.ca/2014/04/23/what-i-learned-from-the-open-textbook-summit/>

There's no end of reasons offered to use closed content...

- for many disciplines and courses, there is no open textbook available
- concerns about quality (e.g., comprehensiveness, clarity, currency, etc.)
- no illustrations, charts, or graphics to aid comprehension.
- No questions or critical thinking exercises embedded.
- No online learning management system available
- And, crucially for many faculty, no testbank
- choice of textbook is sometimes not an individual one

Professors who defy the university's indifference to student costs pay the price



What's key here is that speaking out is being defined as insubordination, and that “everybody is expected to put the good of the whole university ahead of their own interests.”

<http://www.cbc.ca/news/canada/saskatoon/prof-robert-buckingham-fired-after-criticizing-saskatchewan-university-plan-1.2642637>

Universities,
meanwhile,
disguise the
unsustainable
model by
employing
poorly paid
temporary staff



"Our marginalization,
meager pay and lack of
job security... all
contribute to a culture
of paranoia and
enmity."

<http://drshahsofficehours.wordpress.com/2014/06/05/my-last-day-as-a-professor/>

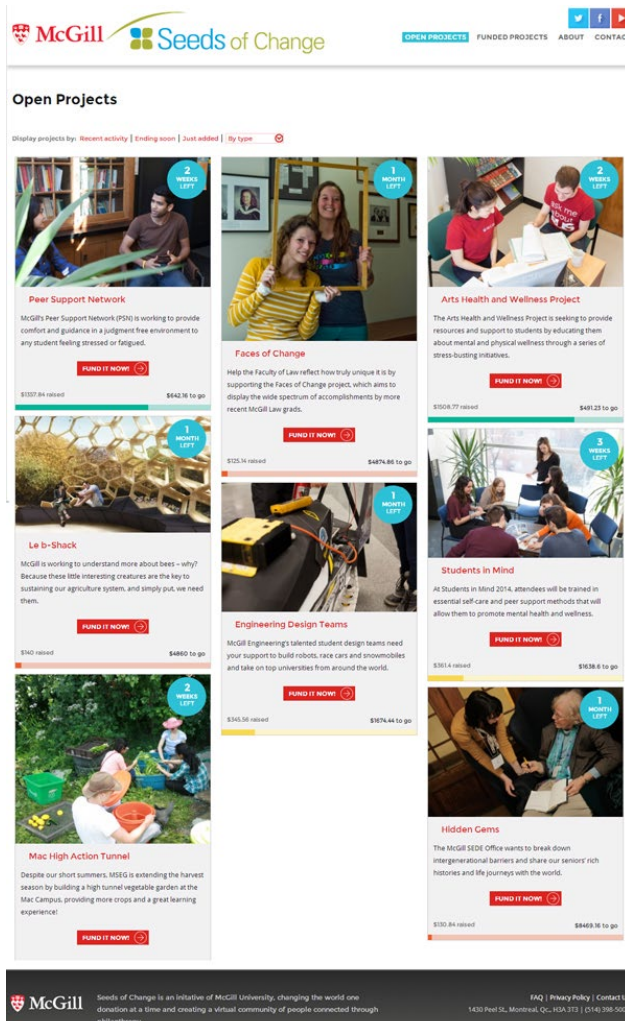
Image: <http://www.orderofeducation.com/con-job-new-documentary-adjunct-labor/>



I don't see why university administrators could think that "unapologetically" pricing courses at \$1400 per credit hour for online learning could possibly work.

<http://www.insidehighered.com/news/2014/05/01/collaboration-or-lack-thereof-behind-semester-online-collapse>

They see new technologies mostly as a means to make more money



For example: McGill University in Montreal has launched a crowdfunding platform to encourage donations. (Yet again, the silo model prevails)

<http://publications.mcgill.ca/reporter/2014/06/seeding-is-believing-mcgill-launches-crowdfunding-platform/>

While the
university
fundraisers
pursue parochial
interests, open
content
advocates create
resource
networks...

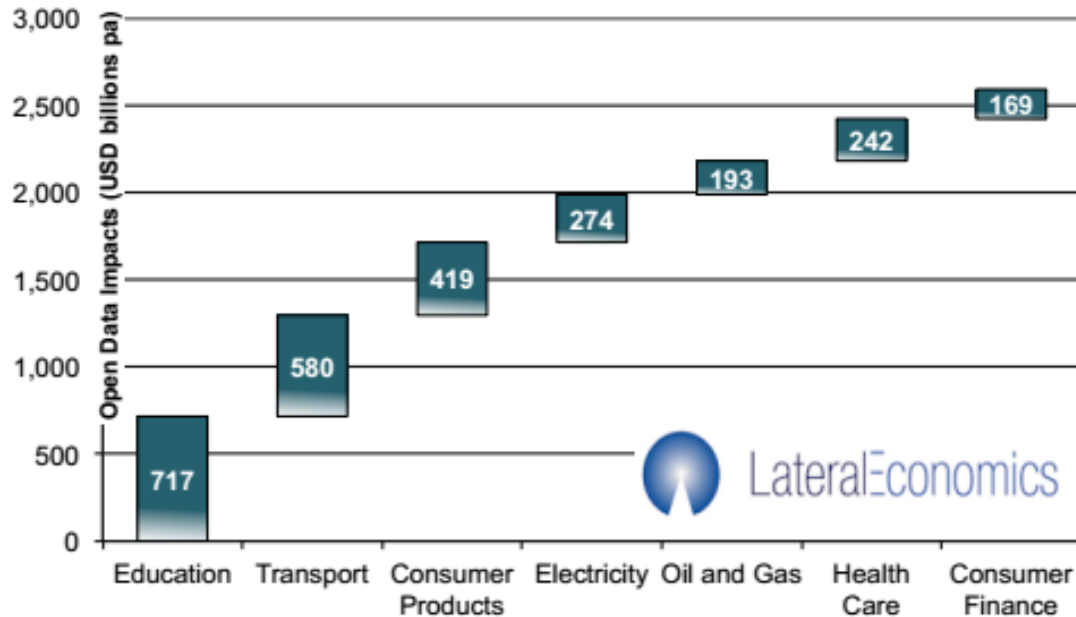
Eg. Confederation of
Open Access
Repositories (COAR)
has undertaken an
initiative to align open
access repositories.



<https://www.coar-repositories.org/files/Aligning-Repository-Networks-Meeting-Report.pdf>

Open access makes a massive economic difference

Figure 10 Value of open data for the G20 (USD billions pa)



Ross Dawson:
The potential
value from open
data to the G20
nations is \$2.6
trillion annually

Creative Commons:
the license is a patch,
not a fix – we should
be working to a world
where the *default* is
open



And *outside* formal academia, a world of free and open resources has been unfolding...



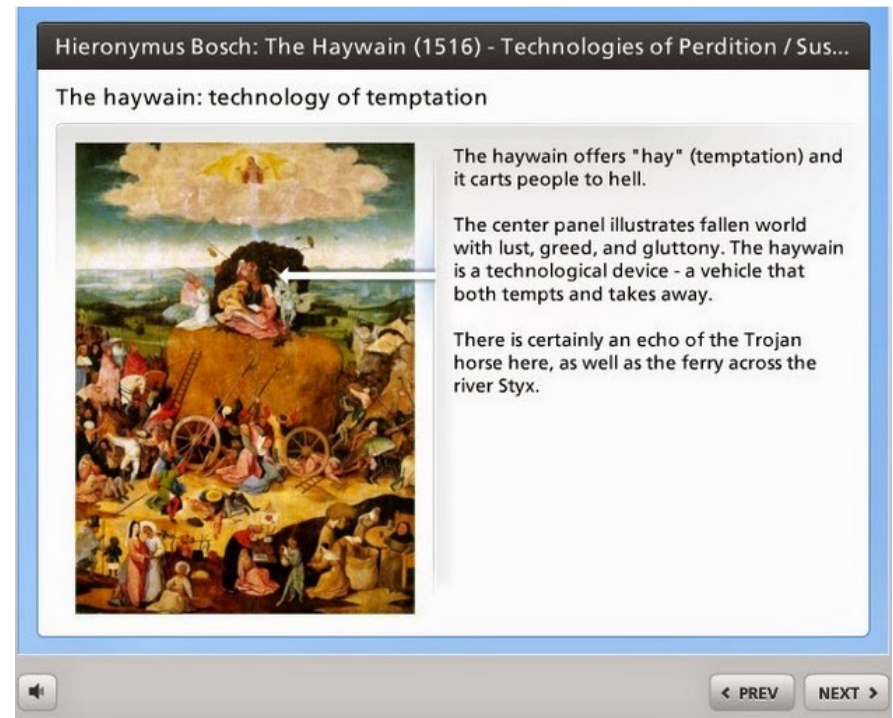
Things like *Ergo*, a free and open journal of philosophy

<http://www.ergophiljournal.org/>

Image:

http://www.aestheticsforbirds.com/2014_05_01_archive.html

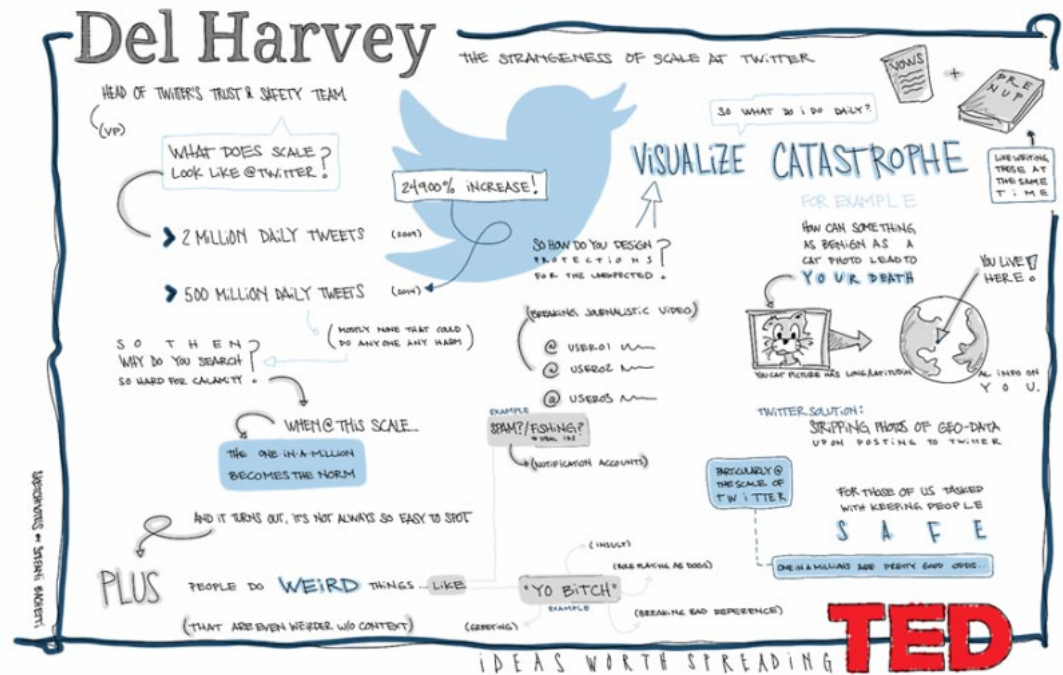
- Things like ‘Mini-Lectures using learning Objects’ by Susan Smith-Nash



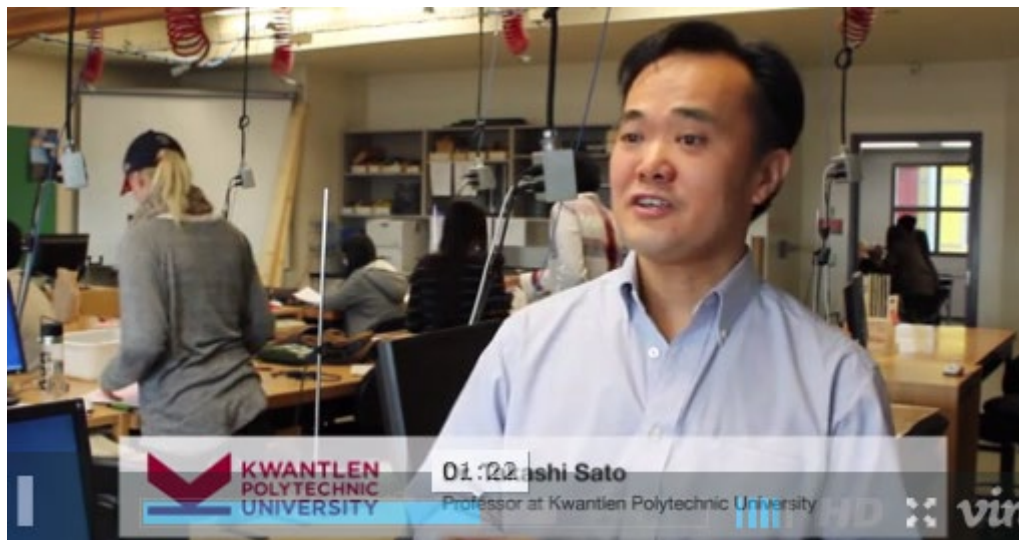
- “I like this for is simplicity”: Janet Clarey

<http://elearnqueen.blogspot.ca/2014/05/mini-lectures-using-learning-objects.html>
<https://twitter.com/jclarey/status/464781795322781696>

- Things like “a new talk, sketched daily” by Kate Torgovnick May
- (and even TED, though I once commented that TED is the ‘Upworthy of academia’)

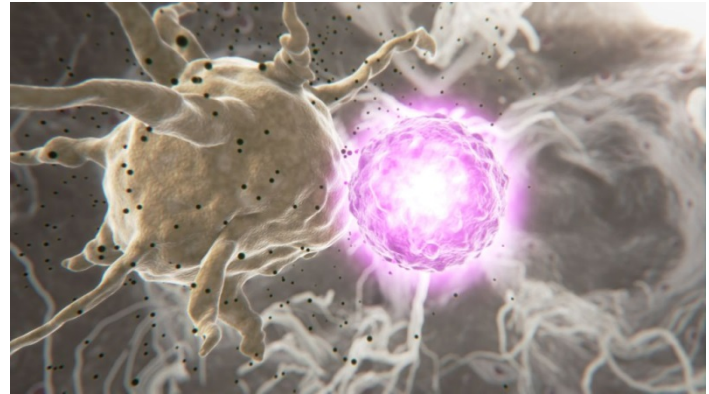


- Things like the “Open Textbooks Toolkit” from BC Campus
- “Your starting point on how to change education with just one textbook.”



[http://open.bccampus.ca/
open-textbooks-toolkit/](http://open.bccampus.ca/open-textbooks-toolkit/)

We are seeing what Martin Weller has called 'the open virus'...



"It is no coincidence that many of the MOOC pioneers had also been early adopters of open access, active bloggers, and advocates of open licenses. Creating open courses seemed the next logical step..."

http://nogoodreason.typepad.co.uk/no_good_reason/2014/05/the-open-virus.html

Do we dare imagine a world
of open resources beyond
'courseware'?

Beyond the traditional
university model?

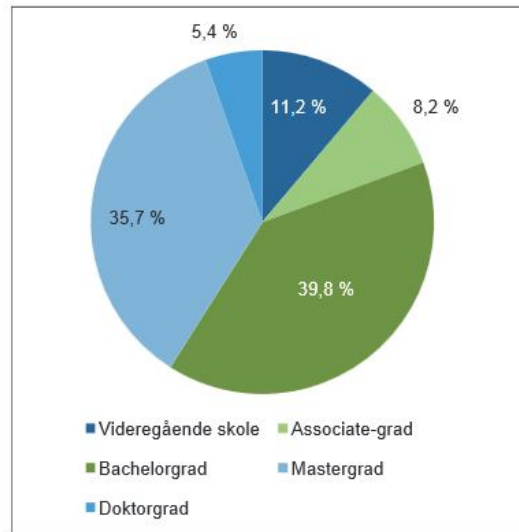
Maybe. The
OpenCourseWare
Consortium has changed
its name to The Open
Education Consortium.

<http://www.openedconsortium.org/>

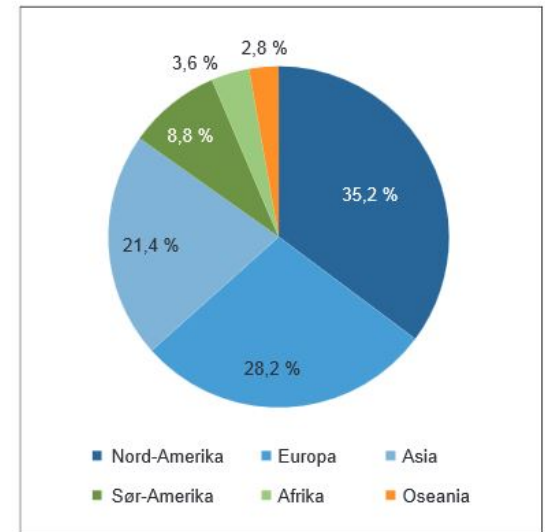


And we are seeing a world-wide embrace of an alternative model of learning based in *open* content...

A Norway commission recommends a "national investment of up to €16-47 million annually



Figur 7.1 Deltakere på MOOC-tilbud etter høyeste fullførte utdanning, januar 2013. Coursera¹



Figur 7.2 Deltakere på MOOC-tilbud etter verdensdel, januar 2013. Coursera¹

<http://acreelman.blogspot.ca/2014/06/norwegian-mooc-commission.html>

The Report: <http://ow.ly/ySYSW>

But there's nothing that can't be corrupted...

For example: a company that professionally produces five-minute 'educational videos' with the intent of making them go viral (and no, it's not TED; their videos are longer)



<http://chronicle.com/blogs/wiredcampus/online-upstarts-goal-mooc-lectures-that-go-viral/53539> Image: <http://mruniversity.com/courses/everyday-economics>

The free online lessons can be far from benign

This is from Disney, but the name 'Doc McStuffins' isn't coincidentally the name of a certain fast food place



<http://kidscreen.com/2014/04/24/why-disney-is-pushing-further-into-the-preschool-mobile-space/>

Roger Schank: “I am sure, that Stanford itself won’t give the stuff they produce to it’s own students. No one calls this racism (or classism), but it is education for poor people, just as Wal-Mart is focused on poor people. “

Don’t think that
traditional
universities are
immune from
the temptation.
Events have
proven that they
are not.

<http://educationoutrage.blogspot.ca/2014/06/stanford-decides-to-be-wal-mart-doesnt.html>

On the other hand, Schank's solution is ridiculous...

\$54.5K per year to attend Stanford
x World population ages 20-24 of 596.3M
= a total cost of \$32.5 trillion dollars / year.



Or, more money than the total GDP of the G8 nations plus China and India

<http://news.stanford.edu/news/2012/february/stanford-undergraduate-tuition-020712.html>

<http://www.census.gov/cgi-bin/broker>

<https://www.cia.gov/library/publications/the-world-factbook/fields/2195.html>

But it's hard to resist the idea that MOOCs are moneymaking scams



For example, the Campaign for the Future of Higher Education argues online education "is a billion-dollar business motivated more by profits than quality education for students."

<http://campustechnology.com/articles/2014/05/13/are-moocs-a-moneymaking-scam-providers-challenged-to-substantiate-grandiose-claims.aspx>

And the research is telling us how bad MOOCs really are...

- If you are isolated, poor, and enamored of the prestigious university offering the MOOC you're taking, you are less likely to complete it.
- Coaching students to have a healthier mindset about learning may not help in a MOOC.
- Paired with the right incentives, MOOCs can help prepare at-risk students for college-level work.
- Discussion forums in MOOCs are healthy places for the few students who use them.
- We still do not know if doing well in MOOCs will help underprivileged learners become upwardly mobile.

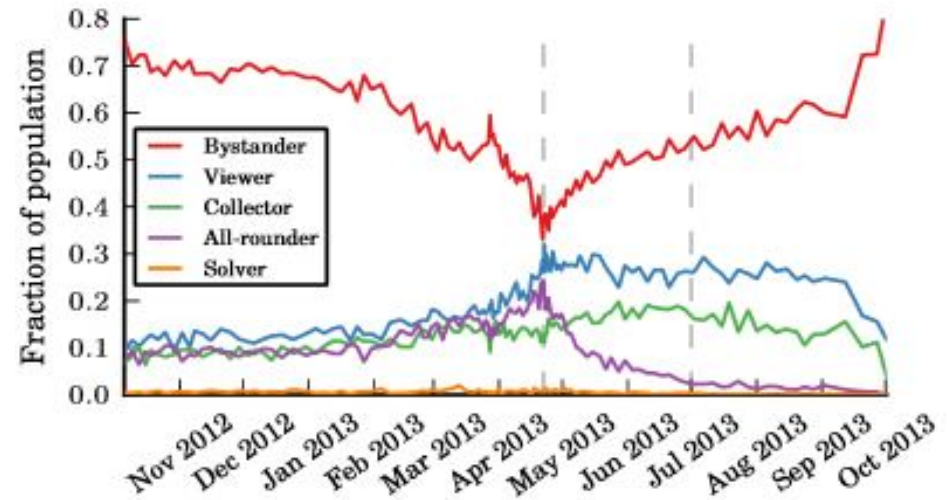
<http://chronicle.com/blogs/wiredcampus/5-things-researchers-have-discovered-about-moocs/53585> Report: <http://www.moocresearch.com/>

But what sort of MOOC is this research criticizing?



- The sort of MOOC created by the same people who wanted to raise money selling courses online – people like Coursera’s Richard Levin, for example...
- ... who gives us the impression he’s not sure what software like EdX actually does

We need to understand that MOOCs are different, that they're not traditional courses



Drop the label 'dropout' - characterize users by the impact they have on the system: uploaders, commenters, subscribers, viewers, and lurkers.

http://chronicle.com/blogs/wiredcampus/study-of-moocs-suggests-dropping-the-label-dropout/53421?cid=at&utm_source=at&utm_medium=en

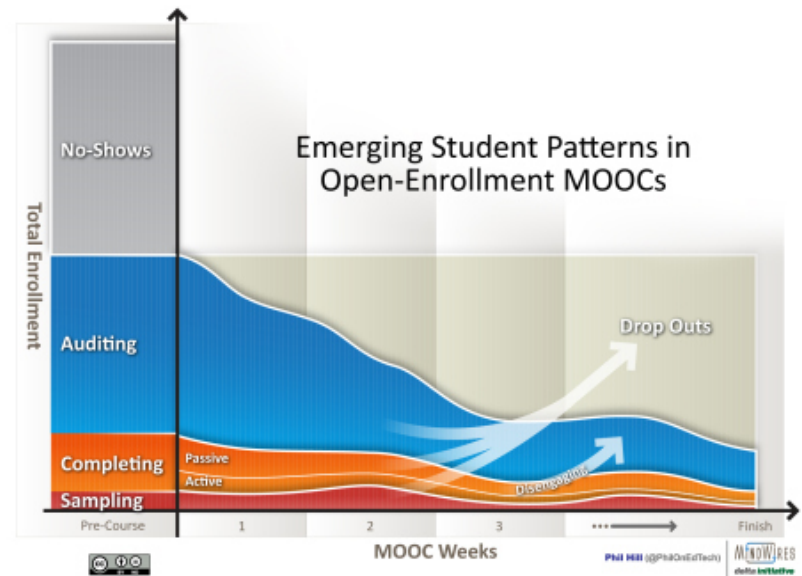
It's true that one thing that characterises the MOOC is the sheer scale of participation



“the total of 1162 students taking the final exam in this one course is more students than I have taught at Wellesley College over the past ten years”

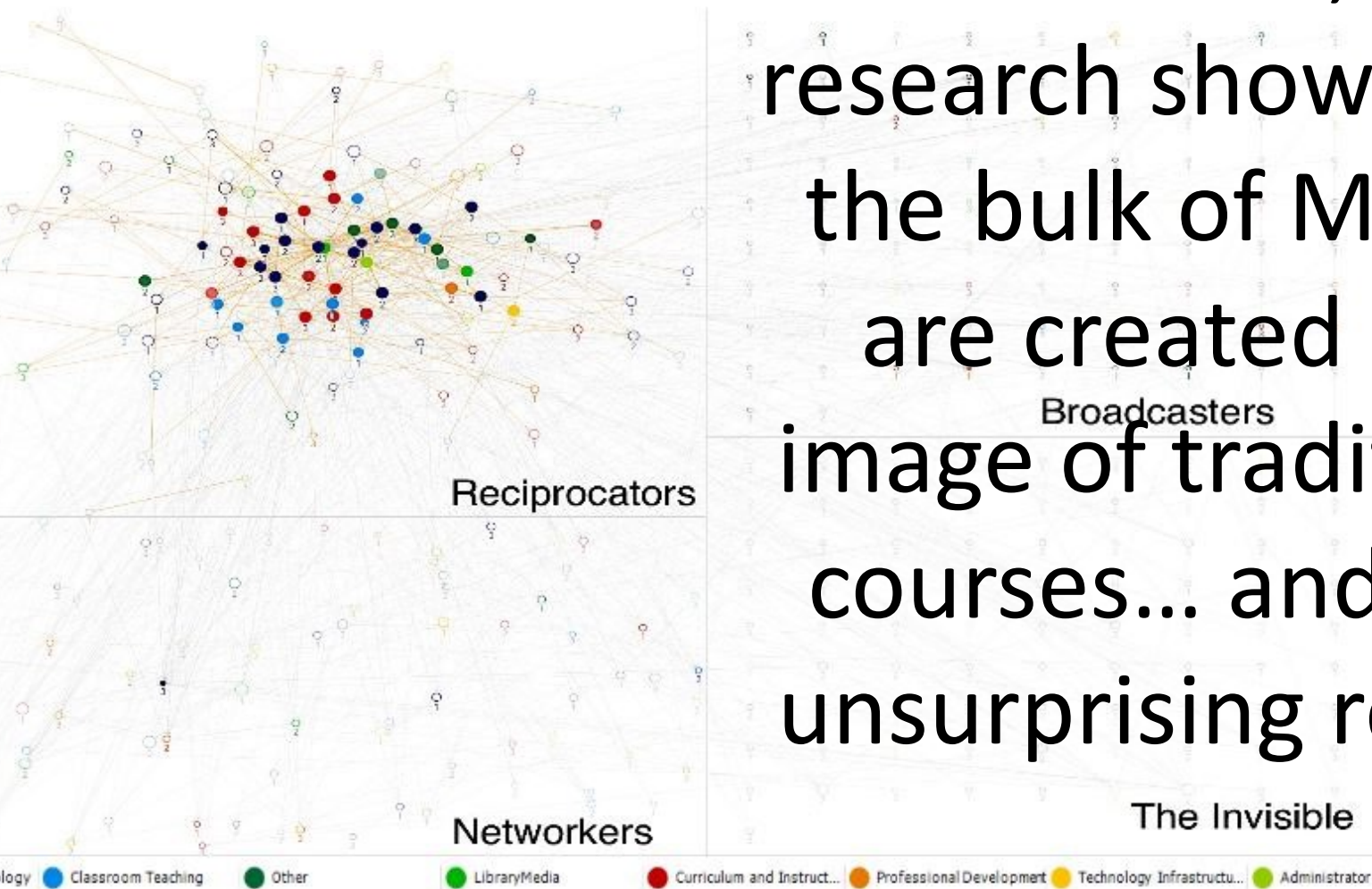
But these numbers do not tell us about the students taking MOOCs

“Did they look at ... any information giving a clue on whether students desired to complete the course, get a good grade, get a certificate, or just sample some material?”



<http://mfeldstein.com/harvard-mit-learn-university-phoenix-analytics/>

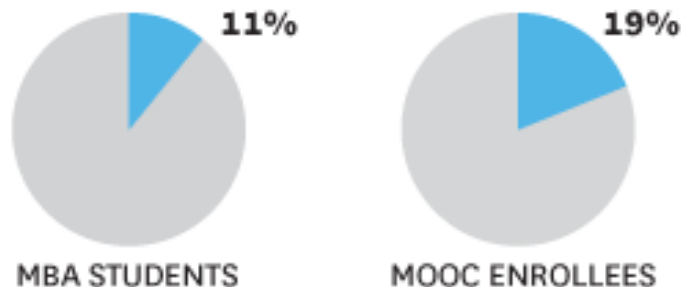
That said, other research shows that the bulk of MOOCs are created in the image of traditional courses... and have unsurprising results



The retrenchment has begun with the assertion that the MOOC will not replace traditional courses

THE DIVERSITY OF MOOCs

UNDERREPRESENTED MINORITIES AS A PERCENTAGE OF AMERICAN STUDENTS



SOURCE DATA FROM WHARTON MOOC ENROLLMENT AND NINE TOP MBA PROGRAMS

HBR.ORG

- It will only supplement them
- But they will diversify them (slightly)

<http://blogs.hbr.org/2014/06/moocs-wont-replace-business-schools-theyll-diversify-them/>

And, of course, traditional education will “absorb” MOOCs

That *institutions* will simply absorb MOOCs doesn't surprise me - they have very different goals and ambitions from the rest of us.



Bellweather Report: http://bellwethereducation.org/policymakers_guide_to_moocs
Teachers' College, Columbia University, Report: http://cbcse.org/wordpress/wp-content/uploads/2014/05/MOOCs_Expectations_and_Reality.pdf

The mission has shifted completely away from MOOCs and into support of the university's prosperity

Richard Levin (Coursera):

“The big picture is this magnifies the reach of universities by two or three orders of magnitude.”



<http://mfeldstein.com/coursera-shifts-focus-impact-learners-reach-universities/>

They want to build
a marketplace
(and worse, they
think it's a new
idea)



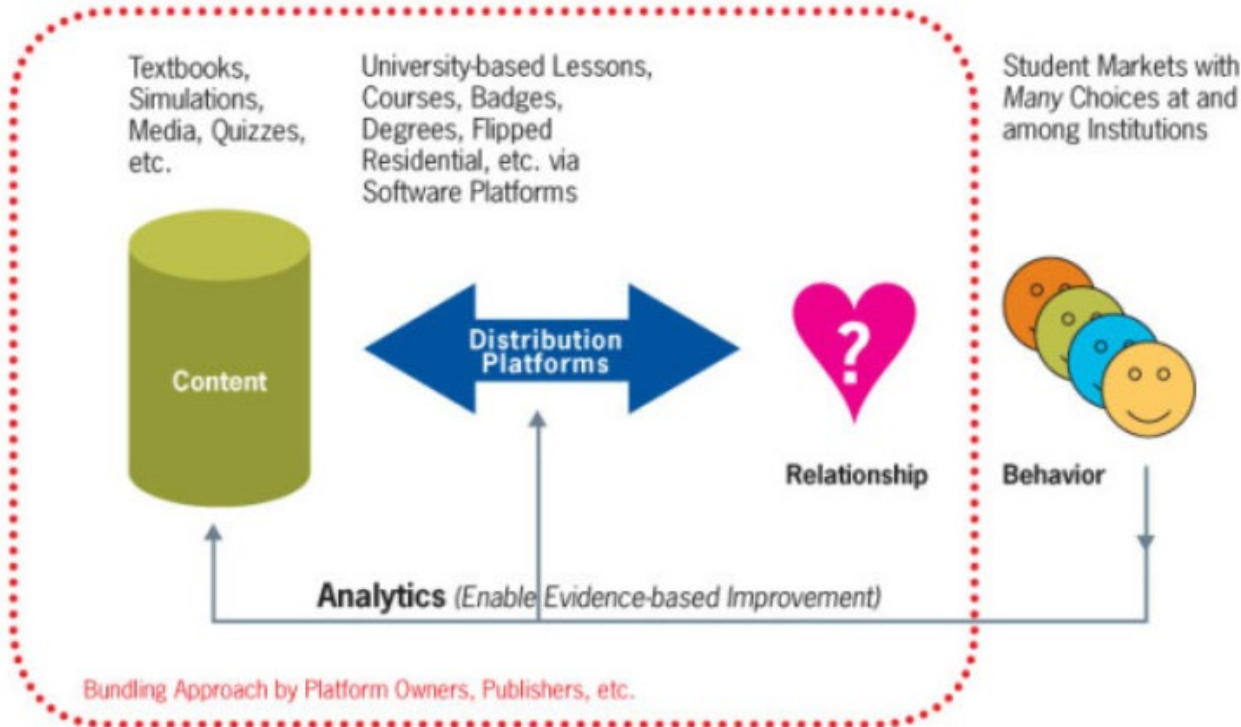
“Brilliance struck.
We call it Canvas
Catalog.”

This of course
is the next
new land rush



<http://openeducationeuropa.eu/en/project/emma-0>

sigh ... Unizin



“...coalition of interdependent universities to provide an LMS, content repository, and learning analytics system.”

<http://mfeldstein.com/unizin-threat-edx/>

Why this is important:
MOOCs are not second
rate and they are not
disappearing of being
absorbed or anything
else.



Yes, they are
'disruptive' –
“their potential
to disrupt — on
price,
technology,
even pedagogy
— in a long-
stagnant
industry is only
just beginning
to be seen.”

<http://www.bostonglobe.com/opinion/2014/05/09/moocs-disruption-only-beginning/S2VIsXpK6rzRx4DMrS4ADM/story.html>

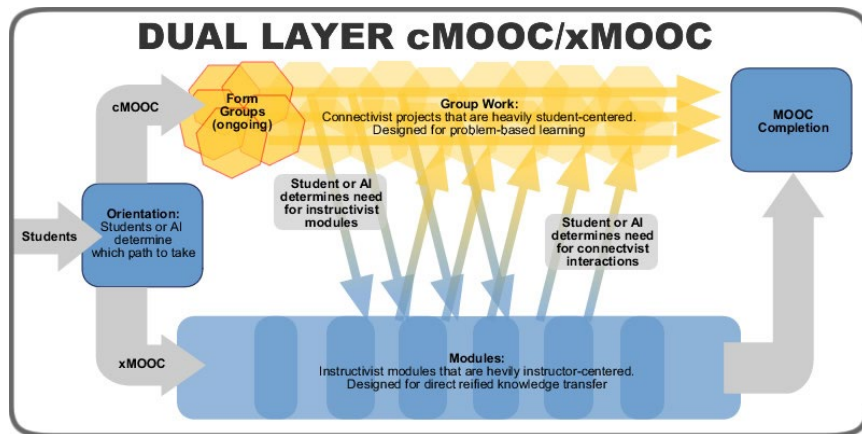
The 'disruptive' in MOOCs is not size or pedagogy or even internet (though all are changed) – it's that they are *free* and *open*

(The one thing universities have struggled with)



The idea of a national networks for free learning is something that can endure, and eventually, become entrenched.

We're beginning to see the importance of this in Matt Crosslin's efforts to design a 'hybrid' MOOC



The idea of 'free and open' is linked to the importance of dialogue and interaction

<http://www.edugeekjournal.com/2014/05/04/designing-a-dual-layer-cmoocxmooc/>
<http://www.edugeekjournal.com/2014/06/07/communal-constructivism-and-dual-layer-moocs/>

But why design a hybrid?

- "Normative communicative actions are those that communicate knowledge based on past experiences...
- "Strategic communicative actions ... where specific reified knowledge is transferred to the learner.
- "Constative communicative actions are debates, arguments, and discourses ...
- "Dramaturgical communicative actions are those that allow for expression..."

<http://www.edugeekjournal.com/2014/05/07/why-design-a-xmooc-cmooc-hybrid-ltca-theory/>

Let's build mesh networks of people instead...

“What could we actually do on limited budgets that might help people and that we can share, for other people to take and run with to solve their own local issues?”



<http://cogdogblog.com/2014/05/08/mesh-networks-of-people/>

Open content + conversations = learning networks

The Aboriginal Enhancement Schools Network (AESN) in British Columbia, Canada, “offers a powerful example of how teacher learning networks can enable deep and transformational change”



<http://ineducation.ca/ineducation/article/view/136>

Image: <http://www.jenniferannaispighin.com/apps/photos/photo?photoid=58051954>

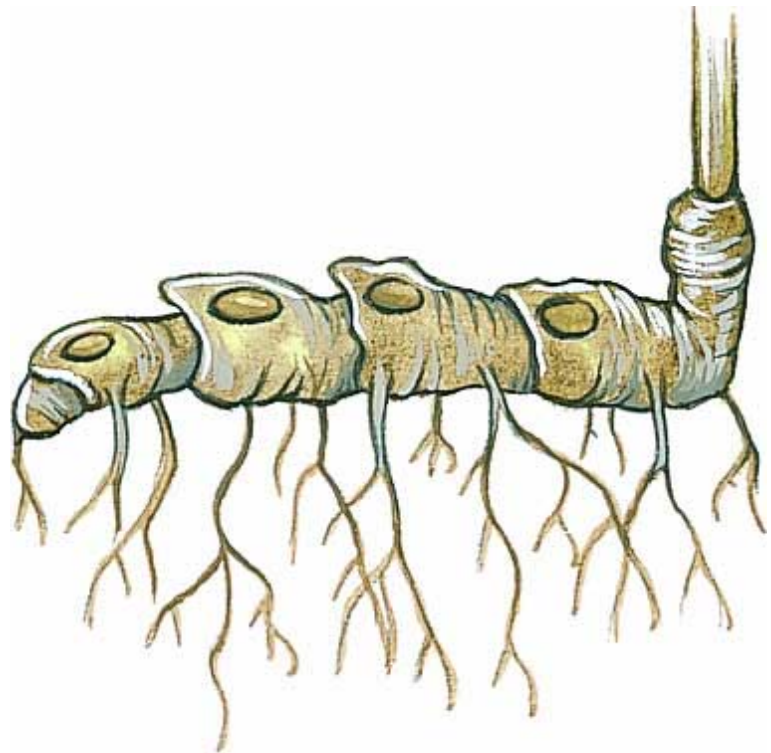


The old idea that
professors tell
students what to
believe is wrong...
and we are learning
more about how
students learn from
each other

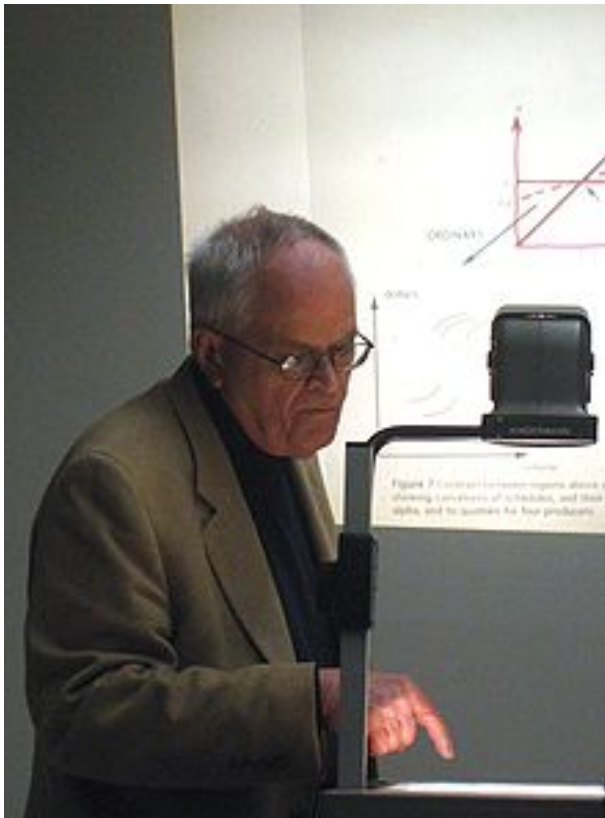
Principles for dynamic networks ...

Deleuze and Guattari (D & G) enumerate 6 approximate characteristics of the rhizome, including:

1. Connections
2. Heterogeneity -
3. Multiplicity
4. Asignifying rupture
- 5 & 6. Cartography



Social networks as seen by Harrison C. White...



"Social life is made up of endless chains and multiple overlapping nets, with no clear boundaries. It is long stings It is only a messy mesh or, rather, mush. Social reality is a terrain, a typology of networks and chains."

The structure of the MOOC is the structure of the network; the principles of the MOOC are the principles of the network



Explanations stem from analyses of patterns of relations... the autonomy of entities in the network, and ... strong and weak ties

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.130.1129&rep=rep1&type=pdf>

Optogenetics, connections and the diversity of the neural network

“There’s no such thing as a generic neuron,” says Anderson, who estimates that there may be up to 10,000 distinct classes of neurons in the brain.



<http://www.technologyreview.com/featuredstory/528226/neurosciences-new-toolbox/>

Far from curriculum, we should be emphasizing diversity, experience and autonomy in learning



<http://www.macleans.ca/society/health/bringing-mindfulness-to-the-school-curriculum/>

The idea of the MOOC is not just the idea of open resources, or even open teaching ... it's about *living* openly

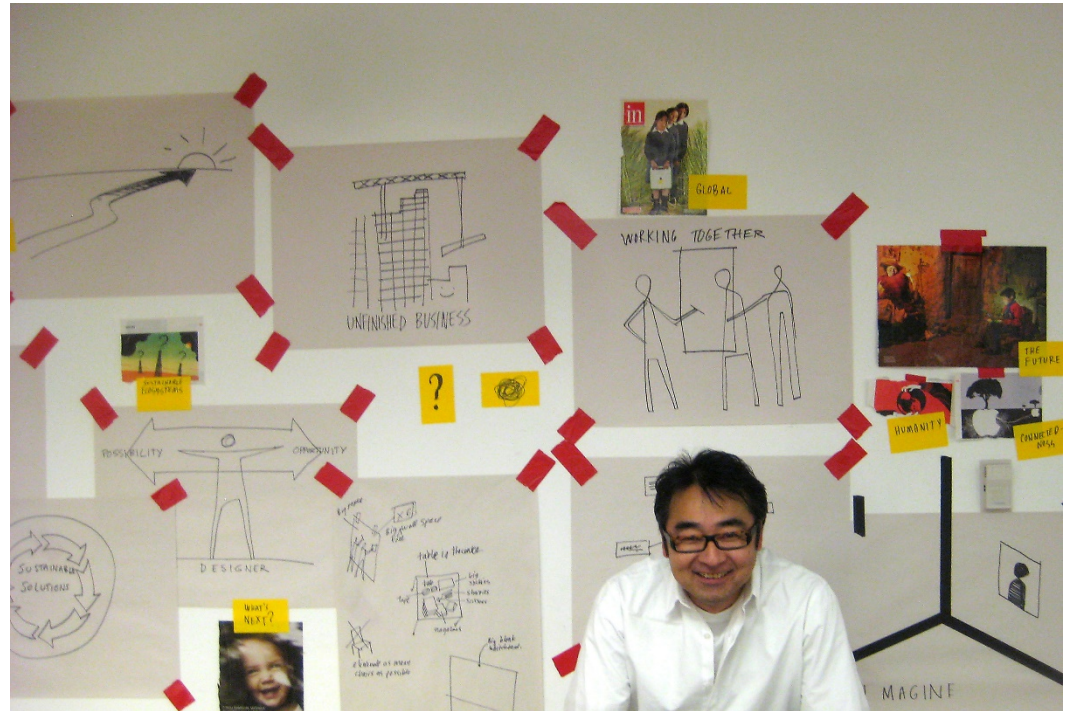
It's not about *teaching* it's about sharing the process of thought and inference and discovery with those around you



<http://mdvfunes.com/2014/05/25/the-psychology-of-open-on-wrestling-your-inner-mooc/>

Sharing with things like...

- BoardThing
- “Create cards with text or images. Move and arrange cards with collaborators on a shared board.”



<http://boardthing.com/>

Things like...

- MOOCopoly, the game

Alan Levine: "I came across a [Monopoly template in Photoshop](#)," he writes, "found within a 2008 blog post by Brad Frost. Yep, a self hosted blog strikes again."



<http://cogdogblog.com/2014/05/03/moocopoly-the-game/>

The future of open is decentralized - that's why it is being opposed

- “As a consequence, though, of this clampdown we are seeing the rise of genuinely distributed networks that circumvent attempts at control - things like [BitTorrent](#), [Bitcoin](#), [DarkMarket](#), and now, [MaidSafe](#), which allows users to share bandwidth and processing power”

That's why internet access is being sold to the highest bidder

- But, of course, it's not just the internet – it's our decentralized and common system of laws and values
- Thus, the US FCC votes to end net neutrality

<https://medium.com/p/7805f8049503>

Image: <http://noarmycanstopanidea.com/everything-you-need-to-know-about-the-end-of-net-neutrality/>



The open content movement is beginning to address open policy

Though I wish it adopted a more enlightened strategy

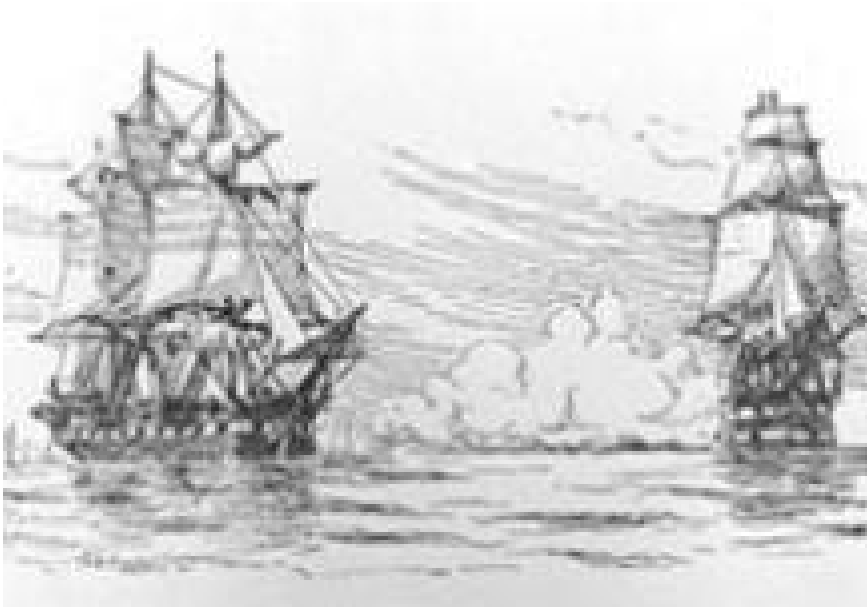


Image by Peter Thoery (CC BY-SA)

<http://openpolicynetwork.org/>

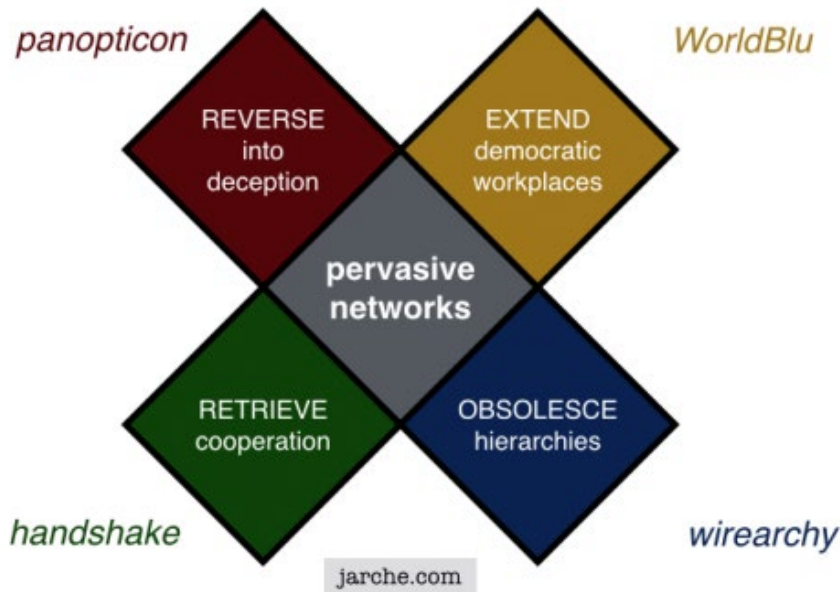
We need to be open, not just in the big things, but also in the little things

- Embargo periods, for example



<https://www.coar-repositories.org/activities/advocacy-leadership/aligning-repository-networks-across-regions/statement-about-embargo-periods/>

tetrad of the network era



Open content,
open access,
open learning...
these are not
only a part of
democracy,

they *define* democracy, and our
system of free and open government
depends upon them



Stephen Downes

<http://www.downes.ca>