



Open Access to Research: Understanding policy, preparing for the future



Professor Leslie Carr EPrints Services and Web Science Institute University of Southampton



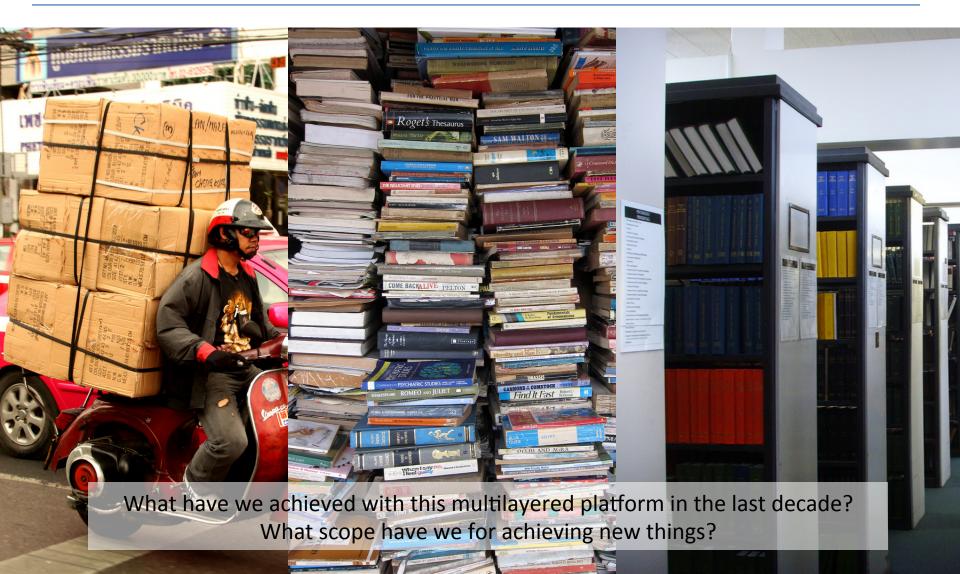


Online Scientific Platforms

Internet (packets)

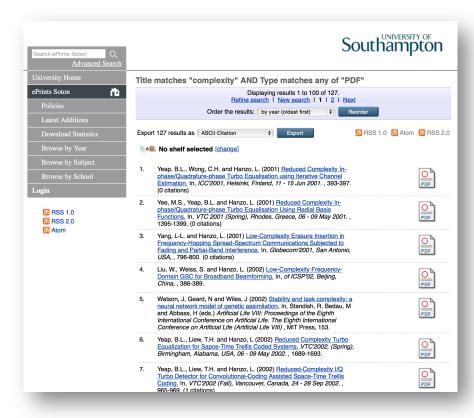
Web (documents)

Repository (persistence)



Repositories

- Systems to support author-provided open access (green OA, self deposit etc)
 - EPrints, OAI-PMH 1999
 - EPrints Services 2004
- Curation, access and long term management of data assets by data providers
- Complement publisherprovided systems

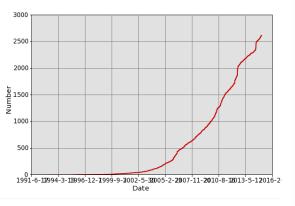


Open Access Repositories & Policies

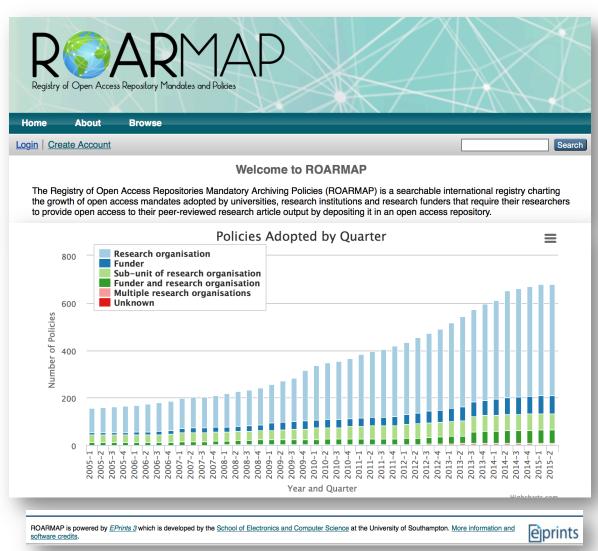


The ROARMAP Open Access Registry: New and Greatly Improved

PASTEUR40A project Alma Swan, Stevan Harnad



Repositories over time: now more than 2,500



Universities & Innovation









England Oxford Cambridge Clasgow

ited Kingdom Union



Beginning of the Web

 Developed at Central European Nuclear Research facility by high energy physicists

 In 1989 the Web established itself in CERN, then international academia, industry and the rest of the world



MailOnline



Home | News | U.S. | Sport | TV&Showbiz | Femail | Health | Science | Money | RightMinds | Coffee Break | Travel

Science Home | Pictures | Gadgets Gifts and Toys Store

Are we all going to die next Wednesday?

Two nightmare scenarios, two ends of the world. In the first, there is little warning. For maybe a month there would be no sign that life was about to come to an abrupt and nasty end for all living things on Earth.

Then, earthquakes would start unexpectedly, alerting geologists that something terrible, unimaginable, was amiss.

After a few days, these seismic disturbances would reach catastrophic proportions.

Cities would be levelled, the oceans would rise and wash in a series of mega-tsunamis that would attack the world's coasts, killing millions.



Is the end of the world nigh? Doom-mongers fear the consequences of scientists replicating the Big Bang

The fact that the earthquakes were striking randomly, not along well-known geological faultlines, would be proof that





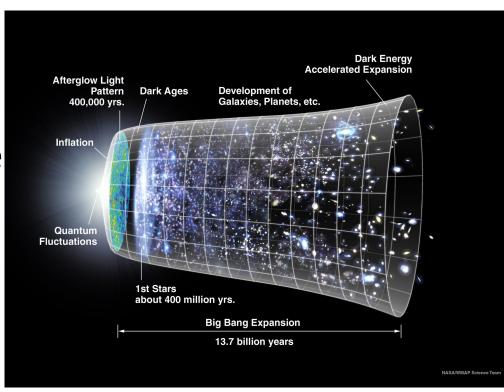
Today's headlines

- Saved from the brink of bison and eagles amon made a remarkable com years
- China lifts ban on Facebo living in a 17 square mile
- Going for gold too? Sar golden Galaxy S4 hand: Apple launched 'champ
- The map that shows when from air pollution (and it's in Asia and Eastern Europ
- Have scientists acciden lightsaber? New form of has only ever been seen
- Scousers have the 'least i trustworthy' accent - while friendliest
- Mystery of the 2,500-yea found in Bulgaria that s were buried standing up
- Retail therapy really DOE shop could be triggered b
- 'Jesus was the first per claims the idea of Twitte because Christ's sermo meaning'
- How that friendly slap on Patting someone on the s likely to help you
- How 3,000 year age of e a simple equation: Scie can predict historical tre
- Hate laundry? World's firs make it a thing of the pas out £850
- The clues found near M that suggest Jews and worshipped together
- How size matters even in Fossils of penis bones sur

Remember These Headlines?

Expansion of the Web

- The Web spread the conditions of its initial creation throughout the whole of society as it underwent an initial inflationary phase.
- The academy has
 - government patronage
 - large-scale co-operation
 - sharing of intellectual property with others

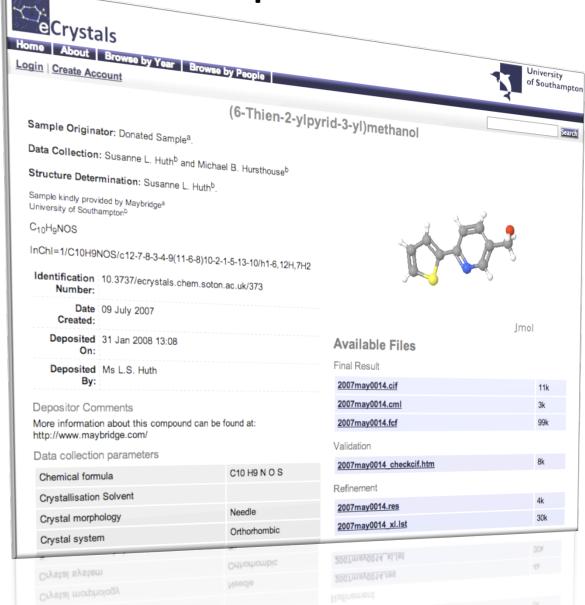


This is not like other areas of society – e.g. media, industry, commerce.

Openness Agendas

- Open Access to Research Outputs
 - Supported by all Research Councils
 - Heavily promoted by JISC
- Open Research Data
 - Move from closed VRE / EScience environment
 - To open (able) data
- Open Educational Resources
 - Move from "Learning Objects" to "Learning Resources" via Open Access practice and methodology
 - Move from closed VLEs to sharing resources
 - All underpinned by active preservation and curation policies and workflows

Open Scientific Data



A repository of chemical data. Scientific, not bibliographic, metadata.

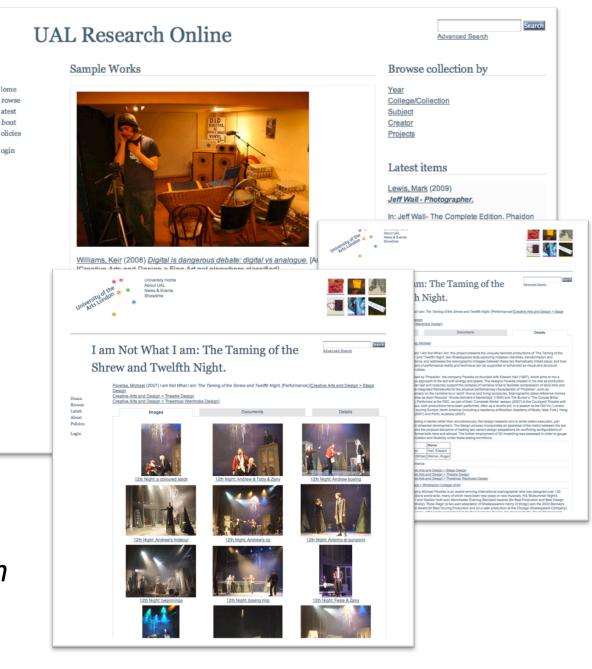
JISC EBank project (2003)

Run by the UK Crystallographic Service and latterly an international consortium.



Open Arts Data

- JISC KULTUR consortium of universities and art colleges
- Capturing
 performance,
 practice, exhibition,
 evidence
 - In a no publication environment



Open Educational Resources

- EdShare
- Applying community openness within the profession...
- and to learners



Beyond OA Agendas: Data Driven Universities

- Open standard datasets describing Universities
 - Organisational profiles opd.data.ac.uk
 - Research outputs, equipment, facilities, places
 - strategies, policies, events, applications, prospectuses



Working with DCC on the UK Research Data Discovery Service project

























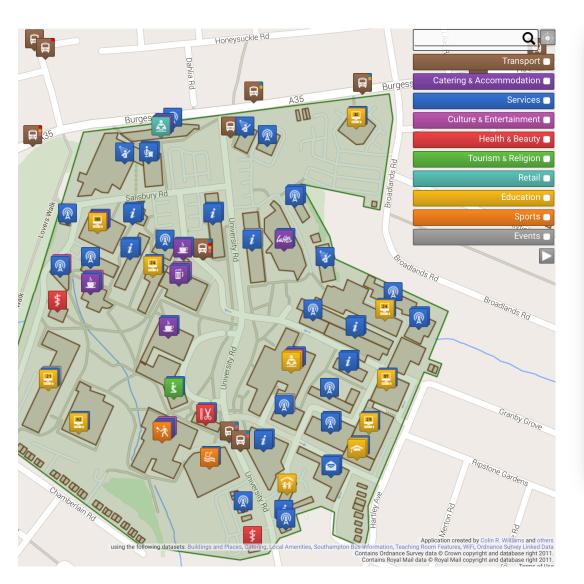








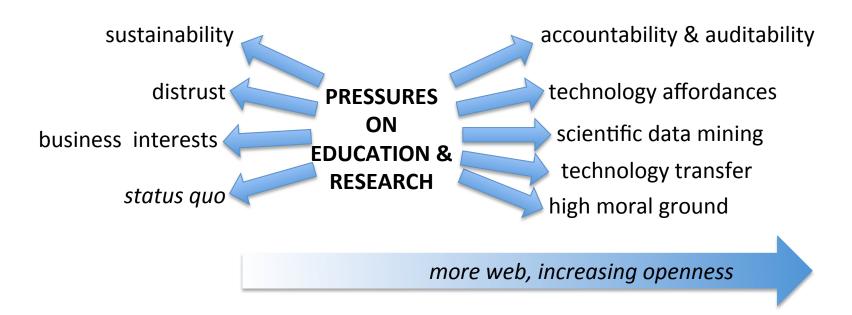
Compliance, transparency



```
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/data.nt>
         a <http://www.w3.org/ns/prov#Entity>;
         <a href="http://www.w3.org/ns/prov#hadPrimarySource">http://data.southampton.ac.uk/dumps/facilities</a>
 <http://data.southampton.ac.uk/dumps/facilities/2015-02-25/data.nt#provenance>
          <http://id.southampton.ac.uk/ns/processIncludedFile> <http://data.southampton.ac.uk/dumps/fa</p>
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.nt>, <http://data.southampton</pre>
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/publish.json>, <http://data.southampt</p>
 <http://data.southampton.ac.uk/dumps/facilities/2015-02-25/to triples> ;
          <http://purl.org/void/provenance/ns/processType> <http://id.southampton.ac.uk/ns/ConvertAndP</pre>
         <http://purl.org/void/provenance/ns/resultingDataset> <http://data.southampton.ac.uk/dumps/f</pre>
         <http://purl.org/void/provenance/ns/sourceDataset> <http://data.southampton.ac.uk/dumps/faci</pre>
         a <a href="http://www.w3.org/void/provenance/ns/ProvenanceEvent">http://www.w3.org/ns/prov#Activity</a> <a href="http://www.w3.org/2006/time#hasBeginning">http://www.w3.org/2006/time#hasBeginning</a> <a href="mailto:">2015-02-25T23:35:01+00:00"^^<a href="mailto:">http://www.w3.org/2006/time#hasBeginning</a> <a href="mailto:">2015-02-25T23:35:01+00:00"^^<a href="mailto:">http://www.w3.org/2006/time#hasBeginning</a> <a href="mailto:">"a was a was a
         <http://www.w3.org/2006/time#hasEnd> "2015-02-25T23:37:08+00:00"^^<http://www.w3.org/2001/XM
<http://www.w3.org/ns/prov#endedAtTime> "2015-02-25T23:37:08+00:00"^^<http://www.w3.org/2001</pre>
         <http://www.w3.org/ns/prov#generated> <http://data.southampton.ac.uk/dumps/facilities/2015-0
<http://www.w3.org/ns/prov#startedAtTime> "2015-02-25T23:35:01+00:00"^^<http://www.w3.org/20</pre>
         <a href="http://www.w3.org/ns/prov#used">http://data.southampton.ac.uk/dumps/facilities/2015-02-25/">http://www.w3.org/ns/prov#used</a> <a href="http://www.w3.org/ns/prov#used">http://data.southampton.ac.uk/dumps/facilities/2015-02-25/</a>
 02-25/facilities.json>, <http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.nt>, <
25/images.private>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/publish.json">, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/publish.json</a>, <a href="https://data.southampton.ac.uk/dumps/facilities/2015-02-25/publish.json</a>, <a href=
<a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/to_triples">http://data.southampton.ac.uk/dumps/facilities/2015-02-25/to_triples</a>
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/download.private>
         a <http://www.w3.org/ns/prov#Entitv> .
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.json>
         a <http://www.w3.org/ns/prov#Entity> .
 <http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.nt>
         a <http://www.w3.org/ns/prov#Entity>;
          <http://www.w3.org/ns/prov#hadPrimarySource> <http://data.southampton.ac.uk/dumps/facilities</pre>
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.nt#provenance>
          <http://id.southampton.ac.uk/ns/processIncludedFile> <http://data.southampton.ac.uk/dumps/fa</pre>
 <http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.json>, <http://data.southa</p>
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private>, <http://data.southam</p>
 <http://data.southampton.ac.uk/dumps/facilities/2015-02-25/sanitise>, <http://data.southampton.a</p>
          <http://purl.org/void/provenance/ns/processType> <http://id.southampton.ac.uk/ns/ConvertAndP</pre>
         <a href="http://purl.org/void/provenance/ns/resultingDataset">http://purl.org/void/provenance/ns/resultingDataset</a> <a href="http://data.southampton.ac.uk/dumps/f">http://data.southampton.ac.uk/dumps/f</a>
         <http://purl.org/void/provenance/ns/sourceDataset> <http://data.southampton.ac.uk/dumps/faci</pre>
         a <http://purl.org/void/provenance/ns/ProvenanceEvent>, <http://www.w3.org/ns/prov#Activity>
          <http://www.w3.org/2006/time#hasBeginning> "2015-02-25T23:35:01+00:00"^^<http://www.w3.org/2</pre>
         <http://www.w3.org/2006/time#hasEnd> "2015-02-25T23:37:08+00:00"^^<http://www.w3.org/2001/XM</pre>
         <http://www.w3.org/ns/prov#endedAtTime> "2015-02-25T23:37:08+00:00"^^<http://www.w3.org/2001</pre>
         <http://www.w3.org/ns/prov#generated> <http://data.southampton.ac.uk/dumps/facilities/2015-0
<http://www.w3.org/ns/prov#startedAtTime> "2015-02-25T23:35:01+00:00"^^<http://www.w3.org/20</pre>
         25/download.private>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.json">25/download.private>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.json">25/download.private>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.json">25/download.private>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.json">25/facilities.json</a>
25/images.nt>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.nt>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.nt>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.private</a>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.private</a>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.private</a>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.private</a>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.private</a>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private">25/images.private</a>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/images.private</a>, <a href="http://data.southampton.ac.uk/dumps/facilities/2015-02-25/i
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/sanitise>, <http://data.southampton.a</p>
<http://data.southampton.ac.uk/dumps/facilities/2015-02-25/facilities.rdf>
         <http://purl.org/dc/terms/conformsTo> <http://purl.org/openorg/opendata-5-star> ;
         <http://purl.org/dc/terms/description> "Facilities and Equipment of the University of Southal
         <http://purl.org/dc/terms/isPartOf> <http://id.southampton.ac.uk/dataset/facilities> ;
         <http://purl.org/dc/terms/license> <http://reference.data.gov.uk/id/open-government-licence>
         <http://purl.org/dc/terms/publisher> <http://id.southampton.ac.uk/> ;
         <http://purl.org/dc/terms/title> "Facilities and Equipment" ;
         <http://purl.org/openorg/corrections> <mailto:facshare@soton.ac.uk> ;
```

Buildings, sensors, energy consumption, buses, canteen menus, allergens

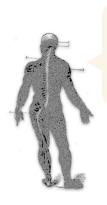
Directions for Academics



- MOOCS, Open Science, Open Data, Open Educational Resources
 - Web Technology joins the High Moral Ground
- vs the established economic model for ensuring continuity of information production
 - trading of privately held information through payment and subscription products such as journals or magazines

Directions for Businesses

The key commercial differentiating advantage of the web: It's porous.



1 NETWORKED

The web is us, dummy.



2 SEAMLESS

No structural barriers.



3 OPEN

Social engagement and consensus. Led by users.



4 COMPELLING

Don't be dull or merely important.



5 PURPOSE BEYOND PROFI

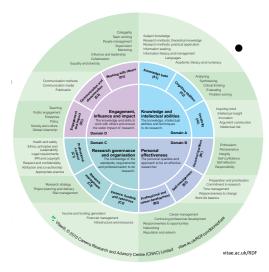
Multidimensional value

The Web helps us to break down external and internal barriers

Graduate Education

- Higher education is more than
 - Acquiring advanced knowledge
 - Acquiring advanced skills





It is also

- Acquiring a leadership position within the digital economy
- By a mentored program of networked industry engagements/relationships

 Don't just write a thesis, form an impressive network and take advantage of it



MOOC

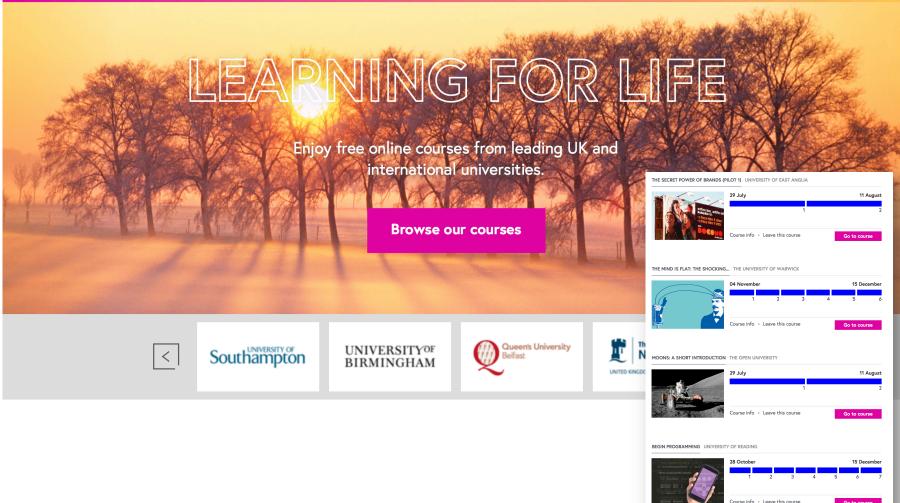


Courses

About

Partners

Sign in



Concluding Remarks

- Maximising openness and the benefits of openness
 - linking grant information in EPrints using funding info from Gateway to Research
 - ORCID pilots for identity management
 - enhancing capacity as data repository
 - linking publications to use of equipment via DCC Research Data Discovery Service
- investment in linking our well managed institutional systems to national discovery infrastructure is important
 - cf recent BIS science and innovation strategy "keeping UK research at the leading edge"
- funders' OA policies confusing/ seemingly conflicting requirements becoming too hard to do the right thing even if you wanted to
- "managing oa" clue is in the phrase it is needing a lot more managing, gold payment processes complex, compliance checks complex – "gold" seems to refer to the costs, not the benefits!

Universities = Knowledge Activities + Knowledgeable People + Praxis

- The Web isn't a thing but an activity
 - the creation of a network of information by a network of individuals.
- The Web wasn't invented by Tim Berners-Lee,
 - it is being invented by all of us as we gradually adapt our tools and change our practice.

The web both shapes and is shaped by society.

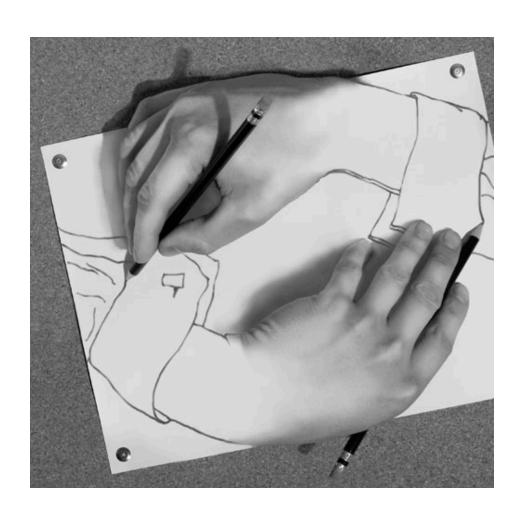
There is a gap between the 'script' proposed by a technology and what it actually becomes in practice.



Mediating New Practice

Not just enforcing historic norms, but stimulating new practice to emerge

- Copyright
- Openness
- Intellectual Property
- Privacy
- Creativity
- Science 2.0



Best Practice from the team

- Bend over backwards to engage and support your academic community -your repository is only as strong as their engagement with it.
 - make the repository provide added value for them (e.g. profile page lists, preservation, usage stats, request a copy),
 - make the barriers to deposit as low as possible (outreach, training, well-staffed support team)
 - make management on how the repository supports reporting and compliance
- Understand the core mission of the repository
 - any increase in system complexity should be in support of that.
- Engage with the wider repository community
 - They're a friendly bunch fighting the same fight.
- If you're fortunate enough to have a techie invested in the project, involve them from the start.
- Identify people in your academic champions and engage with them.
 - They will promote the repository for you.
- If the project team are enthusiastic about what the repository is and does, amazing things can happen.