Moving from ambition to reality

An account of the Knowledge Exchange workshop on Open Scholarship, Paris 2017, and a menu for possible actions for 2018 and beyond

Report dated February 2018
The workshop looked to develop the Knowledge Exchange approach to Open Scholarship focussing on:

- The economy of Open Scholarship
- Output and evaluation from the researcher’s perspective

Event held in Paris September 2017

This is primarily a working document, a workshop report and menu for action.

It has been collated from the contributions of many. Thanks are due to those who contributed their time and expertise to the event: those who presented, spoke, chaired, facilitated and, crucially, took notes during the plenary and breakout sessions and the workshop organisers who ensured the event was run professionally and smoothly.

Thanks also to the Centre National de la Recherche Scientifique (CNRS) in Paris for providing the venue for the event.

In particular to all those who made their contributions available to the author and the tweeters and collaters who made it possible to bring together a diverse and varied collection of opinions and recollections.

Any misreporting and mistakes are the responsibility of the author.
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This is an account of the workshop, held in Paris in September 2017, which brought together key figures to discuss a detailed report, analysis and proposals from the Knowledge Exchange Open Scholarship Advisory Group (KEOSAG) for the Knowledge Exchange Approach to Open Scholarship. The report and the workshop both focused on the themes of The Economy of Open Scholarship and Output and Evaluation from the Researcher’s Perspective.

This account attempts to summarise and reflect on the key points as represented in discussion at the workshop. It hopes to portray the consensus where it was obvious and to present a menu of suggested actions, some of which Knowledge Exchange (KE) may take forward and some of which might be considered by partners, universities, funders and other research bodies, nationally and internationally.

The workshop was valuable in many ways, not least in bringing together leading actors and thinkers in the field and showing how much commonality existed between the two breakout streams: researcher’s perspective and economic analysis. Key points raised by participants at the workshop included:

- Open Scholarship is a key component of research integrity; it should not be regarded as an alternative but as integral to good scholarship, allowing, of course, for privacy and confidentiality considerations to be respected.

- Open Scholarship can be a more useful narrative than merely talking about access. Instead the entire research process should accept the challenge to become more open: encouraging replication and reproducibility; data collection, sharing and preservation; setting the research agenda; sharing methodologies; fairer and transparent research(er) evaluation and transparent peer review.

- Academia needs to do its own collaborative work to overcome social and political barriers to organise, share and protect its assets for the good of research and all research users.

- It also needs to engage positively with commercial players from a position of confidence, to protect the value and the future of the assets that are created in academic institutions.
There are positive signs in many areas, national and international initiatives which are exemplary and/or promising, but we need to face the real threats with our own positive actions, not bemoan our powerlessness and lean on caricatures of other players

Work needs to be done to align the real and perceived incentives and motivations for individuals and institutions (micro and meso) with the public good (macro)

Early career researchers can benefit from engaging vigorously with Open Scholarship practice. There are few risks and many potential benefits

The “KE OS model”, a 3D visual representation of the KEOSAG framework for understanding Open Scholarship, is a useful aid for discussion, particularly to clarify issues where language can be ambiguous and perspectives and perceptions differ

Fear is holding back both development and participation, it can be mediated by more practical involvement with academics, particularly early career researchers, on the ground. Perhaps the time has come to move on from papers (like this one!) to participative activities, workshops, awareness raising and incentive building

The main purpose of this account is to provide as concise as possible a working menu for further action, a number of possible activities which may be undertaken by KE, its partners, collaborators and others. In each strand this includes possible case studies and possible joint and solo actions to push forward progress towards pervasive Open Scholarship. It also poses key questions in the hope that this will help KE, its partners and other key bodies to identify and attempt to remove key obstacles along the way. Finally, comments, where they are made, come directly from the workshop activities.

KE prefers the term Open Scholarship as it includes all disciplines. The term Open Science was used by several speakers and has been retained in the accounts for reporting accuracy.
Knowledge Exchange is a collaboration between six national organisations, DFG – the German Research Foundation, Jisc – the membership organisation providing digital solutions for UK education and research, DEFF – Denmark’s Electronic Research Library, SURF – the ICT organisation for Dutch higher education research, CSC – the IT Centre for Science in Finland and CNRS – the Centre National de la Recherche Scientifique, in France.

These six key national bodies within Europe are working together to support the use and development of ICT infrastructure for higher education and research. Although the organisations are very different in the size and scope of their work, each has a national responsibility and influence on national policy, operates at the cutting edge level of IT development and can mobilise resources that can make a difference. Each organisation is active in Open Scholarship and supports open access to research and learning. Knowledge Exchange (KE) activities have had positive outcomes allowing partner organisations and their national policy makers to be better informed, share expertise and resources and push forward the necessary technologies to allow us to realise our shared agendas in developing and improving education and research. Knowledge Exchange activities will continue to be led and guided by experts in the partner organisations. Knowledge Exchange has built strong links in the area of research data and infrastructure with Science Europe, RDA, CNI, and EUDAT; while, in the area of Open Access, KE is similarly connected with SPARC Europe, the European Research Council and OpenAIRE. More on the Knowledge Exchange mission and vision can be found in Appendix 4.

The Pathways to Open Scholarship\(^1\) meeting and report\(^1\) in 2015/16 set the agenda for future work and the KE Open Scholarship Advisory Group (KEOSAG) has subsequently driven this forward, culminating in the Knowledge Exchange Approach to Open Scholarship\(^2\) (pdf, also at <DOI: 10.5281/zenodo.826643>) on which this workshop was based. That report\(^2\) should be read by anyone wishing to further investigate and debate the content and implications of the workshop and this account of it.

Footnotes
1 knowledge-exchange.info/news/articles/15-10-2015
2 https://repository.jisc.ac.uk/6685/1/KE_APPROACH_TOWARDS_OPEN_SCHOLARSHIP_AUG_2017.pdf
The KE OS framework was developed during this work by KEOSAG. The framework maps across three dimensions, the first being the level of granularity (scale), illustrated in figure 1.

Figure 1. The differing levels of granularity for analysis of research objects, actors and processes

<table>
<thead>
<tr>
<th>Scale</th>
<th>Actors</th>
<th>Objects</th>
<th>Motivations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macro</td>
<td>Population</td>
<td>“The literature”</td>
<td>Policy</td>
</tr>
<tr>
<td>Meso</td>
<td>Communities/organisations</td>
<td>Journal, publisher, repository</td>
<td>Culture</td>
</tr>
<tr>
<td>Micro</td>
<td>Individuals</td>
<td>Single article/ single dataset</td>
<td>Incentives</td>
</tr>
</tbody>
</table>

The second dimension is the phase of the research (Discovery, Planning, Project, Dissemination). The third dimension is the arena (Political, Economic, Social, Technological). Appendix 1 shows a number of recent pieces of KE work mapped against these two dimensions in a first draft of the KE OS Framework.

So the KE OS framework gives us 3 levels of scale, 4 phases and 4 arenas, a 3x4x4 categorisation allowing us 48 “places” to characterise or categorise activities, discussion topics, proposals and more.

The KE OS model materialises this framework in a visual representation as shown opposite (Figure 2), and the opportunity to expose, explode and explore the model in a number of ways, for example to examine the levels of scale separately (Figure 3).
We also have the opportunity to examine, for example, a particular arena on its own (Figure 4). The model was used extensively during the workshop sessions to aid discussion and identification of topics and issues (Figure 5).

The presenters and invited participants (see Appendix 3 for a full list of participants) were able to refer to and use the model. The participants, invited for their expertise and experience, ranged from policy makers to information professionals, active researchers to specialist support staff. There was a high level of active participation in the workshop activities and Knowledge Exchange was pleased to welcome such an expert, diverse and creative group to take forward and contribute to its work.
4. Presentations and issues arising

4.1 Introducing the KEOSAG report

Cameron Neylon, Editor of the KEOSAG report upon which this workshop was based, introduced and highlighted key parts of the document. He presented the KE OS framework and model based on the analysis in the report and gave examples of how the 48 intersections could be used to help discuss, analyse and locate issues, projects, tasks, areas of work and proposals.

Entire “slices” of the model can be examined to look at relationships between components of that slice. Discussion of where issues fit in the framework can clarify different views of the issues themselves.

“Across all these pieces of work the concrete proposals show a strong parallel. There is a gap in work that addresses the high level issues – theory, models and deep understanding of the broad research enterprise as a system – and there is a gap in work that looks beyond single case studies and interventions to try and build understanding from the bottom up. These two strands need to be coordinated, and KE can play a role beyond commissioning work to act as a coordinator and aggregator.”

Footnotes
4.2 Introducing the Researcher’s Perspective strand

Wilma van Wezenbeek, Director of the TU Delft Library and lead author of the Dutch National Plan for Open Science, discussed the individual researcher’s perspective and placed it into the context of the much wider picture of the advancement of scholarship. She pointed out that access to knowledge and the right to share in scientific advancement and its benefits is part of the Universal Declaration of Human Rights and that researcher’s enthusiasm for sharing their work chimes well with calls to action across the EC asking each member to produce a national plan for Open Science/Scholarship. She is optimistic that researchers and their institutions are coming together to support more widespread sharing. For the field in general, sharing enhances efficiency, accelerates innovation and builds the knowledge base. For the individual, it enhances visibility, integrity and transparency.

Researcher recognition and evaluation is a key issue. Organisations have a responsibility to use multiple factors, recognising that indicators merely indicate and should not be used as a sole or even main element of judgement. Colleagues’ and collaborators’ evaluations, the researcher’s interactions with other people and organisations and the quality of their communication are all important. We also need to recognise that there are now many kinds of output, many ways to contribute: data creation, stewardship and management; creation and maintenance of lab journals and archiving models; advancing the techniques and technologies in a particular area so that others can make progress and sharing both failures and successes in equal measure. Now that research is increasingly a team effort it is important to recognise each member of a team appropriately and highlight those behind the scenes contributions.

For these reasons, the Dutch National Plan has three parallel aims:

- To achieve full Open Access to publications by 2020
- To make research data optimally suited for reuse
- Recognition of and rewards for researchers

Wilma emphasises that it is not enough to tell researchers what they should be doing, we need to support and excite researchers too. The potential for Open Scholarship to do this is illustrated by TU Delft Library’s Research Intelligence Toolbox, which aims to help the researcher locate their own research within the subject community, scan and examine most relevant and recent trends and developments and also benefit from Data Science tools. Built on the outputs of project AIDA4 (Automatic Identification of Research Trends) the toolbox catchphrase is behave like a researcher. It combines data collection, analysis and visualisation with the ability to communicate results. It enables visualisation of the development of topics over time and helps answer questions such as:

- To what extent is the institute research outcome in agreement with the institute research policy?
- Where do I quickly and easily find opportunities for publishing Open Access in my research discipline?
- How can I show the funder my societal engagement?

Wilma suggests that this approach might be used for analysis and visualisation of the data collected in the KE case studies and surveys that will be undertaken by KE working groups. An example of the visualisation is shown on the next page.

Footnotes

4 http://aida.tudelft.nl/toolbox
Figure 7. Example of Analysis and Visualisation of Open Access Zone in a particular academic community (Microbiology of wastewater resource recovery).
4.3 Introducing the Economy of Open Scholarship strand

Magchiel Bijsterbosch drew attention to the need, expressed in the KEOSAG report, to avoid caricatures which mask important questions. Why does academia seem unable to translate undoubted flair for creative innovation into sustainable and appealing services for researchers? Why do we not have the trust and collaboration mechanisms to protect public assets and interests and to negotiate in a sensible way with commercial players? What are the social and political factors which are holding us back? In the Netherlands, as in other places, academic research information systems started as collaborative, essentially “home-made” efforts widely adopted across the country. But as the technologies developed and matured, the move to commercial providers fractured the collaboration. Socio-political factors, rather than technological, damaged interoperability both with local repositories and with other competitor products. The CRIS is an important strategic system for universities and publishers. But of course each “side” of the relationship sees it differently. For universities it is an opportunity to pull together research inputs and outputs, to illuminate and locate research projects and researchers in the institution and wider landscape. For publishers it is a delivery channel for (paid-for) databases and bibliographic services, a quality control check for existing data and a source of new data and also a way to gain insight into future market opportunities. If academia and publishers were truly able to work together and recognise and accommodate these differing perspectives, we might be able to move away from the caricatures.

Magchiel believes that underlying these inadequacies is a conflict between, on the one hand, incentives and motivation at the micro and meso level and on the other hand the macro level or in ordinary language “the public good”. It is the responsibility of KE’s partner organisations to ask the question “is it serving the public good?” It’s possible to answer “yes” for commercial, collaborative, public or individual initiatives and services but only if this criterion is clearly stated on behalf of academia.

The FAIR Data Principles propose that all scholarly output should be:

- Findable
- Accessible
- Interoperable
- Reusable

To make this come about, change needs to happen. Commercial players need to recognise that it is in their future interest to integrate FAIR into their services and products. Academics need to transform traditional attitudes to sharing and assessment. Institutions need to come together to recognise and reward Open Scholarship and act together to protect wider scholarship assets while competing in other ways.

One development which illustrates some of the difficult economic decisions we face is the rapid growth in data production. Shrinking budgets and exploding production of data mean that, in spite of any benefits from cheaper data storage costs, it will be (is now) necessary to be selective ie to throw away data. These decisions will be familiar to cultural custodians/historians but unfamiliar and unwelcome to technologists and data archivists. Often these initial decisions will be taken at a micro level but the impact will be felt at the meso and macro level and eventually decisions/guidance/policies will emerge from the political arena at the meso and macro level.
KE and its partners can play a part in:

> Highlighting scholarship’s role in generating public value
> Protecting and asserting scholarship’s core assets
> Bringing together the private and public sector players to recognise their mutual interest in successful future strategies

Policy should recognise the dynamism of the sector and not aim for certainty but for process and movement towards shifting goals. It should incentivise collaboration at the individual and institutional level; and express, protect and invest in the public good at the macro level.

The European Open Science Cloud Declaration[^5] is a good start.

4.4 Open Scholarship is just about doing research properly

Jon Tennant[^6] addressed the key question raised in both the previous presentations – What are key factors affecting (and effecting) change in motivation amongst individual researchers? Jon presents a particularly powerful and relevant case to researchers as he speaks as a fellow early career researcher who has embraced and fully engaged with the issues raised by Open Scholarship.

On the meso and macro front, the very recent news of significant legal battles is a visible manifestation of a lack of communication between different stakeholder groups and a language problem to which other speakers had already alluded. We end up talking past each other, instead of working together to find solutions. Divisive:

![Figure 8. How language is perceived and used – “Open”](image)

Jon believes that the term Open Science and the ‘movement’ it implies can be off-putting. The debates about brands of Open are seen as boring and irrelevant to researchers, despite them often being the target audience. If Open is inclusive why do a lot of researchers not know or recognise the terms even if they may be doing it? His thesis is that all good scholarship should be open – it should be an essential part of accepted standards of research integrity, not part of the avant-garde. Echoing the previous presentations’ emphasis that Open Data must be about more than disclosure – it must be FAIR – he recognises that just providing access will not be enough … and notes that Leslie Chan, prominent and long time Open Access proponent, in a recent interview[^7] regrets that his advocacy efforts have not gone as hoped.

Footnotes

[^6]: Presentation: [https://figshare.com/articles/Open_Science_-_A_junior_researchers_perspective_pptx/5450464](https://figshare.com/articles/Open_Science_-_A_junior_researchers_perspective_pptx/5450464)
[^7]: [https://ocsdnet.org/confessions-of-an-open-access-advocate-leslie-chan/](https://ocsdnet.org/confessions-of-an-open-access-advocate-leslie-chan/)
fact, he worries that the Open Access movement may have had the opposite intended effect – instead of democratizing and enabling knowledge to be used by wider publics for local development, in his eyes, the movement appears to have been co-opted by the same publishers that have held a monopoly over global scholarly outputs, further entrenching their power and control over academic knowledge production.

Jon addresses his junior research colleagues directly saying that very few of them (3.5%) will end up as permanent research staff and even fewer (0.45%) as professors: The major issue he describes is that we have an academic system where progression is defined by adherence to a publication-based prestige economy dictated by commercial values.

So although there may be pressures from academia to behave conventionally, are the incentives really there for ‘open’ practices? He points to evidence such as How open science helps researchers succeed9 and The Open Access Citation Advantage Service10 as well as his own experience as an early career researcher to demonstrate that Open Science enhances your career and Being unconventional can help you succeed. In fact, the very principles of open science, such as fairness, equality, transparency, and rigour, are embedded in the very core of high quality research, and Jon encourages his fellow researchers to become politically active in fighting to protect these principles. He acknowledges that the changes happening now and in the future to scholarship practice are complex, have many facets, participants and implications and will have unexpected consequences. But when he poses the question: Why the resistance to change? the most pervasive and persuasive answer is fear, often grounded in historical myths, abuse of power dynamics, and misinformation. This led us very clearly to the final keynote presentation.

4.5 Innovations in Scholarly Communication

Bianca Kramer and Jeroen Bosman11 gave a detailed overview of the complexity of the environment in which Open Scholarship is developing: the issues and schools of thought on Open Scholarship, the opportunities and challenges presented by technical developments and the changes those challenges demand in terms of standards, research governance, academic and business practice and economic and legal structures and assumptions.

The ship is on its way they say, but progress through the water is chaotic and messy.

The elements of their model chime well with the KE OS framework and can be fitted in to that structure. For each of the stages in the research workflow they look at tools which were innovative at the time of their launch. They note that as the area has developed so many of the more successful tools have been incorporated into research suites, owned or controlled by large commercial players such as Elsevier and Holtzbrinck.

They also offer an analysis of such “suites” available by funder, private and public, national and international, and the F1000 Open Access suite. For all of these suites they echo previous speakers by asking Is Open enough? How do we know that these offerings will remain open and sustainable? What are the revenue and ownership models behind them and who controls them?

These questions also have to be asked of their hypothetical Open Science workflow suite. (Figure 9).

For many, Open has just meant accessible or available. But Open Scholarship means and requires more than that, as laid out in the Vienna Principles12 and in the
13 principles of the Scholarly Commons which state that:

- Research and knowledge should be freely available to all who wish to use or reuse it (open, FAIR and citable)
- Participation in the production and use of knowledge should be open to all who wish to participate
- There should be no systemic barriers and disincentives to prevent either such free use or open participation

They finished their presentation with an exercise looking at the opinions and perceptions of the workshop attendees, an exercise whose results were thought provoking and visually striking.

Footnotes
8 See page 14 of the Royal Society paper The Scientific Century (https://royalsociety.org/~/media/Royal_Society_Content/policy/publications/2010/4294970126.pdf), where analysis based on data from the UK (HEFCE, the Research Base Funders Forum and HESA) shows that after PhDs, 53% of graduates go immediately to careers outside science with 17% going immediately to non-university research, a further 26.5% follow their colleagues out after some early career academic research.
9 https://elifesciences.org/articles/16800
10 https://sparceurope.org/what-we-do/open-access/sparc-europe-open-access-resources/open-access-citation-advantage-service-oaca/oaca-list/
11 Presentation available here: https://figshare.com/articles/_/5627503
12 http://viennapriniples.org
13 https://osf.io/6c2xt
On a two axis chart mapping interoperability and openness of research they lay out criteria for judgement:

**Figure 10. Judgement criteria on interoperability and open axes**

- **High implementation of open research practices**
  - Consolidation of hybrid OA journal system
  - Research objects badly linked, provenance problems
  - Successful data storage service at legacy publishers
  - Effective but non-interoperable publisher silos
  - Limited use of open standards

- **Low interoperability of tools & platforms**
  - Mainstream of content remains paywalled
  - Strong focus on non-granular status metrics
  - Peer review remains publisher-based & closed
  - Low compliance with technical standards
  - Publication focused on version of record

- **High interoperability of tools & platforms**
  - Sharing system optimised for communication •
  - High need for compliance w/ (open) standards and IDs •
  - Disseminated form is determined by needs of research •
  - Broad acceptance of granular review / curation •
  - High level of control for individual researchers •
  - Publication as process •

- **Low implementation of open research practices**
  - Many publications in repositories carry embargoes •
  - Open tools underused •
  - Publisher ecosystems (w/ internal interoperability) •
  - Publishers create cooperative walled systems •
  - (e.g. SHARE / Copyright clearance centre / howtoshareit)

Then they distributed coloured sticky dots for the expert audience to judge (first individually, for themselves, and then collated on a communal canvas) where we are now, where we expect to be in ten years, where would we like to be in ten years and what we fear might happen.
4. Presentations and issues arising

Moving from ambition to reality

There is a broad consensus about where we are and where we would like to be, with a timeline of progress going more or less towards both openness and interoperability. There is less agreement on where we will be in ten years’ time. Most strikingly, the group’s fear is widely distributed across three quadrants. Some fear a move towards interoperability at the expense of open research practices, possibly in the scenario that a small group of very large competing multinational entities will see interoperability as a necessity along the path to benefitting shareholders and silencing the open lobby. Others fear a move to open at the expense of interoperability, possibly as mandates and policies become increasingly the creatures of control and stifle standards development, implementation and collaboration.

Fear is a factor which has played in many of the presentations, the criteria laid down by Bianca and Jeroen in Figure 10 should help inform KE of steps that need to be taken to prevent these two possible “nightmare” scenarios coming to pass.
5. Feedback from the workshop, suggestions for action

In their report, KEOSAG recommends that Knowledge Exchange develops three strands of work, focusing on strategic interventions where the strengths of KE in terms of knowledge and community are greatest. These are:

1. Supporting the refinement and development of the Knowledge Exchange Open Scholarship framework as a model for describing, monitoring and implementing work on Open Scholarship

2. Supporting, encouraging and coordinating work that develops a substantially more sophisticated view of the economy of Open Scholarship by supporting the work of other funders on theoretical developments and building case studies. Sharing experiences and data on the development and sustainability of KE services and infrastructures

3. Building a rich body of information on the experiences of researchers in evaluation. Use existing KE contacts with researchers, communities, organisations and evaluators to develop a deeper understanding of what kind of evaluation is taking place, by whom, for what purpose, and what effect this has on the behaviour of individuals and the culture of communities

Below, the questions posed by the workshop participants and the tasks and case studies suggested are pulled together under the three strand headings, together with the relevant comments and issues raised during the workshop. A cross-cutting strand is also included for actions which clearly bridge across different strands.

5.1 Strand 1 – the Knowledge Exchange model of Open Scholarship

“We have no good theory or decision models to understand what should be controlled by the community and what should be left to a market.”

5.1.1 Suggested case study
Test the KE OS model by attempting to locate issues and answer key questions raised by the workshop eg What are the trade-offs between market and community provision and what arrangements will allow the best results of interactions between all the players in the ecosystem?

5.1.2 Possible tasks
1. Refine, disseminate and promote the KE Open Scholarship model

2. Use the model to map the present:
   › Map the economic actors in Open Scholarship, Understand their roles and differences. What contexts (eg discipline, geography) make a difference?
   › Map and understand enabling services and infrastructures
   › Map and understand the roles of public/private and regulation/market

3. Use the model to map the possible:
   › Map possible new basis for stakeholders’ (especially researcher’s) economic motivation
   › Map funding models and systems better suited to Open Scholarship
   › Map new models for governance and regulation within which the above can take place
5. Feedback from the workshop, suggestions for action

5.1.3 Comments
Use the KE OS model to point to videos, examples and case studies of Open Scholarship at that particular intersection.

5.1.4 Questions for these activities to answer
Will the framework be useful outside of KE – if yes then how does it get disseminated and adopted a) amongst KE partners b) further afield?

Do we need to align to one of the five schools of Open Scholarship? Many researchers do not care about Open Scholarship itself but just want to disseminate their work as widely as possible. Can we move beyond the confusion and sectarianism associated with Open Access which has alienated some (many?) researchers?

5.2 Strand 2 – output and evaluation from the researcher’s perspective

5.2.1 Suggested case studies
1. Explore the impact of interventions based on (changing/new) indicators

2. A bottom up investigation of what evaluation is actually being used for and how this affects researcher’s actions

3. A bottom up investigation of what indicators are actually being used for and how this affects researcher’s actions

4. Collect user stories illustrating how openness is key to underpinning sustainable reproducibility and why reproducibility should be part of evaluation

5. Collect individual use cases at a micro level of “alternative” uses of assessment to drive Open Scholarship

6. Collect best practice examples of evaluation which mitigates the risk of unintended side effect, gaming and perverse incentives

7. Collect examples of evaluation criteria which make Open Scholarship integral to research integrity (see: The European Code of Conduct for Research Integrity\(^\text{14}\))

8. A comparative study of the use of preprints (aka working papers) and overlay journals in different disciplines and an accurate and readable summary of how preprint publishing may become easier and fully integrated into the research workflow. The notes from the break out group included many links and pointers, which could be the starting point for this work

5.2.2 Possible tasks
Knowledge Exchange can directly support work that engages with researchers on how they perceive and respond to evaluation systems and it can coordinate similar work supported by others.

Develop a deeper understanding of what evaluation is taking place, by whom, for what purpose, and what effect this has on the behaviour of individuals and the culture of communities.

5.2.3 Comments
It’s important to recognise wider contributions – Who wrote the code? Who curated the data? Who ran the equipment?

An old and unsuitable framework, designed for traditional publications, threatens proper citation and recognition for research data. Things we need to cite are changing, some are dynamic and impossible to pin down with a traditional citation.

Footnotes
Reproducibility is a key concern and should be a factor in evaluation\textsuperscript{15}.

A researcher’s contribution to developing Open Scholarship in their field should be recognised.

Institutions (funders and learned societies too) need to move towards coherent messages on Open Scholarship throughout the research process - eg training, libraries, data management, patent and IPR office, staff recruitment, retention, promotion etc. “In all the recruitment processes I have been involved in I have never seen references to Open Science, Open Data etc”. Dialogue about evaluating modern research needs to happen at a high level between institution leaders and funders. Can KE and partners initiate this dialogue? and include researchers and commercial funders? The result could be a “concordat” on how to remove ‘blocks’ in the system of research evaluation.

Open Scholarship should be regarded by institutions as facilitating research integrity and/or high impact. Recommended pathways to high impact should all include Openness.

Communication is part of research, Open Scholarship encourages researchers to take control and responsibility for dissemination instead of relying on journals.

Scholarship should be Open to machines as well as people.

5.2.4 Questions for these activities to answer
How do communities move towards change in evaluation practice?

Are Digital Object Identifiers (DOI) and ORCID good models for a new structuring of data to underpin researcher evaluation?

Can evaluation criteria be (re)defined or replaced to drive progress towards Open Scholarship?

Does an entire parallel system of evaluation need to be put in place or can progress be made piece by piece and community by community?

Can we develop indicators that attempt to predict future potential at the project or community level?

Is it inevitable that any evaluation system will be reduced to numbers? Are there examples of other systems equally easy to use?

5.3 Strand 3 – the economy of Open Scholarship
5.3.1 Suggested case studies
A public service provider should know more, offer more appealing services and offer higher education and research specific expertise to support the use of existing public or commercial offerings. The value it offers will/should be different [from a commercial provider]. Collect and document examples of public services “filling the gaps”.

Collect examples of where our existing infrastructures and institutions are failing to support Open Scholarship; and where they are succeeding.

Examine and document models (eg DOI, ORCID) where diverse stakeholders have worked together to set rules which deliver a revenue model meeting widespread approval.

Examine efforts such as the implementation of the CRediT taxonomy into article submission systems; can these be expanded into other environments?

Study perceptions in the community of the likely winners and losers in a move to Open Scholarship. Ask what that world will look like. Will it just be more efficient or embody different values?
Conduct a risk analysis to address two conflicting fears:

a. Increase in the imposition of Open Access policies will stifle interoperability

b. Concentration of power into a small group of large suppliers will lead to smooth interoperability at the expense of Open research practices

5.3.2 Possible tasks
Rather than simply stating that aspects of research outputs “cannot be valued” we can point to the assets that are created and how they are used and valued by different communities.

Address researcher’s concerns that preferred services often end up in private hands without preferred (public) use policies; suggest ways this might be avoided in the future.

Please note that in further discussions activities in other strands have been given priority.

5.3.3 Comments
At each stage (researcher vs researcher; university vs university, publisher vs publisher; country vs country) there is a tension between collaboration and competition. How will a sustainable international infrastructure be provided and funded? (eg will EUDAT succeed - is a coalition approach better?)

How much control does the research community and its institutions have over the future, especially with regard to the split between public/collaborative services and private/commercial ones?

5.3.4 Questions for these activities to answer
Why is it that universities seem to make poor, short-term decisions in purchasing services rather than considering investment on the timescales that characterise their history?

What are the issues that prevent institutions from working more effectively together to produce underpinning infrastructures?

Why have we been unsuccessful in separating the issue of ownership of services from that of ownership of data/resources? Can we safeguard data/resources/outputs?

Why is the scholarly community so poor at developing and imposing regulatory frameworks?

What has and has not worked in our scholarly communities, services and infrastructures with regard to financial sustainability, stable governance, regulatory frameworks and the trust of stakeholders?

What makes services, infrastructures and communities sustainable over the long term, and how can they be sustained throughout a natural life cycle of growth and decline?

How and where are our existing infrastructures and institutions failing to support Open Scholarship? Do they need changing or replacing?

How do we appropriately value and control the assets (many of them collective) of research communities and institutions?

Footnotes
15 The proposed R-factor is described in the THE (timeshighereducation.com/news/r-factor-a-new-way-to-rate-journal-articles) and The Winnower (https://thewinnower.com/papers/the-r-factor-a-measure-of-scientific-veracity), and treated sceptically by Discover magazine (http://blogs.discovermagazine.com/neuroskptic/2017/08/21/r-factor-fix-science/#.WlyXoDfLg-V); the R-index (https://replicationindex.wordpress.com) is another candidate. It’s fair to say we are not near to having a widely accepted reproducibility index.
Who will pay for Open Scholarship? The amount of data grows, requirements on custody, sharing, documentation all grow, budgets don’t grow. Will there always be a tension between the most Open solution and the most cost effective solution?

5.4 Issues cross cutting the three strands – motivation and behaviour change

5.4.1 Suggested case studies

Study how different stakeholder groups understand the economic ecosystem they inhabit. Look at the perception of different scales, evaluations and indicators linked to this understanding and to motivation.

Study the perceived lack of incentives for individuals to choose/adopt Open Scholarship.

Study the lack of incentives for organisations to collaborate/interoperate.

Investigate what motivates a researcher to publish in a particular journal, or media form? What choices do they feel they have? How are they driven by local institutional context or disciplinary cultures?

Investigate the potential of Wikidata and similar open data collections to analyse and document Open Scholarship. The introduction to Wikidata is a useful place to start.

Collect examples of where meso-level changes to Open Scholarship have occurred, why and how.

A list of links to sources as starting points appears in Appendix 2.

5.4.2 Possible tasks

Identify current factors driving researcher’s motivation; identify approaches which have or will lead to behaviour change.

5.4.3 Comments

KE should disseminate using non-traditional methods and practice Open Scholarship with its publications and data.

5.4.4 Questions for these activities to answer

Can we demonstrate that traditional approaches to changing behaviour, through policy and funding systems, can actually have a positive effect?

What interventions (if any) can be made in the current system to drive progress towards Open Scholarship? Are interventions or a parallel system required?

Who is producing guidelines for researchers to be Open and best practice guides for institutions and funders to assess and value Open Scholarship practice? Can they be brought together?

Can we move beyond the sectarianism associated with OA and the confusion it causes? Do we need to support a “school” of Open Scholarship or should we leave that to the stakeholders?

Footnotes

6. Workshop outcomes and next steps

Working group – Open Scholarship and Research(er) Evaluation
A Knowledge Exchange working group will be formed around Open Scholarship and Research(er) Evaluation and experts from KE partner countries will be invited to work on this topic starting January 2018. The purpose of this proposed activity will be:

1. To gather information on existing examples/initiatives of evaluating and measuring research performance which includes the aspect of Open Scholarship

2. To raise awareness of successful examples of how individual researchers/university departments practice Open Scholarship and enable others to learn from them

3. On the basis of the above, to facilitate a dialogue between researchers, senior university leaders, funders and learned societies to identify how blocks in the system can be addressed

The Open Scholarship and Research(er) Evaluation working group will be a so-called “Task and Finish” group of experts which will define the more specific questions to be answered in this activity and will oversee the work.

Working group – the Conceptual Foundation of the Economy of Open Scholarship
The premise of this work is that a better understanding of the economics of the system will enable us to design for change, then we need to map the economic actors. Most economic analyses of scholarly communications have been simplistic. The complexities of multiple stakeholder groups, as well as their differing interactions at the micro-meso-macro levels, will need to be explicitly modelled.

This means understanding the full set of relevant actors, from individual researchers to disciplinary communities, departments to research institutions to university groupings, governments, publishers, scholarly societies (which are not the same as disciplinary communities). It also means understanding technology providers and investors, libraries (not just within institutions) and archives, both public and private.

Footnotes
17 Scholcommlab’s Assessing Current Practices in Review, Tenure, and Promotion (scholcommlab.ca/research/rpt-project) is of interest in this regard
Another set of “actors” to consider are the differing layers of infrastructures, services and systems that play a role in enabling a digital Open Scholarship ecosystem. What are the characteristics of existing providers, what economic incentives do they have and do these serve the community?

This work will aim to find the appropriate words and concepts to describe the Economy of Open Scholarship and to sketch its possible development with the interplay of public money and commercial players within the landscape of procurement, funding and the variety of ownership and governance of digital services and infrastructures. Possible actions for the group include:

- A review of relevant theoretical concepts and models from adjacent domains eg (economics, political science, management, social theory, marketing)
- Mapping and role description of the most relevant stakeholders in combination with their drivers, ambitions, motivations and fears as well as their abilities and conditions to act
- A risk analysis concerning the strategic aims and plans of commercial and public players. This analysis could be based on the mapping of relevant stakeholders and could aim to compare the motivations/ambitions of commercial players and public players, contrast the strategic ambitions versus technical choices on the practical level and identify points of agreement and tensions, where common interests and conflicts might exist.

Working group – the Economy of Open Scholarship, stories and patterns

This group will gather and analyse case studies – stories and patterns seen as meaningful and revealing the present and possible future of the Economy of Open Scholarship. Members will be able to provide expertise in the various facets of Open Scholarship and a special interest or experience in economic aspects. An important first task will be to discuss the present scoping outlined in the KEOSAG report and to discuss and define a methodology and agree on types of results we expect. A better understanding of the actors’ experiences of Open Scholarship, its economic drivers and barriers, will clarify any potential need for change, for regulation and incentives, for new governance and financial models. In this context, the KEOSAG report states that:

“At a very concrete level Knowledge Exchange can support and conduct case studies of what has worked (and not) and what is working (and is not). Such a critical analysis will not only be broadly valuable but can directly support the work of Knowledge Exchange and its partners in this space.”
Many of the questions and suggested case studies mentioned in section 5 earlier will be relevant to this working group, which may well collaborate with the two other working groups mentioned above to reveal a wide range of relevant stories. Suggested actions have included:

1. Agreeing the form of the work and the desired results. Defining a realistic scope and choosing the issues to tackle; defining the methodology (template?) to be used. Finding a way to present results using the KE OS framework.

2. Relating stories of developing Open Science services, tools, platforms, infrastructures to previously determined key notions, as “ownership”, “public-private”, “sustainability”, “funding”, “researcher’s needs and preferences”, “standards”, “governance”.

3. Discussing all ‘stories’ within the group. The group will decide whether a story is finished (publishable) or if there are still open questions to be answered. Open questions may lead to proposals for additional work. A final report will be a common achievement, describing (and providing a lightweight analysis of) the various cases addressed.

4. At some stage the results of the two “Economy of Open Science” working groups could be brought together as basis for a final report and recommendations. Depending on the success of this approach and other working groups, and of the KE OS model in particular, this could be associated with a new Open Scholarship workshop.

It should be noted that the next steps and proposals for working groups are included as known at the time of writing and do not form a definitive overview of the next steps for Knowledge Exchange. A fourth working group is under consideration – this may include a planned activity on preprints.
## 7. Appendices

### Appendix 1

The KEOSAG categorisation of some existing pieces of work in a first draft of the KE Open Scholarship Framework.

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Appendix 2
List of sources as a starting point for examining where meso level changes to Open Scholarship have already occurred:

Arhus University gave up patenting:

The Open Science and Research Initiative, Finland
https://openscience.fi

The Dutch National Plan for Open Science
https://www.openscience.nl/en

Non-paper on open science: open access to publications and data (3/3/15 UK and the Netherlands)

SPARC analysis of Open Data and Open Science Policies in Europe

Mutual Learning Exercise (MLE) on Open Science: Altmetrics and Rewards (pdf)

15 characteristics of an Open Science champion
http://proud2know.eu/15opensciencechampioncharacteristics_blog35

Review, Tenure and Promotion survey
https://www.scholcommlab.ca/research/rpt-project

MIT’s Open access stories – (click on the map to find stories)
http://oastories.mit.edu
### Appendix 3 - list of participants

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<thead>
<tr>
<th>Name</th>
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<tr>
<td>Andy Turner</td>
<td>University of Leeds</td>
<td>UK</td>
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<tr>
<td>Bas Cordewener</td>
<td>Knowledge Exchange</td>
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<tr>
<td>Benoît Pier</td>
<td>CNRS/Université de Lyon</td>
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<td>Bianca Kramer</td>
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<td>Cameron Neylon</td>
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<td>Christian Hagen Thomasen</td>
<td>DEFF/Knowledge Exchange</td>
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<td>Daniel Beucke</td>
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<td>Finn Aarup Nielsen</td>
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<td>Frédéric Hélein</td>
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<td>Heidi Laine</td>
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<td>Jeroen Bosman</td>
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<td>Jon Tennant</td>
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<td>Joonas Nikkanen</td>
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<td>Lambert Heller</td>
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Appendix 4 - Knowledge Exchange, mission and vision

Introduction to Knowledge Exchange
The Knowledge Exchange (KE) partners are six key national organisations within Europe tasked with developing infrastructure and services to enable the use of digital technologies to improve higher education and research: CSC in Finland, DEFF in Denmark, DFG in Germany, CNRS in France, Jisc in the UK and SURF in the Netherlands.

Our six partners share a clear vision that scholarship should be open. Through Knowledge Exchange we are working together to support the development of digital infrastructure to enable Open Scholarship. We are raising our collective voice to inform national and international policies and promote common approaches, so that it becomes easier for scholarship to cross national boundaries.

We share our knowledge, experiences and resources.

Our vision
Digital technologies create innovative opportunities to advance research and higher education. Open Scholarship is one of these opportunities. Opening up research outputs (including publications, data and software) and encouraging open methods and deeper collaboration can:

- Improve transparency and engender greater trust in research
- Increase the use of effective research support and share it more widely
- Widen participation in research

All of these possibilities are underpinned by digital technologies.

Our mission
Knowledge Exchange activities support the individual agendas of the six partner organisations. They also advance progress towards achieving our shared vision.

We are increasing the impact of partner activities by exchanging knowledge between experts in the area of digital technologies for research and higher education.

We are building on those exchanges to inform developments in information infrastructure, including technical as well as organisational, policy and economic aspects.

We are exchanging best practice, practical solutions and innovative approaches to improve all aspects of each partner’s performance. This will ensure that they can create more effective solutions.