What would scholarly publishing look like if we rebuilt it from scratch in 2019?

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NFAIS 2019 Annual Conference, Virginia, USA
February 14, 2019
What’s the problem, exactly?

Well, this is all a matter of perspective, but they did just make a movie about it...

Paywalls, Publishers, Profits, Power, Propaganda, Plan S

https://paywallthemovie.com/

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2018 was an incredible year!

- Sweden, Germany, France etc. all taking a strong stand
- Springer Nature failed (delayed?) IPO
- EU failed (delayed?) OA platform
- Elsevier and the ACS sue Sci-Hub and ResearchGate
- Plan S, EU copyright reform, EOSC
- Tech start-up situation feels a bit like Henry VIII’s wives...
  - Acquired, defunded, died, acquired, defunded, survived

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Something isn’t quite right... *

- Pretty much the exact opposite of what it is supposed to look like
  - Prevalence suggest something is wrong at the system-level
- Strong bias based on *results*
  - Things which are not in the control of researchers
  - Creates a very skewed record of the scholarly endeavour
- Bad communication incentives?
- Bad research(ers)?

*Note differences between what English people say and what they actually mean


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Papers reporting a support for the tested Hp
The strange current state of scholarly communication

- A 19th century process applied to a 17th century communication format
- Slowly adapting to Web tech from ca. 1995

WE CAN DO BETTER

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The current state of engagement

Often reminds me more of Brexit than anything else
Simply mention Sci-Hub to see what I mean
Tensions around self-interestedness versus public interest
Rhetoric, misinformation, deception, public clashes, all running rife...
Surprised Elsevier didn’t coin SUIT-able™ to describe this system...the information system supporting research
What would research look like if the information system supporting it was source-neutral, interoperable and transparent, and under the researcher's control? This is our vision for the future, are you ready to co-create it? Read more and join us.

/connect/the-in ...

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@ferli90

Is it already April 1st yet!? Sorry, but that's no vision for the future that's the worst nightmare! #scholcomm

twitter.com/ElsevierConnect ...

@ferli90

Replace all @ElsevierConnect products with infrastructure, services etc. mentioned e.g. here: @OpenSciRoadmap, that would be visionary! #scholcomm

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@ferli90

I love this one: "No one technology can, nor should, make decisions on behalf of the researcher. Rather, the information system supporting research needs to put the user in control, supporting the critical decisions they have to make." 1/2

@ferli90

2/2: "At Elsevier, we're working with the research community to optimize the information system supporting research." Thank you, EE$€vi€©

https://twitter.com/ElsevierConnect/status/1090202327733227520

https://twitter.com/ferli90/status/1091788140564631552
Elsevier Continues To Build Its Monopoly Solution For All Aspects Of Scholarly Communication

PRELIMINARY FINDINGS: RENT SEEKING BY ELSEVIER

PUBLISHERS ARE INCREASINGLY IN CONTROL OF SCHOLARLY INFRASTRUCTURE AND WHY WE SHOULD CARE

A CASE STUDY OF ELSEVIER

Written by: Alejandro Posada and George Chen, University of Toronto Scarborough
Published on September 20th 2017

We are often having different conversations about the same things
And talking past, rather than with, each other

October 26, 2018

RELX referral to EU competition authority

Formal complaint made on 26/10/2018 regarding RELX and the wider scholarly publishing market to the EU competition authority.

https://zenodo.org/record/1472045#.XFeR_Lh7lZU
https://www.techdirt.com/articles/20170804/05454537924/elsevier-continues-to-build-monopoly-solution-all-aspects-scholarly-communication.shtml
• This is a super-charged space
• Rapidly evolving, global impact
• Complex networks of groups and interests
• Creates a huge number of tensions
• Scholarly communication is emotive
• Sometimes, people get frustrated
• Social media discussions “vary in quality”

• Brave, but perhaps an ultimately doomed quest?
  • Assumes that there is a reconcilable middle ground
  • And that such a middle ground is worthy of attaining

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Willing to criticise

Unwilling to criticise

Open to criticism

Closed to criticism

Sweet spot of progress

Twitter

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Are things getting better?

Again, this depends on your perspective

Raise your hands if you think this progress is good!

https://peerj.com/articles/4375/

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A new wave of peer review innovation

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2010</td>
<td>Post publication open</td>
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<tr>
<td>2011</td>
<td>ScienceOpen launches</td>
</tr>
<tr>
<td>2012</td>
<td>F1000Research launches</td>
</tr>
<tr>
<td>2013</td>
<td>Pubmed Commons launches</td>
</tr>
<tr>
<td>2014</td>
<td>Decoupled post publication open</td>
</tr>
<tr>
<td>2015</td>
<td>Hypothes.is launches</td>
</tr>
<tr>
<td>2016</td>
<td>PaperHive launches</td>
</tr>
<tr>
<td>2017</td>
<td>Service recognition</td>
</tr>
<tr>
<td></td>
<td>Publons launches</td>
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<tr>
<td></td>
<td>RUBRIQ launches</td>
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<td></td>
<td>Peerage of Science launches</td>
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<tr>
<td></td>
<td>Axios Review launches</td>
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<tr>
<td></td>
<td>Pre and post publication optionally open</td>
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<tr>
<td></td>
<td>PeerJ launches</td>
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<tr>
<td></td>
<td>The Winnower launches</td>
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<tr>
<td></td>
<td>Optional post publication open</td>
</tr>
<tr>
<td></td>
<td>Optional pre and post publication open</td>
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<tr>
<td></td>
<td>Optional pre publication open</td>
</tr>
<tr>
<td></td>
<td>Policy</td>
</tr>
</tbody>
</table>

People realise that the Web is actually pretty powerful.
This is what I called ‘constrained innovation’

Most new tools developed around a journal-based system. Therefore depend on publishers for sustenance.

Very little thought generally into long-term sustainability.

https://www.fastcompany.com/90180552/academic-publishing-is-broken-heres-how-to-redesign-it

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Welcome to the networked 21st century

Everywhere we are using networks to evaluate information on the Web. **Why not in science?**

Use the power of professional networks to evaluate/communicate scientific results.

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0193148

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What happens if we explore our thinking

• Away from the world of journals and articles
• Focus on the power of networked technologies and version control
• Research is continuous and should be communicated as such
• Granular ‘research objects’ of all formats
• Collaborative, cross-silo processes – focus on communities
Imagine if Wikipedia, Stack Exchange, and GitHub all had a baby together.

- Low cost – ‘forkable’
- Creditable
- Collaborative
- Instantaneous
- Continuous/dynamic
- Community-owned?
- Inherently reproducible
- Technology already exists

StackExchange

https://doi.org/10.1093/femsle/fny204
Three core aspects for success of any future ‘platform’

1. Quality control/moderation
2. Certification/reputation
3. Engagement incentives

So, how..?

http://blogs.lse.ac.uk/impactofsocialsciences/2017/09/11/we-have-the-technology-to-save-peer-review-now-it-is-up-to-our-communities-to-implement-it/

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# Quality control and moderation

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatekeeping function as a selective content filter</td>
<td>No gatekeeping, collaboration and constructive criticism define filters</td>
</tr>
<tr>
<td>Quality control difficult to measure, with little real evidence of success</td>
<td>Quality control achieved based on consensus, with evaluation based on engagement</td>
</tr>
<tr>
<td>Secretive and selective review within a closed system</td>
<td>Self-organised, open and unrestricted communities</td>
</tr>
<tr>
<td>Organised around journals and papers</td>
<td>Unrestricted content types and formats</td>
</tr>
<tr>
<td>Non-accountable due to ‘black box’ of editorially-controlled process</td>
<td>Elected moderators accountable to their respective communities</td>
</tr>
<tr>
<td>Structurally limited and exclusive, usually to 2–3 people</td>
<td>Open participation, with semi-automated review matching</td>
</tr>
<tr>
<td>Legitimacy conferred by reputation of brands and editors</td>
<td>Legitimacy provided as a community governed process</td>
</tr>
</tbody>
</table>

[https://academic.oup.com/femsle/article/365/19/fny204/5078345](https://academic.oup.com/femsle/article/365/19/fny204/5078345)
## Certification and reputation

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorly recognised and rewarded activity for researchers</td>
<td>Performance metrics based on nature and quality of engagement</td>
</tr>
<tr>
<td>Difficult to measure due to the opacity of the process</td>
<td>Open, continuous community-based evaluation tied to reputation</td>
</tr>
<tr>
<td>Often defaulted to inappropriate higher-level proxies</td>
<td>Granular, revealed at the object and individual levels</td>
</tr>
<tr>
<td>Closed process of identification prohibits recognition</td>
<td>Fully transparent by default, tied to academic profiles, and portable</td>
</tr>
<tr>
<td>High reviewer turn-down rates, and general frustration</td>
<td>Expanded reviewer pool with greatly reduced barriers to entry</td>
</tr>
<tr>
<td>for all parties</td>
<td></td>
</tr>
<tr>
<td>Level of entry high, based on editorial decision and</td>
<td>Engagement filters based on reputation within community</td>
</tr>
<tr>
<td>knowledge</td>
<td></td>
</tr>
<tr>
<td>Little incentive for those in charge of assessments to</td>
<td>Appealing for those in charge of assessment due to simplicity</td>
</tr>
<tr>
<td>care</td>
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</tbody>
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## Incentives for engagement

<table>
<thead>
<tr>
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<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared sense of duty, as a natural altruistic incentive</td>
<td>Same, but with virtual rewards such as points, badges or abilities</td>
</tr>
<tr>
<td>Researchers generally feel they receive insufficient credit</td>
<td>Creates an ‘incentive loop’ to encourage maximum engagement</td>
</tr>
<tr>
<td>Existing incentives only for engagement, with no focus on quality</td>
<td>‘Reviewing the reviewers’ encourages higher quality engagement</td>
</tr>
<tr>
<td>Incentives decoupled from academic reputation or career progression</td>
<td>Coupled to academic records and profiles, and to career advancement</td>
</tr>
<tr>
<td>Prestige captured by journals to help define their brands</td>
<td>Establishment of individual prestige as a social process defined by communities</td>
</tr>
</tbody>
</table>

[https://academic.oup.com/femsle/article/365/19/fny204/5078345](https://academic.oup.com/femsle/article/365/19/fny204/5078345) @protohedgehog
Yes, there is space for publishers here

• No-one is denying the value-add (technical, knowledge) that publishers provide in scholarly communication
• Some perhaps just want a more even playing field
• Where they compete fairly as service providers
• It is eminently possible to move towards open scholarship with for-profits as part of the system
• But some will find it difficult if they continue to work against researchers (e.g., lock-in, those profit margins, lobbying)
• Experimentation with unbundling or decoupling of services
  • Everything suggested previously is eminently feasible to integrate into existing systems
Future challenges (1)

• Working models exist already that show publishing can be better as a process (evidence)
• Simultaneous uptake of new models across the whole scholarly ecosystem (time)
• Interoperability between specific and diverse communities (technology)
• Increasing the recognition of more than just research papers across the board (evaluation)
• Getting all key participants interested (engagement)

GitHub: https://github.com/OpenScienceMOOC
Website: https://opensciencemooc.eu
Twitter: @OpenScienceMOOC
Email: info@opensciencemooc.eu

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Future challenges (2)

• A shift to digital norms to reflect adoption of Web-based processes
• Co-ordinating strategic and stepwise changes towards ‘open science’
• Understanding the changing roles of editors, librarians, publishers…
• How to reconcile changes across/between disciplines/communities with different norms, practices, and biases
• Resolving the major tensions that exist between actors (with civility)
• *This list could go on and on…*
The ultimate goal

Pooling knowledge and resources to create a decentralised scholarly infrastructure based on strong values and principles of Open Scholarship, and with communities as the focus.

- Inclusivity
- Equality
- Accountability
- Freedom
- Fairness
- Justice
- Truth
- Rigour
- Transparency
- Reproducibility

SCIENCE AS A PUBLIC GOOD FOR THE BETTERMENT OF SOCIETY

http://elephantinthelab.org/do-we-need-an-open-science-coalition/

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A question to ponder: Instead of ‘What might the future of scholarly communication look like?’, what about ‘**Who do we want to include in the future of scholarly communication?**’