THINKING OUTSIDE THE BLACK BOX OF PEER REVIEW

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An interesting experience in collaborative authoring and review in itself..

https://f1000research.com/articles/6-1151/v3

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What did we do?

- It all began at the Mozilla Global Sprint in 2016...
- Open to anyone to contribute.
- Created a 42 page behemoth.
- Explored social media traits and their potential parallels with peer review.
- Accidentally ended up modelling a sort of ‘hybrid peer review and publishing’ platform.

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WHAT IF WE REBUILT THE ENTIRE SCHOLARLY COMMUNICATION SYSTEM FROM SCRATCH IN 2018?

Because this is essentially the ultimate goal, right?
Things that academics don’t really get

- The history of peer review – “Hasn’t it always been this way?”
  - Anything by Aileen Fyfe or Melinda Baldwin is eye-opening.
- The distinction between the ideology and the process.
- That there is a incredible dearth of evidence around peer review.
- And much of that is quite fragmented (Grimaldo et al., 2018).
- We don’t actually really need their permission to change things.
  - You can come willingly, or kicking and screaming, into the future.
- That there is an incredible potential scope for systemic peer review reform.
We have the tools to blow peer review wide open

StackExchange
Three core aspects for success of any peer review platform

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

So, how..?

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QUALITY CONTROL AND MODERATION

Community, Collaboration, Consensus

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Quality control and moderation

**Traditional**
- Gatekeeping function as a content filter (varying selectivity criteria)
- QC incredibly difficult to measure, little evidence of actual success
- Typically closed system with a secretive and selective process
- Organised around journals and articles ("papers" – it’ 2018..)
- Editor-controlled “black box of peer review”
- Structurally limited (2-3 people)

**Proposal**
- Collaborative, constructive PR as ‘issues’ or comments
- QC achieved via consensus and evaluated based on engagement
- Self-organised, open and unrestricted communities
- Unrestricted content types and formats
- Elected ‘moderators’ accountable to communities (QC & engagement)
- Semi-automated matching of content to reviewers

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CERTIFICATION AND REPUTATION

Because we love giving away our labour for free
Certification and reputation

### Traditional
- Poorly recognised and rewarded activity
- Difficult to effectively measure due to opacity of process
- Often inappropriate journal-level proxies
- Issues surrounding identification within closed process
- High reviewer turn-down rates for various reasons
- A bit shit, really...
- But getting better!

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### Proposal
- Performance metrics based on nature and quality of engagement
- Open, continuous community-based evaluation tied to reputation
- Revealed at object and individual levels
- Fully transparent by default (e.g., via ORCID)* and portable
- Reviewer pool greatly expanded with low barrier to entry
- Potential for engagement filters
- Appealing for those in charge of assessment

*another debate for another time
INCENTIVES FOR ENGAGEMENT

Because sheep like carrots

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Incentives for engagement

**Traditional**
- Shared sense of duty as a natural, altruistic incentive
- Researchers generally feel they receive too little credit
- Incentives only for engagement, not for *high quality* engagement
- Incentives not tied to academic reputation
- ‘Prestige’ obtained by journals

**Proposal**
- Virtual rewards such as points, ‘karma’, badges or abilities
- Creates an incentive ‘loop’ as authors incentivised to maximise engagement
- ‘Reviewing the reviewers’ system incentivises high quality PR
- Can be tied to academic records and career advancement
- Establishment of individual prestige

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Some of the major future challenges

► Catalysing wider discussion and innovation in peer review.
► Demonstrating that new models outperform traditional processes (or not).
► Agreement on interoperability requirements across stakeholders.
► Adoption of elements of the new system across specific communities.
► Increasing the role of peer review in research[er] evaluation processes.
► Adapting social communication traits into novel peer review models.
► Overcoming the “If you build it, they will come” fallacy.
We all need to be deeply introspective and ask the big questions

- How divergent are the ideologies and practices of peer review?
- How can Web-native technologies address some of the major criticisms and issues with ‘traditional’ peer review?
- How is the Internet changing our expectations of how communication works, and why are scholarly publishing and peer review seemingly lagging behind this?
- How can we integrate Internet-style communication norms with peer review?
- How do we increase cross-stakeholder engagement to implement optimal models and practices of peer review?
- How much do we want to disrupt the relationship between peer review and journal articles? And what will the impact of this be?
Next steps?

- A critical discussion of these preliminary ideas with you all!
- Should we build a ‘proof of concept’ prototype and see what happens?*

*Maybe we’re already doing this anyway...