The case against the journal article: The age of publisher authority is going, going, gone — and we'll be just fine.

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Heidi Laine evaluates the often unsubstantiated claim that the journal article is central to the research communication process. Is a formal article really such a law of nature? She argues that the journal article (at least as we know it) will become a thing of the past. It will soon be replaced by article-style narrative reports, blogs, wikis, video and audio recordings, conference papers and presentations.

It seems that the academic article is currently more part of the problem than the solution for the scientific community. The race for the biggest impact and the so called "publish or perish" mentality are responsible for many ethically dubious practices, such as dissecting research results in order to produce the maximum number of articles, inflating lists of referenced articles and co-authors to boost impact factors, and data jealousy (as in – even though I don't have any use for this data any more, I sure as hell am not publishing it to benefit my competitors). Even though these practices can't be cataloged under scientific misconduct or fraud, they give science a bad name and jeopardize the quality of published research.

I am relatively new to the research-making scene, so I get to ask basic questions, such as why on earth do we rely on these journals and their articles, hogging money from taxpayers, copyrights from researchers, creating distorted incentives? Does the system serve some function that could not be met by any other means? Let's see.

Function 1: Dissemination of scientific knowledge

Have you heard of the internet? Let's go and disseminate there (or here) all day long. Of course there is a possibility of younger, not yet established, researchers losing their voice into the noise, but I don't think it's much different in the current situation. There are only so many articles *Science* and *Nature* can publish. The challenge of being heard is one that can be overcome by putting more effort into teaching undergraduate and graduate students science communication skills.

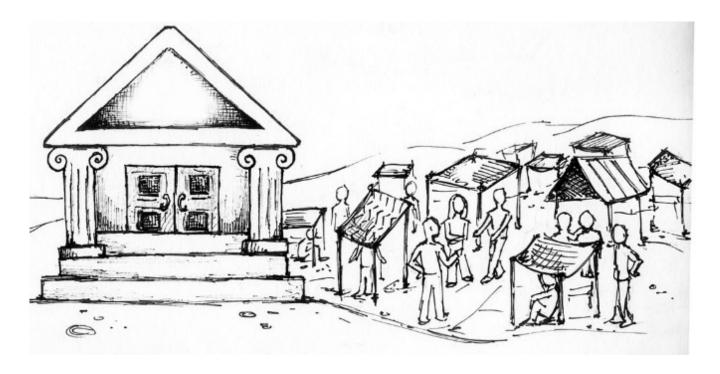


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Function 2: Discussing science among peers

I think the journal article fails miserably in this respect, both in speed and inclusiveness. Publishing an article takes ages, publishing a comeback article takes equally long. The amount of people who can play this ping-pong are limited, even if one of the articles has 5000 co-authors. There is loads of academic discussion going on in Twitter, ResearchGate, blogs... Anyone can participate and it's in real-time. A comment posted on a blog isn't as thorough as an article, but consider an entire discussion: it can sometimes hold enough novel ideas for a dozen articles. The peer-review gets taken care of on the side, since the discussants are (trolls and other beside the point comments aside) peers reviewing each others contributions. The original Polymath Project is a powerful example of this. (Disclaimer: As a historian by origin I love the monograph, longue durée and histoire totale. I'm all for doing things that require time, thoroughness and narrative. Real-time scientific discussion and taking-your-time research shouldn't be mutually exclusive.)

Function 3: Maintaining the quality of scientific research through peer review

Journals are not doing too good of a job here either. Think for example of the Michael LaCours case, or Diederik Stapel, father of 60 retracted articles, both of whom published in eminent journals. Another example: an author was asked to add male co-authors in order to "not drift into ideologically based assumptions". One response to the challenge came last week when an American body called the Transparency and Openness Promotion Committee published their guidelines for journals in *Science*. Their motivation was to "move scientific communication toward greater openness". To me, the guidelines are fine, in principle, encouraging journals to demand stronger proof of reproducibility and more data transparency from published-to-be research. The problem is that they lack any mention of open peer review, open source, open data or open access. The article states that "the journal article is central to the research communication process.", without giving any arguments to back the claim up. Is it really such a law of nature? To me a far better solution than the above mentioned guidelines would be an open peer review, along the lines of Open Science Peer Review Oath. Instead of journals, the review process could be handled by, say, the numerous learned societies, such as science academies and scientific associations (they would need more resources, but when the journals stop bleeding research funders there will be more cake left for everyone).

I wonder how anyone in the non-academic world ever gets recruited or funded. I mean they don't have the impact factor! How can they evaluate the successfulness of a person/business/endeavor without journal-based metrics? Oh, they evaluate each case individually and qualitatively, looking for examples on their CVs, noting the things they have accomplished, talking to them in order to find about their personality, their competences, etc.? I mean who does the impact factor really serve? The government, the accountants? Not science, that's for sure. If the government can cut funding without first checking the impact factor or Publication Forum classification, they should be capable of doing the opposite as well.

It's starting to feel like an emperor without clothes type of situation and I'm going to call it if no one else will: Open Access publishing is a transition period solution. The journal article (at least as we know it) will become a thing of the past, and rather sooner than later. It will be replaced by article style narrative reports, blogs, wikis, video and audio recordings, conference papers and presentations, documentary films, whatever. This might sound like uncontrollable chaos and it probably is. But why try to herd cats, when you can watch them on a cute viral video? We are already finding our daily dose of information via peers, social media, traditional media, random googling and whatnot. The age of authorities like the aforementioned *Nature* and *Science* is going, going, gone. We just have to live with it. I think we'll manage fine. (Second disclaimer: I too am planning on writing and publishing articles. I have to do that in order to have my dissertation formally approved.)

BTW, the Open Knowledge Foundation Finland Open Science Working Group (jeez, we need a catchier name) is planning on a workshop proposal for the Academic Mindtrek Conference about this issue (Publication Forum classification level 1!).

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