So many symptoms, only one disease: a public good in private hands

Björn Brembs

Published September 17, 2015

Citation

Brembs, B. (2015, September 17). So many symptoms, only one disease: a public good in private hands. *Bjoern.brembs.blog*. https://doi.org/10.59350/7tw94-qme49

Keywords

Science Politics, Collective Action, Journal Rank, Publishing

Science has infected itself (voluntarily!) with a life-threatening parasite. It has given away its crown jewels, the scientific knowledge contained in the scholarly archives, to entities with orthogonal interests: corporate publishers whose fiduciary duty is not knowledge dissemination or scholarly communication, but profit maximization. After a 350-year incubation time, the parasite has taken over the communication centers and drained them of their energy, leading to a number of different symptoms. Symptoms for which scientists and activists have come up with sometimes quite bizarre treatments:

- In the recent #WikiGate, it is questioned if the open encyclopedia Wikipedia should link to ("advertise") paywalled scientific knowledge at academic publishers such as Elsevier. One argument goes that if Wikipedia articles lack paywalled content and explicitly mention this, pressure on publishers to open the scholarly archives would increase. To solve this issue, open access advocates are now asking **Wikipedia editors**, who recently received free access to Elsevier's archives, to assist academic publishers in keeping the paywalled content locked away from the public by not including it in Wikipedia.
- The Hague Declaration on ContentMining asks for "legal clarity" with regards to science being done on scientific content: access and re-use of scholarly material via software-based research methods is restricted and heavily regulated by academic publishers, leveraging their extensive copyrights over the archives. The Liber open access initiative is now lobbying **EU politicians** for a "research exception" in international copyright laws to allow unrestricted ContentMining.
- In recent decades, the number of researchers has been growing such that competition for publications in the few top-ranked journals has reached epic proportions. As a consequence, the amount of work (measured by figure panels or by numbers of authors per article) going into each individual paper has skyrocketed. This entails that the pace of dissemination for each project has been slowing down, not because of any technical or scientific reasons, but merely because of career decisions of scientists. To counteract this trend, it has been suggested to follow the example of physicists, and **increase the work-load of scientists**: once to publish their results quickly in a readily accessible repository for scholarly communication and once, later, to eventually lock the research behind a paywall in a little-read scholarly top-journal for career advancement.
- These coveted top-rank journals also publish the least reliable science. However, it's precisely the rare slots in these journals which eventually help the scientist secure a position as a PI (that's the whole idea behind all the extra work in the previous example). This entails that for the last few decades, science has preferentially employed the scientists that produce the least reliable science. Perhaps not too surprisingly, we are now faced with a reproducibility crisis in science, with a concomitant exponential rise in retractions. Perhaps equally unsurprisingly, scientists reflexively sprung into action by starting research projects to first understand the size and scope of this symptom, before treating it. So now there exist several **reproducibility initiatives** in various fields in which scientists dedicate time, effort and research funds to find out if immediate action is necessary, or if corporate publishers can drain the public teat a little longer.

- Already long before the magnitude of the disease and the number and spread of symptoms had become public knowledge, scientists have come up with two treatments to the symptom of lacking access to scientific knowledge: green and gold open access. Similar to the treatment of slowed down scientific reporting, green open access entails increasing researchers' overhead by adding scholarly communication as a task on top of career advancement. As it is quite obvious what a scientist will have to choose when faced with choosing one of the two tasks due to limited time, green proponents are asking **politicians and funders** to mandate deposition in green repositories. The other option, the golden road to open access has now been hijacked by publishers as a way to cut paywall costs from their budget but maintain per-article revenue at similar levels, with the potential to double their already obscene profit margins of around 40%. This model of open access thus entails one of the few ways which is set to make everything worse than it already is. Coincidentally and much to everybody's chagrin, these two parallel attempts have had the peculiar unintended consequence of splintering the reform movement and seemingly endless infighting. Consequently, the last decade has seen a pace of reform that makes plate tectonics look hurried.

I'll leave it at these five randomly chosen examples, there are probably many more. While I understand and share the good intentions of all involved and applaud and support their effort, dedication, patience and passion, I can't help but feel utterly depressed and frustrated by how little we have accomplished. Not counting the endless stream of meetings, presentations and workshops where always the same questions and ideas are being rehashed *ad nauseam*, our solutions essentially encompass three components:

1. asking politicians, funders and lately even Wikipedia editors to help us clean up the mess we ourselves have caused to begin with
2. wasting time with unnecessary extra paperwork
3. wasting time and money with unnecessary extra research

What is it, that keeps us from being 'radical' in the best sense of the word? The Latin word '*radix*' means 'root': we have to tackle the common root of all the problems and that is the fact that knowledge is a public good that belongs to the public, not to for-profit corporations. The archiving and making accessible of this knowledge has become so cheap, that publishers are now not merely unnecessary, on top of the pernicious symptoms described above, they also increase these costs from what currently would amount to approx. US$200m world-wide per year to a whopping US$10b in annual subscription fees.

I'm not the only one, not even the first to propose taking back the public good from the corporations, as well as the US$10b we spend annually to keep it locked away from the public. If we did that, we would only have to spend a tiny fraction (about 2%) of the annual costs we just saved to give the public good back to the public. The remaining US$9.8b are a formidable annual budget to ensure we hire the scientists with the most reliable results.

This plan entails two initial actions: one is to cut subscriptions to regain access to the funds required to implement a modern scholarly infrastructure. The other is to use the existing

mechanisms (e.g. LOCKSS) to ensure the back-archives remain accessible for us indefinitely. As many have realized, this is a collective action problem. If properly organized, this will bring the back-archives back into our control and provide us with sufficient leverage and funds to negotiate the terms at which they can be made publicly accessible. Subsequently, using the remaining subscription funds, the scholarly infrastructure will take care of all our scholarly communication needs: we have all the technology, it just needs to be implemented. After a short transition period, at least in the sciences, publications in top-ranked journals (to which then only individuals subscribe, if any) will be about as irrelevant for promotion and funding as monographs are today.

This plan, if enacted, would save a lot of money, lives, time and effort and cure publicly funded science of a disease that threatens its very existence. I fear continued treatment of the symptoms will lead to the death of the patient. But which steps are required to make this treatment a reality? How can we orchestrate a significant nucleus of institutions to instantiate massive subscription cuts? How can we solve the collective action problem? These are the questions, to which I do not have any good answers.