

## Five Minutes with Lambert Heller: “Do we need an open operating system of science?”

*Publishing companies such as Elsevier are facing increasing criticism from scientists. And yet they do not only pursue antiquated models such as traditional journals – they are also working towards creating tomorrow’s “operating system of science”. For Lambert Heller the essential question is whether science will be capable of developing open alternatives to such a system.*



*This is an English version of an interview conducted by iRights.info in the margins of the “Zugang Gestalten!” (“Shaping Access!”) conference, which broached the issue of digitisation in museums, libraries and archives.*

**The makers of the scientific journal “Lingua” collectively withdrew from the publishing company Elsevier. What do you make of this move?**

What we are currently seeing at “Lingua” is an encouraging example. The editors and the entire Editorial Board, i.e. the true makers and producers of a journal, gave Elsevier the alternative of enabling Lingua to become a real open access journal under its control or to jump ship, which is precisely what happened. They now want to [establish a new journal elsewhere](#) called “Glossa”, which will be an open access journal.

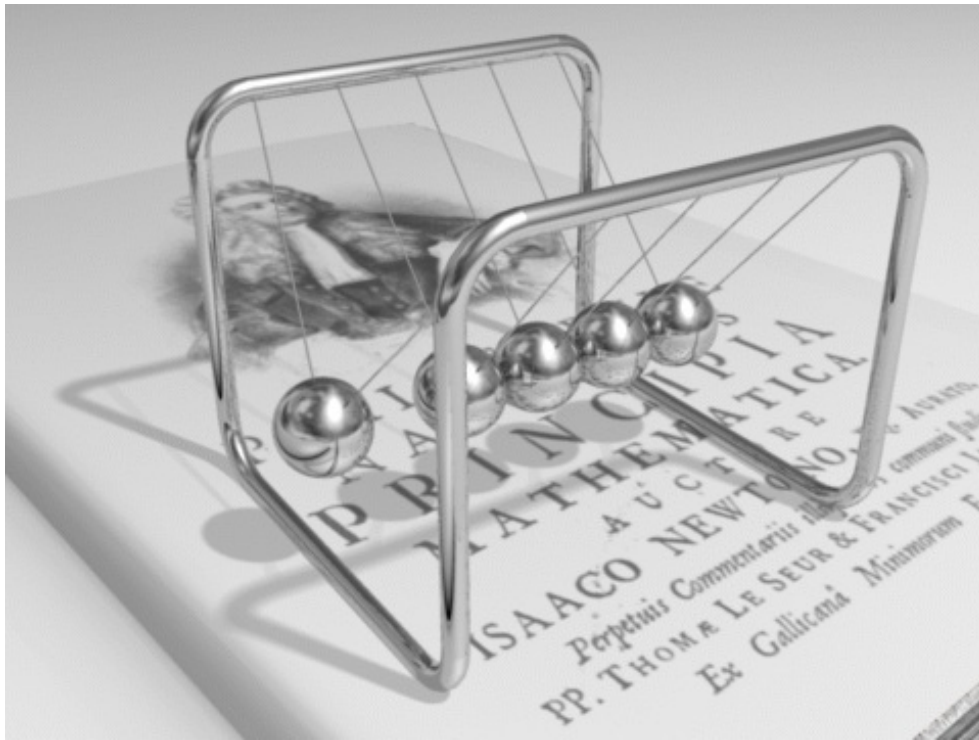
The “Lingua” saga that unrolled before our eyes in recent weeks is especially interesting because there are now some 10,000 scientific journals around the world that operate under open access conditions. I can also gain recognition in the scientific community if I publish open access, i.e. make my findings freely available. And yet very many well established publishing brands continue to pursue a business model that is incompatible with open access, even though Elsevier – one of the largest scientific publishers in the world – has now been forced to make concessions, occasionally permitting open access under conditions unfavourable to authors.

**Scientists’ decisions on where to publish their findings often depend to a great extent on the impact factor, a measure that supposedly reflects the impact of a scientific publication. So any journal established by the makers of “Lingua” will also be faced with this problem.**

To start with, open access and the impact factor are two different things. As a biologist, for example, I can publish with a high impact factor in a completely open access journal; this seems to be compatible.

And yet the impact factor is the epitome of publishing that has to a large extent dissociated itself from the idea of disseminated findings, making them accessible and encouraging scientists to expand on the work. The impact factor gives absolutely no indication of the usefulness of the research. If you look at the “San Francisco Declaration on Research Assessment” (DORA), to which many scientific institutions and researchers are signatories, it becomes evident that the scientific community is [very concerned about](#) this. In many places, decisions about appointments, the allocation of funds and such like are linked to this quite nonsensical criterion.

In fact, the impact factor of a publication venue gives absolutely no indication of a publication’s novelty and interesting insight. It is astonishing how scientists – whose research is based on reproducibility and replicability – are prepared to allow themselves to be governed by a measure that lacks transparency and says nothing about the significance of the research.



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Many young researchers feel as though they have been thrown into a heated free-for-all. As a result, they are forever thinking about what their bibliography must look like in order to land a job in science or gain third-party funding. They have a point – after all, the dominant culture of publishing has its grass roots in print publications with 20th century publishing brands.

However, it is gradually becoming apparent that new things are being tried out in certain quarters. Those with an interest in their subject-matter who wish to advance publicly available knowledge about it, but are subject to these mechanisms of recognition rivalry find themselves in a complicated situation.

### **What would be an alternative to the prevalent impact factor model?**

If acting on the DORA, the alternative cannot be to identify yet one more figure that can be used to compare everything with everything else – with the emphasis on *one* and *figure*. This fixation on absolute comparability in evaluating research is the problem. It necessitates a cultural shift that may perhaps be fostered by open access, but cannot be achieved by it alone. This shift generally requires a change in thinking.

### **What role do you think publishing companies such as Elsevier will play in science in the future?**

Publishing companies such as Elsevier and their shareholders will exploit the power of their outdated publishing brands for as long as they can. That's how a business like that works.

What is more worrying, however, is that Elsevier is clever enough to have identified this phenomenon. At conferences, there are open discussions about wanting to become something of an operating system of digital science. This is demonstrated when start-ups such as the reference management service Mendeley or current research information systems such as Pure are snapped up.



Image credit: [Mark Anderson](#) CC BY

And Elsevier is quite right in its assessment: the future does not lie in the traditional journal business, i.e. in artificially restricting access to scientific content and subsequently selling subscriptions. This is the essential question that we must ask ourselves: How open should such an operating system in science be? Should the brand Elsevier operate it or do we need other players and platforms to achieve it?

### **How would an Elsevier brand operating system differ from other approaches?**

First of all it must be said that the start-ups being snapped up by companies such as Elsevier by all means add useful and new elements to the digital information landscape. Let me give you an example: platforms such as Researchgate and Academia.edu are visited by millions of researchers because they are based on the idea of wanting to have a real-time status update by colleagues and fellow researchers – as is the case with LinkedIn and Facebook. This need is being addressed by platforms, which is a very good thing.

The question is, however: Is donating all my data to a company such as Researchgate the solution? This is exactly what happens when I upload a paper there, according to their terms and conditions. Is this a sustainable solution? The question is whether, in the case of such a solution, the currently evolving digital commons can be shaped by a wide range of players or whether a “closed silo” will be created.

### **Universities are already operating their own digital repositories where scientists deposit their research results and make them accessible to the public. What role do such repositories play if you image an alternative operating system in science?**

First of all, I would like to support the repository model, which has its strong points. The original idea behind it is that universities and libraries make it their job to ensure that research findings generated there are made accessible, and that they agree on certain standards in the process. For example, open access licensing and technical interfaces that enable researchers to post their findings on the internet mean that others can then use them at various places and in many different contexts.

It is apparent, however, that the many dispersed repositories are unable to keep up as desired with the impetus generated by innovative companies such as Mendeley, Researchgate and Academia.edu. We need to develop a

holistic view of the scientific landscape and to understand what's going on. What do researchers need, where is the added benefit?

**Lots of collaborative platforms have evolved independently of scientific institutions, such as numerous Wikipedia sister projects. You consider these to be shining examples. Why is that?**

Wikisource is a truly inspirational example where enthusiasts have been collecting and describing digital reproductions in the public domain for years, and also collaborating to correct errors when words have been misinterpreted following machine recognition. This example shows that, on such digital commons platforms, people collaborate in the task of digitally preserving documents. Another objective is to enable content to be used to the best effect in a variety of contexts. Activities on this platform took an interesting turn a few years ago when biophysicist Daniel Mietchen and others began importing more recent free license works such as medical papers from the “Pubmed” database into Wikisource.



**Image credit: Wikimedia (Public Domain)**

It's worth pursuing this train of thought and considering whether Wikipedia sister projects such as Wikimedia Commons, Wikisource and Wikidata could also become platforms for all open access research results. At the moment, we're faced with the problem of having highly dispersed virtual commons where many different players – including government-funded and commercial players – seek to collect everything on their platforms. But the charm of open platforms is that a multitude of people collaborate on them. This can help prevent the sustainability, visibility and usability of content being restricted.

However, we must also criticise ourselves and admit that the criteria established by Wikimedia project collaborators are sometimes clearer than those created by the open access movement. In Wikimedia projects, for example, the term “open access” means only content offered under the “Attribution-ShareAlike” Creative Commons Licence or freer licenses.

Elsewhere, however, the term “open access” is sometimes grossly misused, such as when artificial barriers are constructed by imposing additional legal restrictions. In the case of research infrastructure institutions such as libraries, the question concerning the “operating system in science” also means thinking outside the institutional box and playing an active role in fostering such digital commons platforms. This necessitates a change in thinking.

*This is an English version of an interview conducted in the margins of the “[Zugang Gestalten!](#)” (“Shaping Access!”) conference, which broached the issue of digitisation in museums, libraries and archives and is reprinted with permission by the author.*

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### **About the Author**

**Lambert Heller** serves currently as the head of Open Science Lab at TIB Hannover (German national library of science and technology). As an academic librarian with a background in humanities and social sciences, he tries to find useful new things in the area of scholarly communication, and he writes and teaches sometimes about that. He tweets as @Lambo.

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