

Albrecht Hauff

OPEN ACCESS – A BRAVE NEW WORLD ?



First of all I thank you very much for the invitation to the lion's den. When I was asked to give you a publisher's perspective it was not exactly clear to me what was expected. I guess among all the Open Access advocates I am supposed to act as the antagonist. If this is correct, I will not completely disappoint you. However, something I'm not going to do is to argue with you about whether Open Access, in the sense of author pays for publication, or the traditional subscriber-pays model is superior. The main reason for this is that I know this just as little as anyone else does. Before we can make that judgement, we need many more experiences with Open Access than we have today.

Secondly, I would describe my personal position or my general attitude – as well as Thieme's – simply as liberal, and so I principally welcome every new idea that has the potential of bringing something better into the system – in this case to the scientific community.

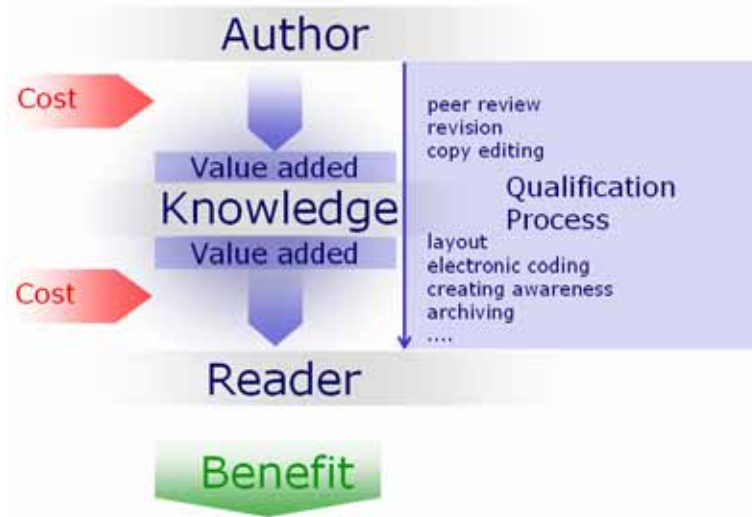
One point must be made very clear: The whole debate about Open Access is not about publishing or publishers – it is about science and about knowledge.

Being invited in my role as scientific publisher, I will stress a few things a traditional publisher brings to the scientific community. While doing so I will raise a few questions that I believe the scientific community has to answer with respect to Open Access.

What is the discussion all about?

or: The power of user benefit

As I mentioned before, at the end of the day it is all about knowledge. Knowledge is what drives science. Knowledge is crucial to all our future.



And as we all know knowledge is not just information – it is much more. There has to be value added to research information after it is initially produced by a scientist, so that it becomes useful knowledge in the hands of other scientists, where it can again create new knowledge.

So it starts with the author and it ends with the reader. Along this line there is value added, which is absolutely essential for the reader's benefit. By value added I, for example, mean peer review, revision, copy editing, layout, electronic coding, creating awareness, archiving etc. etc. Of course in this process also is a lot of cost involved. I'll come back to added value somewhat more specific a bit later.

The core driving force for this qualification process is benefit. This is what is of interest to the reader – nothing else matters. To initiate and to organize this qualification process to the reader's or scientist's best benefit is what good publishers do.

Only when these scientific publications are of use to the scientist, is he or she willing to pay for the cost that is involved in this qualification process. If it is not of use a scientist will not pay for. As you all know, in many cases a library acts as an agent for the scientist.



At this point comes my first and foremost question to the advocates of Open Access: Have they carefully thought enough about the power and the efficiency of user benefit? Efficiency only develops if the user determines what supply should be on the market. In Russia, East Germany and many other socialist countries we saw what happened in an environment where suppliers determine what is on the market: Inefficiency all over the place, ever increasing price levels, unless the publications are heavily subsidised, and – most importantly – decreasing or outright poor quality.

This might well be a scenario for scientific information in an Open Access environment, since Open Access publishing models work exactly alike: Suppliers – in this case authors – determine what is on the market, with no consideration as to whether it is of use to the reader or not.

The only way for a subscription-based journal to survive financially is to deliver at least as much quality as necessary to find a sufficient number of people who are willing to pay for it. So - such a publisher will always try to get better content than before. Otherwise he soon will be out of business.

A journal based on the author-pays model will only financially survive as long as it gets a sufficient number of papers to cover its cost – with no difference what the quality of a single paper might be.

To give you an example of how the financial picture of an Open Access journal might look:

The New Journal of Physics, a joint venture of the Institute of Physics and the German Physical Society, is one of the older Open Access journals, launched back in 1998. In 2003 it published 161 articles. The present publication fee is 400 GBP per article.

IOP said about their journal earlier this year: "In order for NJP to cover its costs three key assumptions need to be met:

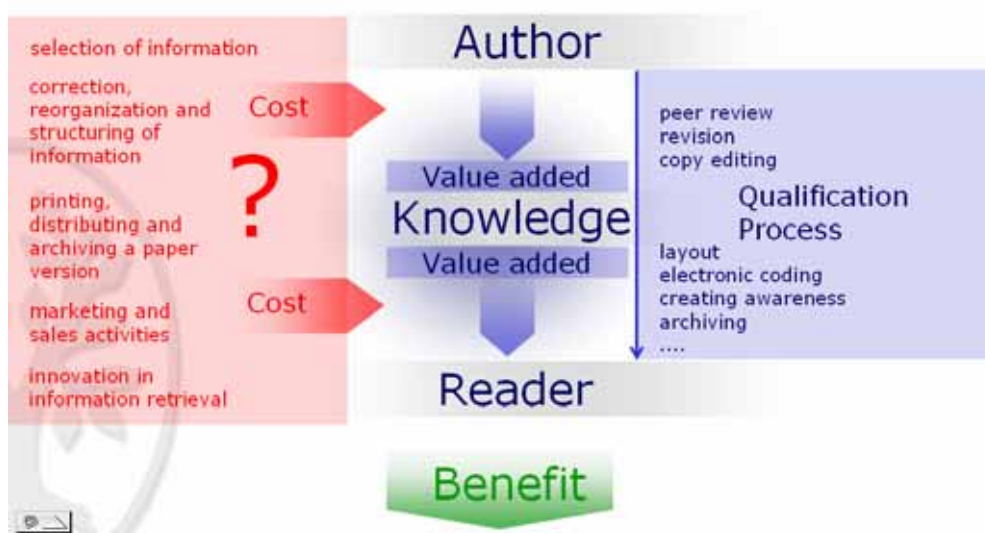
- The number of published articles grows from the present level of 161 to 400 per annum – an increase of 150%.
- The publication fee increases from the present 400 GBP to 600 GBP.
- The proportion of authors paying the publication fee increases from the present 60% to 95%.

For the journal to cover its costs, the annual income has to grow almost ten times from its present level. The time period for repayment of the total investment will be almost 20 years – if growth is not as high as hoped for, it could be even much longer. The total investment in NJP by the Institute of Physics and the German Physical Society, only up to now is in range of 1 mill. €.

What do you think? How many scientific societies in the world will be able to bear such an investment – and for how many journals?

Why does qualification cost money?

Coming back to the qualification process I mentioned above, I'd like to briefly describe the core aspects of that process.



It starts with selection (editorial board, peer review). Everywhere we see an exponentially increasing body of information. The most important part of the publication process is the selection of information. Beyond this, publishers place that information in a wider context that frequently enhances its access intellectually. Virtually all information that distilled out of the pile needs to be corrected, reorganized and structured in many ways (photographs, drawings, tables – not to forget XML coding etc.). This process increases information quality and improves understanding. Thieme has been publishing for more than 100 years and employs close to a hundred scientific editors. There is a tremendous source of tradition, education, experience and dedication.

Then there is printing, distributing and archiving a paper version. This to some people seems to be the most anachronistic part of publishing. Indeed, without paper, access will be much more limited. First, large parts of the world have no access to electronic only information because of lack of infrastructure. Second, there is still no proven long-time archiving system for electronic data.

Let's also not forget marketing and sales activities. Some people believe this part of the process could be eliminated in an Open Access-publishing process. To me, this is a serious mistake. Isn't it exactly marketing and sales activities that actually enables the widest possible access? (I'll come back to this later).

Last but not least, we have always seen a lot of innovation in information retrieval, which has over the last 10 years tremendously accelerated. Most of this innovation has only been made possible by the competition among traditional publishers – be they commercial or society publishers. Even pre-competitive innovations such as the digital object identifier or the CrossRef-system (the latter being probably the most remarkable step forward in scientific information retrieval) were realized by publishers. What was our motivation to do all this? Our motivation was to improve access!

Not to forget: Beyond the reader's benefit this qualification also creates a lot of author's benefit, which was nicely described by Roosendaal and Geurts:

Why does qualification cost money?

Author's benefit

Roosendaal and Geurts 1997

Registration

which allows claims of precedence for a scholarly finding.

Certification

which establishes the validity of a registered scholarly claim.

Awareness

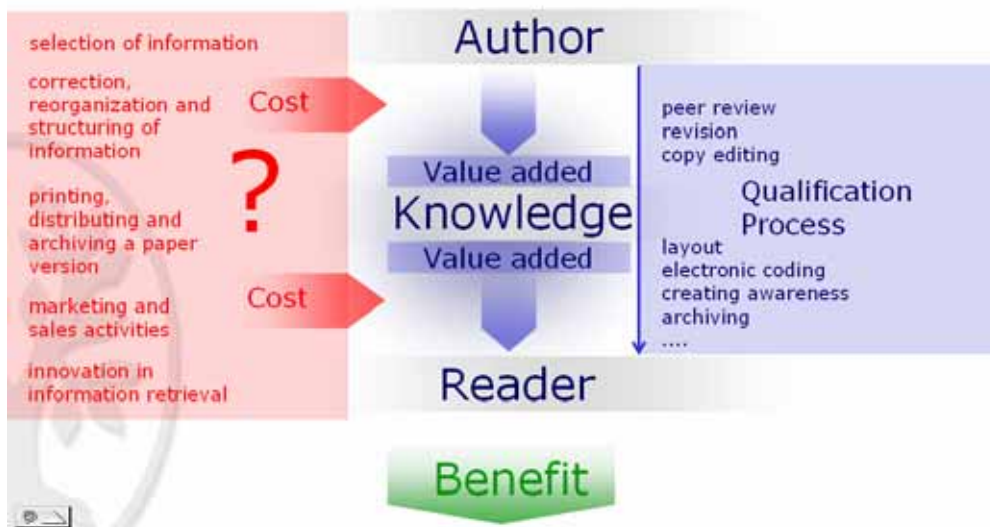
which allows actors in the scholarly system to remain aware of new claims and findings.

Archiving

which preserves the scholarly record over time.

Rewarding

which rewards actors for their performance in the communication system based on metrics derived from that system.



Isn't it quite obvious that the qualification process that adds a tremendous amount of benefit to information access for scientists needs highly qualified and well-trained people? Isn't it also obvious that this process costs money? It doesn't matter whether it is being organized by traditional publishers, by Open Access publishers, by universities or by the state (in the latter case it will cost even more money).

In the light of these facts let me ask you: "Isn't it false to argue that research institutions or their funding bodies have to pay twice for science? Isn't the subscription fee simply the price for qualification that is being needed?"

In principle there will be substantially less pressure on Open Access publishers to invest into this qualification process in the same way as traditional publishers do today, because quality is of lesser importance within their business model. Subsequently quality and benefit for the user will decline – exactly as we saw in the socialist countries before the Wall came down.

Let's also assume for a moment the less likely scenario, in which Open Access publishers will invest in the same way as traditional publishers do. Then logically publication cost will roughly stay the same.

A British colleague of mine was recently asked, if he considers PLoS Biology to be a journal of good quality. "Of course", he replied, "but give me nine million dollars and I will easily provide you with a journal of at least the same quality".

What is the real problem of the journal crisis?

Let me now come back to dissemination of scientific literature. In the Open Access discussion it is often claimed that publishing will be cheaper because there is no longer a need for marketing and distribution. Before being too optimistic in that respect, one should not forget that today's distribution system through libraries has been developing over centuries, and that it is working fairly efficiently, apart from the problem of library overhead, which in many institutions seems to be way too high. Certainly more than 80 or 90% of libraries' journal business is being handled by, let's say, 5 to 10 aggregators. Every scientist knows how information retrieval through libraries works.

But how will this work, when hundreds of thousands of scientists put their works on their own server? Even if libraries were to take over a clearing role within their own institution – how are they supposed to deal with thousands of authors and ten thousands of single publications?

Even if there were some savings in marketing and distribution, it is very likely that we would see additional cost for marketing to recruit authors in a more mature Open Access environment.

In the light of all this: Can we really expect any substantial cost savings by Open Access Publishing?

I seriously doubt that Open Access will solve any financial problems in the scientific community. And here I may quote Stevan Harnard: "Even if all journals were sold at cost price, almost no university could afford all or even most of them." Moreover, if the institutions are not spending their funds on subscriptions, they will be spending them funding Open Access.

I would like to read you another statement and ask you whether you agree: "Librarians are suffering because of the increasing volume of publications and rapidly rising prices. Of special concern is the much larger number of periodicals that are available that members of faculty consider essential to the successful conduct of their work."

This statement is from a report of the Association of American Universities from 1927. The more things change, the more things remain the same.

Obviously the real problem here is the increasing output of scientific information. As long as society – and so the scientific community - believes this increasing output is of benefit for our future, it has to provide increasing financial support accordingly. The only other valid way around this problem would be to limit scientific output, which I think no one wants to seriously consider.

Here's the reality: All over the world – certainly in developed countries – there is a notion that the world is moving into an information society and that our economies will increasingly become knowledge economies. At the same time, in 2003 the top 100 US university libraries received 25% less of their universities' budgets than they did in 1998.² The situation is not very different in many other countries.

You would think that in this environment libraries hold far fewer subscriptions than they used to. The opposite is the case as the Wellcome Trust report shows:

"On average, all UK HE institutions have been steadily increasing the number of journals they subscribe to over the last few years (figure 1.4). Old universities now subscribe to 52 per cent more titles per institution over the same period, and the figure for HE colleges is an increase of 92 per cent. No doubt bundling has played a major part in these rises."

Who seriously wants to question whether access has not tremendously increased in recent years? This all has happened in spite of more or less flat budgets. It has been made possible by innovation and investments from the publishing industry.

Shouldn't we stick to economic realities?

With regard to the “affordability” problem, let me briefly comment on two constantly discussed aspects of the pricing issue.

1. apples and oranges
2. too high prices and too high margins

1. In a hearing on Open Access issues in the UK Parliament a committee member asked publishers: “Can you tell me why in the last 5 years retail price index has gone up 11% but average cost of a journal has gone up a massive 58%?”

1. apples and oranges

2. too high prices and too high margins



This is the kind of thing that makes me angry:

Most statistics which cite increasing journal prices by percentages well above other price indices do not count on a price-per-page basis, but on a price-per-journal basis. They never consider a price-per-use basis, which might be an even more accurate measure. Those statistics simply do not show a true picture, because they compare, for example, a journal that published 24 issues per annum in 2003 and 12 issues only in 1997. To me this is like driving a Mercedes C 190 in 1997, buying a Mercedes E 420 in 2003 and then blaming Daimler-Chrysler for a huge price increase.

2. I frequently come across a number of people in the scientific community who are generally blaming STM publishers for too high price increases and profit margins which are unreasonable.

First, for more than 98% of all STM publishers this is simply not true: Neither the price increases nor the profits margins of the vast majority of STM publishers are unreasonable.



Secondly, commercial publishing does definitely not equal high journal prices.
Just to give you an example:

(Organic) Chemistry Journals
Cost Effectiveness (based on 2003)

Journal	Price per Page in \$	Publisher
Journal of the American Chemical Society	0.16	American Chemical Society
Journal of Organic Chemistry	0.18	American Chemical Society
Synlett	0.40	Thieme
Chemistry - A European Journal	0.41	Wiley
Helvetica Chimica Acta	0.42	Wiley
Synthesis	0.48	Thieme
Chemical Communications	0.48	Royal Society of Chemistry
Organic Letters	0.55	American Chemical Society
Angewandte Chemie Intern. Edition	0.60	Wiley
Advanced Synthesis and Catalysis	0.66	Wiley
European Journal of Organic Chemistry	0.67	Wiley
Organic and Biomolecular Chemistry	0.74	Royal Society of Chemistry
Tetrahedron	0.97	Elsevier
Tetrahedron Letters	1.10	Elsevier

If there really is a misuse of market power by a single publishing company, then it is clearly time for the antitrust authorities to step in. But is it a reason to throw out the baby with the bath water?

There is in fact a much easier and very straight forward way to deal with this problem. Do as the universities of Cornell, Stanford, Stuttgart or many others have: Cancel journal subscriptions to journals which you find offering an unreasonable pricing policy. The faculty senate of Stanford even encourages faculty to withhold articles and reviews from publishers who engage in questionable pricing practices.

Of course I perfectly understand that there is concern that a very large publisher might gain an overly strong position in the market. But also do not forget that there absolutely is pluralism in the world of scientific publishing. There are more than 2000 STM-publishers, and roughly 50% of all STM-journals are being published by scientific societies or by so-called not-for-profit organisations. Just on the side: Not for profit is a tax status – it does not mean these organisations are not making money. They happen to call it a “surplus”.

What’s wrong about profits?

Speaking of **profits** (or surplus, as the case may be) – being the publisher of Thieme I have and I feel responsibility for my customers, my editors / authors and for my employees. In order to fulfil my responsibilities to each of these constituencies, Thieme has to make a profit. Our customers expect constant improvements of products – this is only achievable by reinvesting money we have made before. Our editors / authors expect a fair honorarium as much as an active marketing of their products. Last but not least our employees want adequate compensation for their professional work. Again this we can of course only pay out of the surplus we make beyond production cost.



Ethical publishers such as Thieme -and many others – have been in business for a century or longer. We are proud of our long-standing tradition of inspiring and encouraging science.

Have Open Access advocates – especially those who very frankly want to get rid of commercial publishers – yet thought enough about what science might lose by losing the traditional publishing system? Don't they run the risk of losing a lot more than they think they can win – and how much of this may well be irreversible?

Might Open Access publishing create undesired effects?

Another issue that needs to be addressed much more thoroughly is the question of how independence of science will be influenced by Open Access. For example, in the author-pays model, will some African institutions have the same chance to publish their results as an Ivy League university? Won't it hurt freedom of science, if money determines whether researchers will be able to publish their results? Won't, then, countries such as the US dominate the scientific world even more than it does today?

Interestingly in countries like the US, GB and Germany experts agree that health care systems are highly overregulated and subsequently ineffective and costly. They most importantly recommend reducing governments' influence at all levels to enable more competition. Why in heaven do some people want governments to step in to organize – or should I say to disorganize – scientific publishing systems?

Another question which must be investigated concerns what I call “capitalistic subsidisation”. In the current system where demand determines supply, commercial companies very often pay a much higher price for an information product than academia does, because the product is of high benefit to those companies. As soon as scientific information is available for free – to the users, at least- , both scientific publishing and the scientific community will miss a tremendous amount of money coming from the industry today. To give you a simple example: Synthesis and Synlett, two of our most prestigious journals, derive about 60% of their income from industry. In an Open Access environment, this revenue will have to be paid by the authors themselves.



There is one other fact that makes this a problem: Only 5% of all papers published in Synthesis and Synlett come from industry. So about 55% of the costs of Synthesis and Synlett (today being covered by industry) would have to be paid for by academia. A few times in the recent months I read suggestions how to solve this problem. Industry should make a voluntary contribution. Very frankly – isn't this a little bit too naive?

Last but not least: please consider that Open Access is pitting scientist against scientist, as it is at odds with many scientific and medical societies because it threatens their journals. The surplus these journals now provide support the educational and advocacy activities of the societies. How will those activities be paid for in the future?

There are many more questions that need to be answered. But let me summarize at this point, what I think is most important.

1. Publishing is qualifying information in many ways. This costs money – no matter who does it.
2. Therefore Open Access publishing – in my eyes – is a business model and it will be judged accordingly.
3. Open Access ventures will learn the costs of publishing. If, however, Open Access develops into a religion, it will be a disaster.
4. Whatever publishing model is successful – it is not the government who should say which model is to succeed.

5. As long as user benefit, as the driving force, determines what is on the market, you will get ever increasing quality. Up to now all systems that have gone the other way round eventually failed.

6. There is no doubt that our economies will increasingly become knowledge economies. As long as society believes this to be of benefit for its future, it has to provide increasing financial support accordingly.

7. The scientific community must be aware that it may lose a lot more than it may win. Do not destroy the quality and added value that has incorporated in science publishing for hundreds of years as long as Open Access has proven neither sustainability quality nor affordability.

References:

¹ John Haynes, IOP Publishing Ltd. in: Nature web focus (5/2004)

² The Observer, April 18, 2004

³ Wellcome Trust Report 4/2004