

Open access: look both ways before crossing

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This objective view of the pros and cons of open access explores the situation as it was in early 2004 and considers some of the ethical dilemmas that can both arise as a result of changing business models and lead to the creation of new models. Some interesting theories are examined to demonstrate how easily a destabilizing effect could occur, and the likely impact of this on different communities in the world of scholarly journals is considered. Finally, a realistic view of the various possible future outcomes is given with a cautionary tale, some sound, unbiased advice and even a visit to the planet Magrathea thrown in for good measure.



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Introduction

In an attempt to set some context for the debate about open access and to draw attention to some of the possible implications, I am going to present you with the reflections of somebody who is a little sceptical about both sides. Now let me stress straight away that I am genuinely neutral about access: I can see advantages and disadvantages to the current model but equally, I can see advantages and disadvantages to open access models, or indeed to other models that may follow open access.

As an optimist myself, I very much like this rather optimistic quote from the mid-1960s by General Curtis LeMay, particularly the bit about having superior global air power:

“If we maintain our faith in God, our love of freedom, and superior global air power, I think we can look to the future with confidence.”

It is a wonderfully ironic collision of ethical and political values. Those of you who have any background in the history of the sixties will, of course, realize that shortly after this, Lyndon B Johnson launched ‘Operation Rolling Thunder’ and the American forces in Vietnam became embroiled in a long and ultimately futile war, thought by many to be morally wrong. So, global air power is not necessarily the solution, and one or two things I want to say today will reflect on the

fact that our equivalent to global air power may actually be a little bit flawed as a model.

I am going to make some assumptions and take certain things for granted for the purposes of this talk:

- Almost all journals will be e-journals. Firstly, we are fundamentally talking about an electronic medium. The issue of paper remains, but I am not really going to address it here.
- Complex multimedia will become increasingly important. Everything I say is in the context of things which are not just reproductions of paper journals, but are wide-ranging products that include moving video and may well include interactive tools to help people manipulate data as well.
- There will be a role for paid-for premium titles. I see no challenge, even under the full open access model, to a small number of premium products remaining paid-for. I do not want to get into arguments about whether *everything* will be open access, and I also think that secondary publishing remains, for the time being at least, a perfectly viable paid-for business.
- Societies are not immune. I think societies are sometimes picked out as being perhaps a little bit less vulnerable and

immune to these changes but I do not consider them any less vulnerable.

For reasons of clarity, I am going to use the Budapest Open Access Initiative definition of open access – effectively, free at point of use – which can be achieved in a number of ways. The two primary ways are through open access journals and through open archiving. The latter, according to some commentators, can co-exist with a conventional subscription-based journals model. Archives where authors deposit the most recent versions of their papers can be organized by discipline or institution. Currently, I believe that around 60% of publishers permit this in some form. Refereed papers can be deposited by authors in openly accessible online archives, although some publishers incorporate some form of time delay, so that a paper can be published in an open access archive after six or twelve months.

Where we are with open access

Let us look briefly at the current situation. When I checked recently, there were around 794 open access journals, based on the *Directory of Open Access Journals* (DOAJ). Let us presume too that some may not have made it into the DOAJ. How does this compare with the conventional subscription journals? It is difficult to be certain, as estimates vary. Eugene Garfield, for example, suggests that there are 15,000 scientific journals of, if you like, regular use, repute and note. Some people put the figure as high as 20,000, based on bibliographic statistics drawn from sources such as *Ulrich's*. Regardless of exact numbers, the point is that we are talking about a great deal of difference between the number of open access journals and journals subscribed to in the conventional way.

Tenopir and King reckon that in the order of two million articles are published per year, and you will see why that number matters in a little while.

Current revenues are rather hard to estimate. They are often put at between \$3 billion and \$5 billion, but usually the figure is nearer the bottom end of this. If you talk to the two main subscription agencies they tend to say they have one third of the business and they each command something like one billion dollars' worth of business. The EPS study put the whole STM

market at around seven billion dollars, but that included a lot of things that were not journals and it put the journal figure at half that. Those are revenue figures, and it is worth remembering that for most publishers, 10% of journals make almost all the profit.

It is for most publishers very much a stagnant, not a growing, marketplace. Things change, but there is a lot of battle for market share going on, rather than any huge growth in the overall market. Any growth that has been achieved in recent years has been achieved by and large at the expense of other things in library budgets.

Per-title subscription rates are increasing, but this is a very confused picture. The evidence given to the Parliamentary Select Committee¹ recently was that list prices have increased by something like 50% over the past five years. However, the publishers point out – not without justice – that in fact a lot more is made available now and very few people pay the 'list price' for a journal. Under bundling agreements it is very difficult to determine real costs-per-title any longer and what is in fact happening, according to publishers, is the cost per article read is dropping quite dramatically because people are getting so much more for their money. Increased usage offsets additional costs.

Society journals are often much cheaper. I think that figures from ALPSP have established that over a consistent period of time the commercial journals tend to command a price premium. Whether this is justified or otherwise is a question that bears very much on this debate.

Proposals for author fees are very varied. A figure was left lying on the table at the Select Committee of something like \$30,000 per article for publishing in *Nature*, but this seemed to be a revenue substitution model. If its publishers had to get back for *Nature* everything they currently earn in subscriptions, this is what they would need to charge per article. So that is very much the upper end. A common figure floated around for the lowest end of the range is \$500. We will do some numbers in a little while to see if that stacks up.

One thing I should make clear within this context is that, although we have just talked about journals, this is only one aspect of the wider spectrum of communication and I don't think we can really divorce journals and publishing from the other things that are going on: we also need to consider things like self-archiving and to look at

the role that discovery and navigation resources will have to play. Some of you who have come across John Smith's work on 'the deconstructed journal'² will know that his idea of a range of resources sitting above collections of articles is a very interesting one in the context of open access models. So all of these things could co-exist and so could much more informal channels of communication such as discussion forums and list servers. We cannot box publishing into clear categories any longer.

Ethics

I consider the subject of ethics very important to this debate. I qualified as a librarian in 1979, which some of you may remember was the year in which Margaret Thatcher was elected. Public service jobs took a dive off the cliff around that time and it became rather difficult to practice, so since qualification I have *never* actually succeeded in working as a librarian! However, I remember well the fact that it was in many ways an ethical discipline. Ethics, particularly ethics of things like access, were very important to the community and I think that remains the case. It is very much a service view of the world: that libraries exist to serve the clientele, and that they have to do that in an ethical way.

Now that is what brings me on to the issue of the tension between how much the community is prepared to pay, and how little publishers are prepared to do it for. We are therefore not talking about whether it is right to make a profit or surplus, but rather what is the right amount of profit? What is an ethical amount of profit or surplus to make? There is also the question of what those profits and surpluses are going to be used for. In a conventional market model they are used to pay dividends to shareholders and for most of us, this also means into our pension funds. So we are not talking about profits that are lining the pockets of abstract, fur coat-wearing, top-hatted capitalists. This talk is being given in the Manchester of Dickens and *Hard Times*, but that is not the way things are any longer. The context is now the large capital market and for one particular reason I will come on to, that is a very important concept to bear in mind. Profits and surpluses also go to investing in new development. Elsevier and

other larger publishers stress that they are actually spending a lot of the money they make by investing in new products. In the case of a society, it can go towards advancing the aims of the society. Some societies' journals are not profit-making, but for a number of societies the journal is an important source of revenue and if that were to go away, then the society would indeed suffer.

There is also the question of whether we should be looking at value added rather than profit. Profit is the measure which is left over when things like the whole cost of running the company is taken into account. However, if we look at value added, that can include things like the management's salaries. So are we looking here at revenue that is used for paying editors and other staff, as well as to ensure profits or surpluses? Is there room within the concept of value added to look at what is going on within the company? Some of the open access community, I think, feel quite strongly that there is. They feel that effectively supporting the structure of a large organization is not the best use of the money that comes out of subscriptions and it is a fair point of view, but one that has some consequences.

That takes us then to the issue of shareholder value. A publicly-quoted publisher, in other words somebody whose stock price is quoted on any of the public markets and where there is a trade in those shares, does find it very hard to take a hit on any profitable activity without being hurt in the financial markets. The share price drops any time a company announces that something is changing for the worse in its business model, when for some operational reason it is not going to make a profit, or it has to write down something like, say, oil reserves. The share price then falls and this is very hard for companies to sustain, because their external institutional shareholders will immediately start to put some pressure on them. Societies can also be very dependent on surpluses in a similar way. The membership will start to put pressure on if the publishing arm stops generating the contribution that they have come to expect from it and their membership fees start to rise.

So the problem may be around corporate culture and behaviour, not profit as a principle. If we start to disrupt this model we could, possibly, destroy the share price of commercial publishers. Now there may be nothing inherently wicked in that and that is maybe what is going to happen.

My concern at the moment is that we do not have a very robust proven alternative business model and, remember, I say this as an outsider. I am not actually putting forward an agenda for the publishers here because I think open access could work, but it is not yet proven. I think there are some difficulties in the transition phase that people need to think about. If we look at that \$3 billion and take the two million articles, you can start to come up with \$1,500 – a slightly different figure from the \$500 I mentioned earlier. If you assume a slice of that \$3 billion is profit and you might be able to trim that element, perhaps maybe half a billion out of that, you are still left with a very substantial amount of revenue that somehow has got to be found from somewhere to let it happen. That may be a diffused model: in other words, it may be spread across a huge number of institutions, providing, for example, secretarial support to academic staff for the administration of an open access and peer-reviewed journal – even if it is one actually run without formal publishing structures, perhaps by university departments themselves. Somehow that effort still has to be found and funded. Someone also needs to provide capital for development, particularly during a transition phase. If you are going to develop something like a complex multimedia product, it is not cheap. It may very well be that institutions may underwrite some of this expenditure. I simply want to point out that it is not going to come out of thin air and it is going to have to come from something else, because academy budgets are not indefinitely extensible.

That leads me to the view that all publishers are therefore vulnerable under this model. They are all susceptible to commercial pressures from outside, from members or from shareholders. They all have to find money to fund their developments, so the ‘non-profit’ publishers are by no means exempt from the problems of sustainability of this model.

The fragility of stability

A very interesting management writer, Clayton Christensen, in his book *The Innovator's Dilemma*³, expounds a theory that, if you are an incumbent in a marketplace, you produce high quality products for that market. You are very close to the needs of your customers. You understand what they want; you have channels of communication with them

such as exhibitions and user group meetings. You have all sorts of mechanisms for trying to meet their needs, improving incrementally. As they have a new requirement, you try and meet it as an incumbent player. You have plenty of funding to enable you to do that because you make lots of money out of this marketplace.

New entrants coming in often offer an inferior, less complete product that can be dismissed or ignored by the incumbents and, importantly, by their customers as well, because they simply say it is not good enough for them and will not meet their needs.

What then happens is that the customers and the incumbents focus on refining and improving the current offering at the same time as dismissing the cheaper, faster, but really not very good, new-entrant product. This sets the scene then for disruption. They may be right in the short term to dismiss it, but this can turn out to be a critical failure, because what happens is that the new entrants can then often build a small base – a different kind of use, a different kind of customer – that generates enough cash to start improving the product. While this is happening, the incumbents go on making improvements to their products to retain customers, but before long the entrants have assembled sufficient capital and enough customers to fight their corner and enhance their offering. The incumbents wake up one morning, the tanks are on the lawn and they think: ‘How did that happen?’ The result of this is that the industry which suffers from this eventually turns out to be worth a lot less than it once was, unless it can manage to hugely expand its marketplace. It is far more competitive and for any player it is much harder to generate very high levels of profit.

If this situation reminds you of where we are at the moment with the journal publishing model, then that is obviously quite intentional on my part. I think that is largely where we are and the criticisms of things like open archiving and the open access journals model are very much the incumbents’ criticism of the new but not very good entrant with a not particularly well worked-out business model. But that does not mean it will not happen. Because, after this process, the incumbents are often destabilized *enough* to offer an opening to the new entrants. They are sometimes dead, but more often they are badly injured.

If you look at some examples, when personal computers (PCs) were first launched, the mini-computer manufacturers – people like Data General and Digital – said this was no threat to them: these things were incredibly limited devices, you couldn't do anything with them, they were not what their customers wanted to run their back offices or their factories. They were absolutely right at the time, but the PC manufacturers went on improving their products. If you could now find in use somewhere a PDP 11, the prime leader in the minicomputer market at the time of the launch of the PC, I would be very surprised. There are probably some ticking away somewhere, running ancient operations, but by and large the personal computer manufacturers managed that transition from new entrant to mainstream. Out of their inferior product they built a customer base that allowed them to turn it into the product of preference for its class.

The same happened with Japanese cars when they were first launched in the US. American consumers did not want them. They were small, they were tinny, and had none of the requisite gizmos: radios, air-conditioning, etc. Nowadays we can see that, as you drive around in the US, a lot of cars, to put it mildly, are Japanese. Photography is going through the same process at the moment. The digital camera, not a particularly high quality device five years ago, is now producing very high quality images and being increasingly adopted by photographers, to the great concern of the whole photo processing industry. I think you could also argue that printed books, when they supplanted the manuscript, were regarded in exactly the same way by the people who bought illuminated manuscripts. The ink came off your pages, it really wasn't very attractive to look at, it was, heaven help us, black and white, rather than beautifully illustrated in colours and gold.

Lastly, I just flag that this is part of a wider type of economic thinking. The economist Joseph Schumpeter had a theory of what he called 'creative destruction', that this process was absolutely necessary to industries, that they simply could not survive if from time to time their businesses were not disrupted. They stagnated, they ossified and they fell over and died of their own accord and it was this process of disruptive innovation that actually kept them alive.

So if we go down the disruptive route and move towards something that destabilizes the current model, where might we be? I am going to look at some different communities now, to see what the impact might be:

Impact on researchers One impact on authors would be that they might have to face differential charges for high impact factor journals if we go down the author-charging model. The open access community might agree amongst themselves that, for ethical reasons, they are not going to do so, but somebody could well come along and say they felt justified in charging rather more to be in a particular title. As users we could have many more articles available, but it could be much harder to find them as well, because they may be on places like open access archives rather than in conventional, bibliographically-managed journals. Remember I said I thought the secondary services had a very viable future, and one of the things that they have a viable future doing is tying all this together. If the amount of output increases as people submit more in the hope of getting published, then they might find that more time, effort and resources get expended by editors and reviewers. If the total population of publications increases in this way, it raises the question of who is going to pay. Is it going to be an overhead that is generally absorbed into the system by academies themselves, or is some independent source of funding going to be needed to cover this, and how is the accounting for that going to be worked out? It is a pragmatic difficulty, but one that has to be thought about.

Impact on libraries For libraries it would obviously mean budget reductions if the subscription model ceases and withers away and the open access model becomes far more important. So we might then have in libraries much more emphasis on assisting access in tracking down these things in different places and perhaps less on the process management of organizing the collections, chasing up missing parts, and so on. It poses the question: 'What is the relevance of the custodial role and what might the library's role in open archive management be?' They do undoubtedly have metadata expertise and there are not many places within an academy or within a publishing house where you can find the depth of

metadata expertise that you find in a library. However, I would say that it is not axiomatic that this superiority is going to continue. Lots of other people are developing it as well.

Impact on publishers For the publisher it depends very largely upon the speed of transition. Ninety per cent of journals do not make much of a profit and if the overall profits are affected, those low-profit journals become unviable very quickly. So you might see a very serious reduction in the number of titles published, and in a short time. Would the publisher stay in the game? Well, not necessarily. If they are not able to cut back on their costs, for example by eliminating inefficiencies or unnecessary expenses, they are going to start losing their margin. They might make some profit, but it is going to be nothing like as much as they made previously, so one thing they could consider is reducing their management overhead. Beyond that, where is there to go other than biting into shareholders' funds, which is not going to be popular with shareholders and ultimately with us as pension-holders. Cash is perhaps the most important reason for a journal publisher to stay in: cash is extremely attractive for a journal publisher. It is very good ballast to other aspects of their business that might not be so cash generative, but even that has its limits. Businesses have a responsibility to shareholders as a dominant stakeholder. What would happen if publishers reached the stage where they decided they would rather not be there? They could sell their business, of course, but this just defers the reckoning, because the next person to pick it up is going to have exactly the same problems and issues to think about. Or, they could simply close it. Richard Nixon, after the failure of one of his congressional campaigns in the 1960s, said to the press: "You won't have Nixon to kick around any more." Effectively, he was saying: 'I quit.' Why should a publisher not do so under the current circumstances?

The future

So what are we going to do? The open access model is economically weak at the moment and I am led to wonder whether, perhaps, it is the catalyst rather than the future. There could be a number of possible outcomes for the future:

- Stasis: models might co-exist for a while, with subscription models continuing to dominate

and only very slow success for open access. We probably wouldn't see any sort of reduction in the prices of current journals.

- Revolution: open access publishers might think very hard commercially about what they are doing and decide to go hard after profitable B-list journals rather than trying to target the really big ones with too much 'brand' and too much reputation. There are a lot of also-rans that are published perhaps by commercial publishers, which make a lot of profit, but are not quite so 'useful'. If I was thinking seriously as an open access publisher and I wanted to destabilize the current model, that is where I would go first, because I know I would take a big slice out of the arsenal and resources of the commercial publishers.
- Evolution: there could be evolution, where things co-exist for a while but gradually open access grows more important. We might see a price reduction or levelling-off under the impact of open access, with those higher subscriptions starting to come down and value for money increasing. In other words, we could see a gradualist model and I think, broadly speaking, that this is the model that most people intuitively believe at the moment will happen.
Or, there might be a period of –
- Chaos.

So what are you going to do next week about all this? Effectively, if you are a publisher, you have to decide which of those scenarios you think is going to come true and place some bets accordingly. If you are a librarian or an academic, you need not be quite so worried about it just at the moment, but you will have to start thinking about how you are going to organize your academy, both from the point of view of providing resources and the research.

I began by saying that I was an optimist, but I am also a realist, and as such would like to conclude with this quote:

"And thus were created the conditions for a staggering new form of specialist industry: custom-made luxury planet building. The home of this industry was the planet Magrathea, where hyper-spatial engineers sucked white matter through white holes in space to form it into dream planets – gold planets, platinum planets, soft rubber planets with lots of earthquakes – all lovingly

made to meet the exacting standards that the Galaxy's richest men naturally came to expect.

But so successful was this venture that Magrathea itself soon became the richest planet of all time and the rest of the Galaxy was reduced to abject poverty." (Does that strike any bells here?) "And so the system broke down, the empire collapsed, and a long sullen silence settled over a billion worlds, disturbed only by the pen scratchings of scholars as they laboured into the night over smug little treatises on the value of a planned political economy. Magrathea itself disappeared and its memory soon passed into the obscurity of legend." That is from *The Hitch Hiker's Guide to the Galaxy* by Douglas Adams, which I do not necessarily recommend as a guide to the future, but which you may find has some surprisingly useful things to say.

References

1. House of Commons Science and Technology Committee Tenth Report of Session 2003–04, *Scientific Publications: Free for all?* (HC399-1)
2. Smith, John W.T., *The Deconstructed Journal – a new model for Academic Publishing*, *Learned Publishing*, 1999, 12 (2).
3. Christensen, Clayton M., *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, 1997, Cambridge, Harvard Business School Press.

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