The Open Access Interviews: Professor Jack Meadows

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Any movement dedicated to changing long-established ways of doing things is likely to engender a heated debate, and a debate that inevitably produces polarised views. Thus it is with the Open Access (OA) movement.

But what is distinctive about the OA debate is that it has produced not a simple juxtaposition of those who support the old and those who support the new. It is more complex than that.

On one side of the OA rift, of course, are the traditional subscription publishers. They are determined to protect their business interests, and fearful that OA might threaten the high levels of profitability to which they have become accustomed.

On the other side, however, is to be observed not a single movement (or even a single OA organisation), but rather a disparate collection of factions — all of whom want change, all of whom are passionate in their advocacy for OA, but most of whom end up constantly disagreeing with one another — about objectives, about strategy, and even about definitions.

In fact, the more passionate OA advocates tend to disagree with one another even more violently than they do with their publisher opponents. And the resulting internecine warfare has only intensified as publishers have begun reluctantly to provide OA — because in doing so publishers are invariably providing it in ways, and at a cost, that pleases some OA advocates while displeasing others.

The debate is further complicated by the fact that much of the discussion about OA tends to lack historical perspective. It is also frequently based on unfounded claims and unfulfillable expectations, on all sides.

Potential quagmire

One consequence of all this is that politicians and bureaucrats are frequently confused when trying to work out what to do about OA. This can lead to badly-thought-through and controversial policies, which appears to be what happened with the Finch Report — now official UK government policy — and the subsequent OA policy announced by Research Council's UK (RCUK) last July. RCUK's new policy was immediately attacked from all directions.

The upshot is that OA must be viewed as a potential quagmire for universities, for research funders and for politicians. The problem they face is that it is no longer possible not to respond to the clamour for OA. Yet the wrong response can end up making matters worse. It does not help that the abundance of advisers and consultants willing to offer advice on OA invariably have their own agenda, and often a vested interest in a particular outcome.

All in all, one is left wondering if there is anyone in the world able to provide an objective assessment of the current state of play of scholarly communication and its likely future

development, including OA's role in that development.

But perhaps there is someone. What about <u>Jack Meadows</u>, Emeritus Professor of Library and Information Studies at Loughborough University?

Before retiring in 2001 Meadows was, at different times in his academic career, a physicist, an astronomer, an information scientist, and a historian of science. During that time he also ran a number of different academic departments, and was both a Dean and a Pro-Vice Chancellor. In addition, he is a Fellow of the <u>Institute of Physics</u>, and Permanent Vice-President of the <u>Library Association</u>. And we could mention in passing that he has an asteroid <u>named after him</u> too — <u>asteroid 4600 Meadows</u> to be precise.

Vitally, Meadows has devoted a great deal of time during his life to thinking about and researching the history of scholarly communication.

"Jack Meadows' contributions to the study of the history of science, and of scholarly publishing trends are outstanding," says Charles Oppenheim, who took over as head of the <u>Library and Information Statistics Unit at Loughborough University</u> when Meadows retired. "He was involved in the very earliest experiments with ejournals, and his book *Communication in Science* is a model of how to write a well-researched but fascinating history. He also edited *The Origins of Information Science*, which is also a model history."

In total, Meadows has published some 250 articles and 24 books, including (as noted by Oppenheim) <u>Communication in Science</u> and <u>Communicating Research</u>. And he continues to research and write on such matters in retirement.

No particular dream to sell

Who better then to offer an objective assessment of the revolution sweeping through the world of scholarly communication, and to do so with an informed historical perspective? Importantly, although he has observed the development of OA over the years, Meadows is not an advocate for any specific form of OA. As such, he has no particular dream to sell, and no horse in the OA race.

Moreover, Meadows is no dry academic without any understanding of the beatings of the human heart, or the need for moderation in the pursuit of one's goals. And he is able and willing to dispense sound advice. Meadows, says Oppenheim, is "a very wise and supportive man who has time for everyone."

Former Loughborough student <u>Chennupati Ramaiah</u> — who now heads up the <u>Department of Library and Information Science</u> in <u>Pondicherry University</u>, India — can testify to the soundness of Meadows' advice.

"Professor Meadows is a true human being, and an excellent teacher, researcher and administrator. He is the only person who told me *not to work too much*, and advised me to go on holiday so that I could recharge my batteries. This helped me work more effectively, and allowed me to get my PhD degree in on time."

Doubtless a few overheated OA advocates could benefit from such wise counsel. And those participating in some of the more fervid online exchanges about OA could surely profit from

a dose of Meadows' humour. "He has a dry wit (his corny jokes are famous)," explains Oppenheim. Readers will perhaps spot this trait in some of the answers Meadows gives in the interview below.

One is also inclined to suggest that some of the more confused politicians and funders could do worse than give Meadows a call and ask for some advice.

But let's give Ramaiah the last word on Jack Meadows. "Professor Meadows thinks deeply and explains simply", he says, "Three people have had a lasting influence on my life: My Guruji, Bhagavan Sri Viswayogi Viswamjee Maharaj — who has assisted me in my spiritual life — Dr APJ Abdul Kalam, who has provided me with a role model in my daily life, and Professor Meadows, who has been a true mentor for me in my research and teaching activities."

The interview begins ...



Jack Meadows during a recent lecture tour in India Photo provided by Dr Ramaiah

RP: I understand you retired in 2001. Can you start by saying something about yourself, and how your somewhat varied academic career developed?

JW: My father was in the RAF for some years, and moved about a lot. Consequently, my early education was a bit ragged — on average, I attended a different school every year.

I was lucky enough on my National Service to be sent to Cambridge University to be trained as a Russian interpreter. A lot of our teachers were people who had managed to get out of the Soviet Union at the end of the war. I remember one poor chap introducing himself to us by announcing: "Gentlemen, I have no guts". He was somewhat taken aback when we said that that described us, too. (A large part of his intestine had been removed by a piece of shrapnel.)

When I left the Army, I went to Oxford to read physics. It was there that I encountered major research libraries for the first time. I remember being bemused when my tutor told me at our first session: "Remember, old chap, you go to the Radders, not the Bodders". I subsequently deciphered this as meaning that I should look for information in the Radcliffe Science

Library, rather than the **Bodleian**.

I stayed on for a doctorate in astronomy, and then got a <u>Fulbright scholarship</u> to work at <u>Illinois University</u> and <u>Caltech</u>. While we were at the latter my wife was much impressed by <u>Linus Pauling</u> (a rare example of someone who won two Nobel prizes). He was very insistent on the value of taking vitamin C to counteract colds. I am just finishing a cold at the moment, and my wife — who is a doctor — is again feeding me with large quantities of the vitamin.

I then taught astronomy at <u>St. Andrews University</u> in Scotland, but my interest in the history of science had been growing. I moved to London and worked at the <u>Department of Printed Books and Manuscripts in the British Museum</u>, helping prepare for the creation of the present <u>British Library</u>, while simultaneously taking a postgraduate qualification in the history of science.

Once qualified, I moved to <u>Leicester University</u> to set up an Astronomy department and to help develop history of science there. My stint in London had developed my interest in science communication and its history.

I soon found myself in communication with <u>Derek Price</u> at <u>Yale University</u>, who was a pioneer in this area. He took me once to hear the <u>Whiffenpoofs</u> singing round the dining tables at Yale.

I later set up two research centres at Leicester dealing with different areas of research communication. This led in the mid-1980s to an invitation from <u>Loughborough University</u> to take over as head of their Information Science department.

RP: A varied career indeed. But today let's concentrate on just one of your interests: Scholarly communication. This is clearly going through a period of revolutionary change. However, I suspect that some of the discussion surrounding this change is based on false assumptions. For instance, many commentators claim that until recently the scholarly journal had not changed since Henry Oldenburg established the Philosophical Transactions of the Royal Society in 1665. Is that strictly true?

JM: Untrue — it only requires a comparison of early copies of *Phil. Trans*. with those appearing today to see the difference. For example, every article nowadays is preceded by an abstract: not so in the seventeenth century. (Abstract journals first appeared in the nineteenth century as a response to the ever increasing flood of scientific literature.)

I <u>once suggested</u> that scientific journals might be studied as archaeologists study the artefacts they dig up. One could, like them, follow the modifications in the appearance and composition of journals as time has passed. Some years ago, one of my colleagues actually published an analysis of *Phil. Trans*. on this basis [M.F. Katzen in: A.J. Meadows (ed.) *Development of science publishing in Europe* Elsevier, 1980].

RP: Another common assumption made about scholarly journals is that they have always practised peer review. Michael Nielsen, however, <u>argues</u> that most scientific journals did not routinely use peer review until the middle of the twentieth century.

Elsewhere, Nature has <u>argued</u> that in the early part of the twentieth century "the burden of proof was generally on the opponents rather than the proponents of new ideas." (Which

would seem to imply that pre-publication peer review was not viewed as important, or maybe not even necessary?) Would you agree with these statements? What are the facts of the matter?

JM: It is first necessary to define 'peer review'. Must this include external vetting, or not? I prefer the more general term — 'quality control'.

Up to the nineteenth century, quality control was normally a function of the editor. (If of anybody — the main journals then were society journals, and it was assumed that papers from members could be accepted with little more than a token scan. This actually remained the policy for the *Proceedings of the National Academy of Sciences* until quite recently.)

During the nineteenth century, the growth in number of papers submitted and the increase in specialisation forced editors to look increasingly for external advice. This trend continued, of course, during the twentieth century. It took time: reliance primarily on editors for quality control continued for some well-regarded journals well into the second half of the twentieth century (e.g. *Nature*, *Lancet*).

This analysis applies specifically to the leading international journals. Worldwide and at all levels, there are many more unrefereed journals than refereed. In any case, even for the leading journals, a proportion of the papers submitted — sometimes a hefty proportion — is still rejected by editors off their own bat. It is interesting that this pre-empting of external peer review is never perceived as detracting from the quality of the journal.

In terms of 'burden of proof', I think one must dig a bit deeper. The research community was more tightly integrated a century ago than it is now, and its members typically published their work in the journals of the societies to which they belonged. Correspondingly, researchers were better prepared to accept new ideas when they came up from their colleagues for publication. (This did not, of course, prevent bitter disputes occurring between individual members of the community.)

I should add that the ideas must not be too new, nor should they come from outsiders. Some papers containing truly innovative ideas have experienced problems in getting published.

The importance of pre-publication peer review often lies less in the publish/don't publish decision, than in the advice reviewers give to authors on improving their work. (This has occasionally led to such major changes in the paper that the referee might well have been included as a co-author.) If this sounds a rather sweeping statement, it is worth noting that a recent survey found that over 90% of authors thought that their papers had been improved by the peer review process [*Peer review: the nuts and bolts* www.senseaboutscience.org].

RP: Can you expand on what you meant when you said that there are [still] many more unrefereed journals than refereed?

JM: Most discussions of journals concentrate on international, mainly English-language journals. These form a minority — perhaps only a fifth — of all the journals appearing. Many of the journals in the other four-fifths do not employ external reviewing.

For example, university-published journals are common in countries such as China and Brazil. These typically rely on editorial (or editorial board) reviewing.

RP: Can I just check my understanding: you are defining unrefereed journals as those that only use internal peer review (which presumably might consist of sending papers to members of the editorial board for review, but not to external reviewers) and refereed journals as those that always send papers out for external review? If so, what in your view are the pros and cons of the two approaches?

JM: Yes, that is the way I see it — though it may not be a universal view.

I would suggest that the main virtue of using external reviewing is that it obviously increases the range of specialist advice. The main virtue of internal reviewing is that it can appreciably speed the publication process.

The main adverse factors are, no doubt, the converse of these. However, there are other factors involved. For example, I have found that, in practice, an editorial board can often provide an adequate range of subject coverage. On the other side, use of external reviewing is widely seen as diminishing editorial bias.

RP: You pointed out that it is important to define peer review when discussing it. I guess we also need to state its purpose. You mentioned the role it can play in improving papers before they are published, but I think most people would say that the primary purpose of peer review is to ensure that only work that has been approved as valid and legitimate by the relevant research community is released to the world. Would you agree?

In addition, is it possible to say what is considered the norm today in terms of the process of peer review? I take your point about refereed and unrefereed journals, but is external review now considered the norm (and if so, how many reviewers are expected to be used?), and does the norm imply that a certain type and number of editors approve a paper before it is published (e.g. associate editors, academic editors, editors-in-chief etc.)?

JM: I'll answer the second part of this question first. Many researchers, I guess, picture peer review as involving an editor and two external referees (though variants of this scheme would not surprise them). I am sure you are right about what people see as the basic purpose of peer review. However, one has to distinguish between theory and practice.

For example, where the review process involves two referees, it is possible to compare what decision each suggests to the editor. Sometimes, and in some fields, the agreement is excellent; at other times, and in other fields, you might get much the same result by tossing a coin.

RP: This might seem to imply that in many cases reviewing (even when undertaken by external reviewers) amounts to little more than a simple publish/don't publish decision. Would that be a reasonable conclusion for me to reach?

JM: I think that overstates the case. Consider, for example, a frequent type of result, where one referee sees the paper as marginally acceptable and the other sees it as unacceptable. The former will come up with suggestions to improve it, whereas the latter has to explain why it is unacceptable.

This information is fed back to the author(s). Most authors at this stage will now submit the

paper to another journal. In doing so, they can modify it in the light of the feedback from the first journal. (The fascinating thing is that some authors submit their papers unaltered to a second journal, and that journal then accepts it.)

RP: I think we agree that there is often insufficient understanding of how scholarly journals and peer review have changed. Might that be because — aside from what you have written — there seems to be a dearth of material on the history of the journal? Or perhaps I have just not looked hard enough for it? If I am right, then why do you think there is so little material?

JM: The amount of work done on the history of journals, though it has increased since I first became interested in the topic, is still rather limited.

Journals in the humanities have probably received more attention than those in the sciences, and far more attention has been paid to the history of the book. Authors sometimes start a paper containing research on journals with a brief history. This may, or may not be enlightening. However, detailed information on the history of journals would only be useful to such authors if they actually read it, and they would probably plead lack of time for that.

Entry of commercial publishers

RP: You said that a century ago most researchers published in the journals of their societies. One important change in the way scholarly journals are produced, of course, has been the entry of commercial publishers into the market — a development that many say was pioneered by Robert Maxwell in the 1950s with Pergamon Press. What in your view has been the significance of this?

JM: Let me reminisce a little. As I said, I was trained in the Army as a Russian interpreter, and then, in the 1950s, went up to Oxford to read physics. Not long after I started there, I was contacted by Robert Maxwell, who wanted help with his cover-to-cover translations of Russian science journals. (I never found out how he got hold of my name.) From this beginning, Maxwell moved on to launching ordinary research journals.

Two innovations I remember particularly. The first was that he aimed to produce a series of journal titles covering adjacent fields (like tiles on a roof as a competitor described it).

The second was that he introduced differential pricing – different for individuals and institutions. This latter created a major fuss, especially with librarians; but when the smoke cleared, it was evident that his lead was being followed by societies, as well as by commercial publishers.

I, too, see Maxwell as a pioneer, and what he exploited was the flexibility that commercial publishers can bring to journal publication. This has been important, and offers some advantages.

For example, commercial publishers have often moved more quickly to cover new fields of research than has been possible for societies. They are showing similar flexibility in handling electronic publishing, and are spending considerable amounts of money on improving what they would no doubt call the 'author/reader experience'. (It is only fair to add that society publishers are considerably more flexible now than in Maxwell's heyday.)

That said, commercial publishing also raises problems.

RP: Indeed, I think we cannot discuss this topic without referring to the so-called <u>serials</u> <u>crisis</u> — that is, the increasing problem research libraries face nowadays when trying to pay their subscription bills. Essentially, they can no longer afford all the journals their researchers need to access. Librarians will tell you that journals produced by commercial publishers are invariably more expensive than those published by learned societies.

Would it therefore be fair to say that the affordability problem is the price that the research community has had to pay for allowing commercial publishers into the market?

JM: If I may reminisce again. In the 1970s, I organized a meeting to bring together publishers and librarians. I intended to label it *The journals crisis*, but was persuaded not to on the grounds that a 'crisis' is a short-term phenomenon. How right my adviser was: it has been a story that has run and run. (One widely discussed problem then – you don't seem to hear about it so much nowadays – was that the increasing cost of journals was skewing the library budget towards science faculties and away from the rest.)

Yet however much researchers may have queried the need for all these new journals, in practice they have not only published papers in them — they have also happily acted as editors and referees for them.

Quite soon, societies, too, became involved, agreeing arrangements with commercial companies to publish their own journals. Hence, the research community has done rather more than just 'allow' the commercial publishers into the market.

The interesting question is what would have happened if commercial firms had not moved into this market. I doubt whether society journals could have coped with the post-World War Two flood of research material.

RP: I take your point about researchers conspiring in the rise of commercial publishers. Nevertheless, many now complain that the research community has ceded control of the scholarly communication system to outsiders (commercial publishers).

They add that this has not only allowed those outsiders to appropriate their work (via copyright agreements), but it also allows them to dictate how scholarly communication takes place too. Consequently, they say, it is time for the research community to "take back ownership" of its intellectual output. Do they have a point?

JM: Going back in time, the copyright in a journal article was originally assumed to remain with the author(s). In the latter part of the last century, this changed as publishers claimed the copyright, often initially by assumption (i.e. without the explicit agreement of the author). Few authors were perturbed by the change. Their concern was getting an article published: once it had been, they usually assigned it to history.

There was some discussion of particular aspects. For example, whatever the position regarding the contents of an article, a publisher could clearly claim copyright in its layout. This was relevant to such activities as photocopying. Publishers argued that their retention of copyright aided the flow of communication. The example they nearly always quoted was this

— if someone wished to reprint a multi-author article, it was easier to negotiate with the publisher than to chase up all the individual authors.

As I remember it, the question of 'taking back ownership' was raised initially in the 1980s by institutions. Universities began to ask why members of staff were giving their work to publishers gratis, and then they [the universities] had to buy it back at considerable cost from the publishers. (There was the supplementary point that publishers were prepared to waive copyright claims for authors from some institutions, such as civil service establishments, so why not universities?)

Open Access has, of course, brought this question of copyright ownership right to the fore; yet many in the research world are still not very interested. Consider, for example, the relatively limited reaction of both researchers and institutions to the requirements of a CC-BY licence.

RP: Can you clarify what you mean when you say there has been a limited reaction to the requirements of CC-BY from researchers and institutions. I know there has been some <u>discussion</u> of this in a recent Nature article (which reported that even when publishing in OA journals researchers are keen to see restrictions placed on re-use).

And there has been some debate and disagreement elsewhere too (e.g. <u>here</u> and <u>here</u>. But I think I may be misunderstanding the point you are making.

JM: I simply meant that if you go into a lab at coffee break and say to the assembled researchers, "What do you think of CC-BY licensing?" the answer may well be a deathly hush.

Likewise, if you go into a university's admin. office and ask, "Who can tell me the differences between the various initials that come after CC?", only a very limited number will put up their hands.

There is a tendency for experts to pontificate about this kind of thing on the basis of what researchers and others *should* want. But is that what they actually *do* want?

Measuring growth

RP: That is a fair point. One thing we can say with certainty I think is that the growth in the number of scholarly papers (and so the number of journals) published has grown exponentially over time, and shows no sign of slowing down. Is that correct? If so, can you put some numbers on that growth?

JM: As you will know, trying to discover how many journals are being published worldwide each year is not easy (and you have to ensure that all fields are covered even-handedly, since growth rates vary appreciably from discipline to discipline). Data for recent journal growth (up to a few years back) do suggest that it continues to be exponential. The current best estimate of growth is probably of the order of 4% per year.

The remarkable thing is that this is not far from <u>Derek Price's pioneering estimate in 1963</u>, exactly half-a-century ago [D.J.deS. Price *Little science*, *big science* Columbia University Press, 1963]. (Derek pointed out that, for this growth rate to continue, most people in the

world would have to be publishing research by the middle of the present century.)

There is also the question — not a new one — as to how much research is appearing through channels other than journals, and whether this is increasing.

RP: Is the growth you mention simply a reflection of the rise in science funding, or are there other factors at work as well? I wonder if the number of papers arising from any piece of research is higher today than it would have been historically for instance.

JM: In the first instance, of course, the data reflect the number of people doing publishable work. That is tied to the available funding in two ways — the salaries of the researchers and their support staff and the sophistication factor for equipment [i.e. the fact that it gets more complex and expensive as time passes] along with the cost of housing it.

Interestingly enough, the productivity of researchers [in terms of the number of papers they produce per year] does not appear to be changing rapidly with time.

There are certainly instances of people publishing several small papers rather than one or two long ones, but this does not seem to have made a major impact on the growth figures.

What has changed rapidly over the past century is the number of authors per paper. Multiauthor papers are now the norm in the sciences and, to some extent, the social sciences.

There is obviously a limit to how much money any individual country can spend on research. Research finance and number of researchers continue to grow because of the increasing contributions from such countries as India and China.

RP: You say the current estimate of the growth rate of scholarly journals is of the order of 4% a year. I suspect, however, that the number of OA journals is growing somewhat more rapidly than that. Last year it was <u>estimated</u> that 17% of the 1.66 million articles published during 2011 were OA. And it has been <u>estimated</u> that three new titles are being added to the Directory of Open Access Journals (DOAJ) each day. (DOAJ currently has <u>over 8,600</u> journals).

Do you have any sense as to whether OA is increasing the overall rate of growth in journals, or are these simply new journals that would have been created anyway (as subscription journals)? In other words, is it possible that OA has begun to accelerate the growth in the number of papers/journals?

JM: First a word about measurement of growth. There can be differences between growth in the number of articles published and growth in the number of journal titles published.

In terms of new OA journals specifically, the growth rate appears to be some four times greater than the long-term journal growth rate I mentioned. So the advent of OA journals does seem to be increasing the growth rate.

Having said that, there have been spurts (and slow-downs) in short-term growth rate in the past. (These are often smoothed out by depicting growth rate in terms of a cumulative total.)

So we probably need to wait a little longer before assessing the overall effect of OA on

growth.

RP: As you implied earlier, journals are only one part of the scholarly communication landscape, and they are more a tool for scientists than humanists. Can you give me some sense of the larger picture?

JM: Where research is published varies to some extent from one research field to another. For example, engineers attach more importance than most scientists to publication in refereed conference proceedings. Likewise researchers in the humanities have a particular attachment to the publication of book-length material. I remember a Vice-Chancellor asking me about a historian who had applied for a chair: "But where is his 'big book'?"

All researchers consider publication in journals as valuable, but their attitude is affected by other factors — for example, finance. There is a lot of money sloshing about in science, so you can have big, expensive journals. Much less money is put into the humanities, so you get smaller, cheaper journals.

Correspondingly, publication in journals is a more attractive proposition in the sciences because it is easier. When the possibility of pure ejournals first arose, it was actually people in the humanities who were particularly interested: it offered them unlimited publication space together with cheaper production and distribution.

So far as the larger picture is concerned, I can only give a very partial response. The aspect that interests me is the way that recent and current changes are blurring the boundaries laid down in earlier days when research was print-based.

For example, there are increasing opportunities nowadays for researchers to share their opinions about articles online, as in times past they might have done face-to-face. What used to be informal communication is becoming semi-formal.

Again, online research projects are increasingly involving members of the public — <u>Galaxy</u> <u>Zoo</u> is a good example. Correspondingly, the amateur/professional borderline has become fuzzier.

As in the world of print, responses to change must still be assessed on a subject-by-subject basis. For example, arXiv is famous as a successful electronic publication without peer review (though not totally uncontrolled). It long ago proved a successful method of communication among physicists, but it has been less eagerly received elsewhere. (It has been claimed — admittedly by physicists — that biologists are less committed to this approach because they are more suspicious of their colleagues.) There is a historical strand here: the communities that like this kind of approach now were also the ones that liked exchanging preprints in the old days.

RP: We should perhaps note that the vast majority of papers in arXiv are also published in regular peer-reviewed journals. As such, arXiv would seem to be more of a complement than an alternative to the journal system today — with most of the papers still being traditionally peer reviewed (although usually after being posted to arXiv). Perhaps arXiv is not (yet at least) as radical as it might at first seem?

JM: As you say, a majority of the papers that appear in arXiv subsequently appear in main-

line journals (though some important ones have not).

I suspect this reflects the tradition of what constitutes an acceptable addition to the research archive. For example, the various assessment exercises into research at British universities have all assumed that an important measure of excellence is the publication of articles in peer-reviewed journals. In practice, researchers seem to be as happy citing arXiv as citing published journals.

Setting up arXiv was a major step forward, but it has had to accommodate itself to the inertia of the traditional communication system (which is partly linked to the system of academic promotion).

Moving online

RP: Let's explore a little more the impact of technology. What would you say have been the main implications of a) the ability to distribute scholarly output electronically (initially via online systems/CDROMS etc.) and b) the ability to actually publish journals electronically (on the Web)?

JM: The thing to remember is that researchers are rather conservative when it comes to publication. This is hardly surprising: their careers depend on their work being widely accepted as important.

In terms of their work being widely known, electronic distribution is a blessing. It allows, in principle, any researcher anywhere to access what they have written — the first part of your question.

However, readers must be assured that the work so transmitted is actually important. This is why researchers have traditionally wanted to publish in high-prestige [usually meaning peer-reviewed] journals. It was unclear initially how ejournals fitted into this picture.

However, the parallel publication of identical printed and electronic versions of a journal, has made ejournals more respectable, and seems to be allowing the latter to take over gradually from the former.

So the main implication — your second question — is, I think, that authors [and readers] are willing to go along with change if the community as a whole accepts it, and if the change does not detract from the prestige of the work published.

RP: Clearly, the most important development today so far as the scholarly journal is concerned is the rise of Open Access. Do you think a knowledge of the history of the scholarly journal is important when it comes to understanding OA and its implications, or is history not relevant?

For instance, OA is often criticised for watering down peer review, most notably with the development of the <u>megajournal approach pioneered by PLoS ONE</u> (which assesses papers on technical soundness alone, not importance). In 2008 Nature characterised this as "<u>bulk publishing</u>", which it suggested leads to "lower quality papers" being published. Might such criticism like this be less likely if OA was viewed through the lens of history?

JM: I think that some knowledge of the historical background can be helpful when discussing ways forward (though this can't be pushed too far).

For example, I have mentioned that researchers are often conservative in terms of their publishing habits. Analysis of times past indicates that they also tend to be conservative in terms of the information sources they access.

To be successful, any OA system needs to come to terms with this overall inertia, while remembering that one generation's 'conservatism' differs from that of the next generation. (One might say that researchers are influenced by the communication environment within which they were trained and tend to drag it with them as their careers unfold.)

I used to argue with John Ziman about the primacy he gave to peer review: he is still often quoted on this [J.Ziman <u>Public knowledge</u> CUP, 1968]. I argued that the quality control system has demonstrably changed with time in the past and will surely continue to change in the future. In any case, the PLoS ONE approach does not differ greatly from what has happened *de facto* within traditional peer review. In the sciences, referees have had to decide whether the work (a) adds new knowledge, (b) is technically correct. For many scientific journals, this is sufficient to recommend acceptance, whether the work is thought important or not. (Things are different in the humanities.) So what is new?

In terms of quality, it is necessary to compare like with like. There is no point in comparing (say) journals listed in the DOAJ with leading subscription journals produced by commercial and society publishers. As would be expected, most OA journals come off badly in such a comparison.

Existing journals form a hierarchy: the <u>impact factor</u> was introduced as an attempt at quantitative measurement of this. OA journals must be compared with the whole of this hierarchy. One might ask, for example, are the lower reaches of OA journals worse in quality terms than the lower reaches of non-OA journals?

RP: I have read a lot of papers published in OA journals that seem to me (as a non-scientist) to offer very little in the way of new knowledge (e.g. a description of what appears to be an inconsequential experiment and its outcome). As such, I have wondered why the author would have bothered to write the paper in the first place. And some papers I have read were so full of grammatical errors, spelling mistakes and other solecisms that I found it hard to believe that they had been through a quality-control process.

My reaction may be that of an innocent layman, and perhaps (as you suggest) there are just as many such papers in lower-tier subscription journals, but it does make me somewhat sceptical about the quality of the peer review practised by OA journals. Is it possible, do you think, that when papers are only ever made available electronically that a downward pressure on quality levels begins to be exerted? (Maybe print journals, and any errors in them, are more visible, or at least assumed to be more visible?)

JM: Let me start with a basic problem intrinsic to the refereeing process. Referees do not get paid, and time given up to refereeing has to be taken from their other activities. Moreover, editors want experienced researchers to do the vetting. One consequence of the growth of research is that these form a minority of the research population. The result is that refereeing can be fairly cursory, especially for more run-of-the-mill journals.

This applies to journals whether OA, or not. OA journals suffer from the further disadvantage of being new. It can take time for journals to establish themselves: meanwhile, they must find papers to publish, and, for Gold OA journals, funding to publish them.

There are also media-related differences. Electronic publishing is not constrained by space limitations in the way printed journals are. Hence, marginal articles can be allowed to pass through the quality-control net more easily. Or, again, whereas paper-based journals kept a tight control on the length of articles; waffling is much easier in electronic journals, especially if the author is paying.

There are other factors: for example, editing on-screen tends to be less accurate than editing on paper. I agree that grammar, etc., is a growing problem. This is partly due to the increasing number of authors — and of editors — who do not have English as a first language.

But I also have the feeling [quite possibly incorrect] that sub-editing has diminished for online journals as compared with print journals. Add all these factors together, and I would guess that quality thresholds may fall a bit as electronic publication thrives.

RP: You mention the growing number of authors and editors who do not have English as a first language. One consequence of this is that these authors can struggle to get published in Western journals, which is perhaps why so many new OA journals are being established in the developing world. These journals often look and behave differently to those in the West, and so have attracted some criticism. As you will know, a librarian at the University of Colorado Denver called <u>Jeffrey Beall</u> maintains a list of what he calls "predatory publishers".

Since the majority of those on his list are OA publishers based in the developing world, Beall has been accused of prejudice. Others have suggested that rather than criticising these publishers, and labelling them as predatory, those in the developed world should help them conform to the publishing standards that have been developed in the West. As former Springer publisher <u>Jan Velterop</u> has <u>put it</u>, "Instead of dismissing them out of hand, we might suggest to OASPA [the <u>Open Access Scholarly Publishers Association</u>] to consider stretching out more of a visible helping hand to OA publishers in developing countries." Of course, some of these publishers are undoubtedly rogues, which complicates the picture. Do you have views on this topic?

JM: I am not sure that 'predatory publishing' is an entirely new phenomenon. The difference is that predation has moved from subscriptions to authors' fees. In times past, the control mechanism has been the quality of the journals involved, which has typically been low — hence, few subscriptions.

I wonder whether the same might not be true for OA journals. If the authors have money available to publish, I would guess that they might shop around amongst the various journals available.

Is the fact that many new OA journals are appearing in the developing world surprising? Take India, for example — research activity is growing there, and so also are the openings for new journals, whether OA or not.

In this context, the idea of transferring experience from existing OA publishers to new entrants in developing countries is certainly worth exploring.

Open Access: Gold or Green?

RP: There are two main types of OA: Gold OA (where the publisher makes a paper immediately and freely available on the Internet on payment of an <u>article-processing</u> charge, and Green OA (where researches continue to publish in subscription journals without incurring any publication charge, and then make their papers freely available on the Web themselves, usually after an embargo period of anything between 6 months and three or more years — a delay intended to allow the publisher to recoup the costs it incurred in publishing the paper.).

There has been much debate about the relative merits of Green and Gold OA, particularly in the UK in the wake of the <u>Finch Report</u>. What are your thoughts on the "two roads to OA" and their respective merits?

JM: The Gold OA option is attractive, but there are obvious queries concerning its feasibility. Suppose, for example, that country X funds its researchers to publish this way, while country Y does not. If X is the UK and Y is a small developing country, then everyone will experience a warm glow of self-esteem. If, however, X is the UK and Y is the USA, the glow may well be less warm.

A similar problem arises between journals. In times past, some journals expected authors to cough up 'page charges' for the honour of publishing in them. I remember looking into the consequences for one American journal. What happened was that an appreciable number of papers that would normally have gone to that journal were actually submitted to a similar journal in the UK. (The American journal actually gave up page charges after a while.)

The current tightness of research funding is also an obstacle. Talking to my colleagues, I find they usually want any extra money to go to research, rather than to its communication. Their responses depend, of course, on how much money will be required to publish each article. A \$99 dollar fee — as has been discussed recently — raises only mild opposition (though it might hit some potential authors from developing countries).

But I am sure that many journals will need to exact much larger fees than that.

Green OA avoids these difficulties, but has problems of its own. The delay in accessing material is an obvious one. The appropriate delay period for particular journals is still a matter of contention – involving further debate with librarians, as well as with publishers and researchers.

But the key difficulty, it seems to me, is usability. Journal publishing has evolved over the years into an efficient system through which readers can fulfil their information needs. Finding and accessing material from a variety of websites is much less straightforward.

This problem is being tackled, of course, but it tends to be a bits-and-pieces approach at present, with easy access for some fields but not for others. Researchers are averse to putting more effort into information retrieval than is absolutely necessary. (Most researchers' attitude

towards acquiring and dispensing information can be interpreted in terms of Zipf's *Principle* of least effort [G.K. Zipf *The psycho-biology of language* Houghton Mifflin, 1935].)

So I rather doubt that there will be a wholesale move to Green OA until there is better integration and presentation of institutional repositories. This point seems to be supported by the relatively low use of such repositories.

So Gold OA is probably OK, especially for publishers, but has problems, and Green OA is probably OK, especially for researchers, but has problems.

RP: You say that there is a need for greater integration and presentation of institutional repositories. I wonder, however, if it is more a case of researchers not being aware of the work that has been done in this area — with, for instance, the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) and the creation of aggregated portals like OAIster (which currently contains over 23 million records)? If so, is this not perhaps more of an educational issue than a technical one?

JM: I agree that it is a question of education, but I don't think it is only a question of education.

Researchers, as I said above, have developed methods for retrieving the information they need as simply and quickly as possible. Their retrieval methods are based primarily on the journal system. OA material is more likely to be used, if it ties in with this established system.

This is straightforward for Gold OA; less so for Green OA because it is less cohesive. I could, perhaps, quote, as an example, the new <u>FASTR bill in the USA</u>, which observes that Government agencies need to: 'follow common procedures for the collection and depositing of research papers'.

RP: After viewing the recordings of the recent <u>evidence hearings</u> taken during the inquiry into OA conducted by the UK House of Lords I formed the impression that we are likely to see a split between the sciences and the humanities when it comes to choosing the type of OA to embrace. Since there is a lot of money sloshing abut in science (as you put it), scientists can better afford to pay APCs, and for this reason they seem to prefer Gold OA.

Humanists, on the other hand, have very limited access to funds, and so tend to see Green OA as their only option. Would you agree? If so, what do you think might be the implications of this for the development of OA, and indeed of scholarly communication at large?

JM: You are, of course, right that the availability of funding must affect attitudes. I am not sure, however, that scientists do necessarily prefer Gold OA. The Treasurer of a scientific society to which I belong circulated some comments on Gold OA a few weeks ago. He raised various queries: one, for example, related to restrictions on publication. Would universities limit an academic's rate of publication, or where a paper could be published?

His conclusion, in the light of this and other uncertainties, was that members should wait and see how things develop further before making any decision about supporting Gold OA.

Equally, chatting with colleagues in the humanities, it seems that they could probably stomach a small charge (say the \$99 mentioned above) for publication in a well-regarded journal.

So though the main thrust of what you say makes good sense, the future of OA in terms of a science/humanities split still seems rather fuzzy to me. Chairman Mao, when asked about the influence of the French Revolution on history, is alleged to have replied: 'It is too early to tell'. I think I would go along with that when assessing OA today.

RP: We discussed the serials crisis earlier. It seems to me that one key issue is whether OA can reduce the costs of scholarly communication. A <u>recent report</u> from HSBC Global Research predicts that OA will be earnings neutral for publishers. This implies, I assume, that the research community will see no savings as a result of OA. This in turn suggests that the "serials crisis" could turn into an "author's crisis". That is, if OA cannot reduce the costs of scholarly communication, how will universities pay to have their researchers' papers published?

Some have suggested that the costs will be met by funders. But while funders like the Wellcome Trust have indicated that they will do so, it seems unlikely that all funders will. Moreover, with the RCUK model of OA (in which Gold OA is preferred), universities will be required to double pay (both subscriptions and APCs) during the transition (which seems likely to last a good number of years in light of recent developments in the US). All this suggests that while OA may solve the accessibility problem, it will not solve the underlying affordability problem. If that is correct, then something has to break doesn't it?

JM: I certainly don't believe that OA will reduce the cost of scholarly publication in the immediate future. Whether it will be 'earnings neutral' for publishers depends on how OA is implemented.

For example, suppose university library budgets are raided to help pay for Gold OA. What will that do to publishers? Or suppose funders decide that the embargo period for Green OA must be appreciably shorter. What will that do? The US Government is quite clear that works by government-employed researchers cannot be embargoed. Why should Government-employed researchers, on the one hand, and Government-supported researchers, on the other, be totally distinct?

My own guess — and I wouldn't bet on it — is that it will be difficult to make major savings within the current journal-based system. Some degree of disaggregation will be necessary for that.

RP: You mentioned the Treasurer of a scientific society warning that Gold OA could see researchers face restrictions on publication. This is undoubtedly a possible scenario. In fact, the possibility of papers being rationed has already been <u>hinted at</u> by one of the coauthors of the Finch Report, Adam Tickell.

<u>David Sweeney</u>, Director (Research, Innovation and Skills) at HEFCE, has also talked about the possibility. Indeed, speaking to me in 2011, Sweeney <u>suggested</u> that this might not be such a bad thing. Would you agree with Sweeney, or could this prove to be a problematic development?

JM: How would limitations on number of publications actually be imposed? Some researchers publish many papers; some few. Some types of research generate many papers: some few.

Who is going to tell a leading researcher that he/she has published up to the limit and won't get any more funding for publishing until the next research grant comes along?

Likewise, who is going to say that it is OK to publish in this journal, but not in that?

It might be no bad thing if people published less, but unless the restrictions are applied very flexibly, I would expect researchers to rebel. University researchers can get very touchy about anything that restricts their ability to publish.

RP: The issue of affordability would seem to be particularly worrying for researchers in the developing world. Today their institutions cannot afford to buy them access to much (if any) of the rest of the world's research. But while in an OA environment developing world researchers are able to access others' research without cost, they will inevitably struggle to afford to publish their own work.

This point was made in 2008 by Bangalore-based researcher <u>Raghavendra Gadagkar</u>. <u>In a letter to Nature</u> he wrote, "[A]lthough the 'pay to publish and read for free' business model of open-access publishing has helped to create a level playing field for readers, it does more harm than good in the developing world." I realise he wrote this in 2008, but I do not think anything has happened since that would have changed his mind. What is your view on this?

JM: This is essentially a problem — and it clearly is a problem — with Gold OA. Back in the days of page charges, attempts were made to accommodate authors who clearly could not pay the charge. For example, their papers might be put into a stream for slower publication. I guess publishers have this sort of model in mind for Gold OA.¹

With Green OA, there is little change from the present for authors in developing countries, and a definite gain for readers. In principle, Green OA ought ultimately to help the authors, too, if deposited papers from national or regional journals can be made visible enough internationally.

RP: Another issue that scientists are becoming increasingly vocal about is <u>open data</u>. In addition to wanting to read scholarly papers without charge, they want to be able to mine the content of scholarly papers (i.e. treat papers as though they were data). The most active advocate for this today is University of Cambridge chemist <u>Peter Murray-Rust</u>.

Here again, however, there are <u>complaints</u> that publishers are getting in the way of progress. What this suggests to me is that OA is increasingly viewed as just one component of a much larger <u>open science</u> revolution. Would you agree? If so, what are the implications of that?

¹ Indeed, many OA publishers offer <u>waivers</u> for authors from the developing world. Commenting on this in his letter to *Nature*, Raghavendra Gadagkar said, "Page charges may be waived for authors who cannot afford to pay, but a model that depends on payment by authors can afford only a few such waivers. And why should anyone want to survive on charity?"

JM: The 'open data' debate typically involves researchers rather than publishers (whose main concern is that they should be adequately funded to make the material available). Researchers can certainly argue that they have worked hard for their data and should be allowed a reasonable time for analysis and publication. What constitutes a 'reasonable time' is less obvious.

Data mining raises problems for both publishers and researchers, since neither want material they have published to go unacknowledged. OA is certainly one component in the 'open science' discussion. (I actually came across the idea first in the context of computer software.)

It really has to be looked at in terms of the research being done. For example, what would a mathematician make available, other than the published paper?

The 'open science' concept is best aimed at research based on large collections of data in both the sciences and social sciences, and here I would expect it to expand in the future.

Futures

RP: I take your earlier point about the French Revolution. But I wonder if I could persuade you to peer into the future of the scholarly journal a little more. In 1997 Hans Roosendaal and Peter Geurts wrote a paper in which they listed what they saw as the four main functions of the scholarly journal (registration, awareness, certification and archiving). They then suggested that in an electronic environment these four functions could be separated out and undertaken by different agents.

Subsequently, commentators like John Smith have proposed a model that Smith calls the <u>deconstructed</u> journal. As Smith put it in <u>a presentation</u> he gave in 2004, "Having analysed the roles played by the academic journal it becomes clear that: (1) the publisher, like the issue, is a product of the industry model required to produce the paper journal, and (2) publishing models without a central publisher are possible with net-based publishing."

This seems to lead to a view that the only function that will be left to publishers in an OA world will be to manage the peer review process. Indeed, that would seem to be the direction in which new services like <u>Rubriq</u> are taking us. Rubriq provides standardised peer review services independent of any publishing activity. Could such developments lead to a "downsizing" of scholarly publishers, as some predict?

JM: I remember chatting with John when he was originally thinking about his model. I agreed with his general approach, but thought that, at this stage, the general principle was more important than the specific model.

The general principle for me is that the journal is the natural unit for communicating research in a print environment, but the individual article is the natural unit in an electronic environment. (This is what I meant by 'disaggregation' in a previous response.)

There are various ways of moving from one scenario to the other, and some could involve publishers in providing appreciably more than just peer review. But it is also true that some of the possible models would involve a downsizing in the activities of traditional publishers.

If we take the functions you mention, someone must take long-term responsibility not only for each function, but also for integrating that function with the others. The question is whether existing organisations can mutate as may be necessary to do this.

RP: This leads me to wonder if perhaps scholarly communication might not be set to change even more radically than OA advocates propose. Earlier, you mentioned that there are increasing opportunities for researchers to share their opinions about articles online, and you pointed out that the amateur/professional borderline has become fuzzier—leading amongst other things to the growth of so-called citizen science.

You also mentioned that some of the papers in arXiv never go on to be published in traditional journals, and so are not peer reviewed. Finally, we are seeing growing interest in post-publication peer review. Is it possible that in the future researchers may simply post their papers in their institutional repository (or their blog or a social networking site) and invite the world (other researchers and even citizen scientists perhaps) to review them?

JM: I doubt this is likely to happen in the immediate future because the invitation to review is likely to be ignored by the people whose opinions matter most. Even in a small specialist area, making comments on all the papers would take considerable time (and that, of course, is assuming that the repository system brings them to your notice).

Another factor is that many researchers are chary of publishing public criticisms of their colleagues. This came out in feedback from an [unsuccessful] experiment with open reviewing carried out by *Nature* a few years ago [*Nature's peer review trial* www.nature.com 21/28 December 2006].

One reason that traditional peer reviewing works is because editors are experienced at pinning down appropriate individuals whose arms can be twisted.

RP: One other point you made is that the various assessment exercises (e.g. the UK's <u>Research Excellence Framework</u>) have all assumed that an important measure of excellence is publication in peer-reviewed journals; and you talked of the journal hierarchy, which implies that researchers try to have their work published in the top branded journals, and then gradually move down the hierarchy as and when their paper is rejected.

If universities and research funders were to announce that the "impact factor" and top journals were no longer viewed as the arbiters of excellence (which they periodically hint at doing) this would surely change scholarly communication quite dramatically. But will it ever happen?

JM: The idea of a hierarchy of journals existed well before the impact factor appeared, and is rather more fluid than a single numerical figure can represent. Perceptions of journals change with time, and so do the titles and their order in a subject's hierarchy; but the idea that publication in some journals carries more prestige than publication in others continues.

Universities, and even research funders, must work within a consensus acceptable to researchers — after all, both rely heavily on researchers for their existence.

Moving away from the tradition of a hierarchy requires a significant change in the status quo of journals as a medium for communication. Elevation of research articles to a central place might do this, but I would be prepared to bet that some other kind of prestige hierarchy would then appear.

For example, the Faculty of 1000 [www.f1000.com] has recruited a large number of experts in biology and medicine [the 'Faculty'] to recommend the best papers that they come across in their reading. This can be seen as setting up the top end of an article hierarchy, and it doesn't depend on the articles being published in journals.

RP: Let's try and summarise. We have talked about the inherent conservatism of researchers, we have discussed the inherent conservatism of the current assessment system, and we have discussed the various ways in which technology is driving change in scholarly communication. What do you think the history of scholarly communication tells us about the likely development of OA and Open Science against this background?

Might conservatism — combined with the financial interests of publishers — serve to hold back the new possibilities the networked environment seems to promise, and thus see what many believe to be an outdated vehicle for communicating research (the journal) migrated to the Web almost intact (frozen in aspic if you like), or is the technology that gave birth to the Web sufficiently compelling and revolutionary that radical change is inevitable — which I think is what Michael Nielsen assumes in his book, "Reinventing Discovery". Or am I imposing a false dichotomy on the situation?

JM: As somebody once said, prediction is difficult — especially about the future.

My first comment must be that it is actually important to have a reasonable degree of inertia in the system. The route forward into OA is still under debate. Scholarly communication is immensely important: the inertia in the system helps to ensure that we don't leap too quickly towards a route that we may later regret. Large amounts of money and human effort are tied up in the existing system.

Any new system will also require a large investment of both money and effort. It is important that there should not be major losses of either during the transition period. At the same time, the inertia can, as you say, become *un* reasonable.

But I think that the growing pressures on the existing system — not least, the continuing increase in the amount of communication — will make it difficult just to digitise the status quo. One point that we can, perhaps, learn from history is that the contents and presentation of research messages change relatively slowly with time. OA contributes here because it allows for evolutionary change, rather than requiring revolutionary change.

Another lesson from history is that changes tend to be subject-dependent. Many of the preceding Q & A really refer to the sciences (and to a lesser extent the social sciences). The OA literature contains less discussion of the OA publication of book-length research material in the humanities. Yet the price of humanities monographs nowadays suggests that this is a topic worth examining further.

Going back to the sciences, there has been a notable change in where research is published. There is a much higher degree of concentration — in terms of where papers are published —

nowadays than used to be the case. A handful of commercial publishers and learned societies publish maybe two-thirds of the important papers.

Similarly, the major funders of this research are relatively limited in number. In terms of pushing OA forward, if this relatively small group of institutions could reach agreement on which new publishing model to employ, the rest of the market would very likely begin to follow. The key word here, of course, is 'if'. This is an international debate, and there is no sign yet of an international consensus.

RP: You say that OA allows for evolutionary change. But it seems to me that the key issue right now is how to manage that evolution — that is, how to manage the transition from the traditional subscription model to an OA model.

You will know that Research Council UK's new <u>OA Policy</u> (which is due to come into effect on April 1st) has been <u>heavily criticised</u> by the <u>House of Lords Science and Technology Committee</u>. One of the main problems the Committee highlighted is that insufficient analysis appears to have been undertaken into the likely effect of the policy.

For instance, the policy states a preference for Gold OA. Since the UK only accounts for 6% of the world's research output, this means that UK universities will be unable to cancel their subscriptions if they want access to the other 94%, while having to start paying for their researchers to publish their papers via APCs—the so-called "transition costs". The Committee felt that this would only work if all countries (or all the major research countries) adopted a similar Gold policy, now or in the near future.

With the White House recently <u>directing</u> all US Federal agencies with more than \$100M in R&D expenditures to develop Green OA policies similar to that introduced by the National Institutes of Health (<u>NIH</u>) in 2005, it seems as though the UK may find itself having to pay these transition costs indefinitely, while US universities will not need to — a scenario you anticipated earlier in your example about county X and country Y. And this threat seems all the greater in light of the bill you mentioned earlier — FASTR — which would have a <u>similar effect</u> to the White House directive.

Do you think RCUK might now be better to adjust its policy, and prioritise Green rather than Gold? Perhaps Green offers a better transition strategy — as the Australian economist John Houghton concluded?

JM: One small niggle — innovations often seem to have a life of their own. 'Management' implies to me control of the change process. At present, it remains unclear — to me, at least — who is in control of the changing OA scene.

The House of Lords usually provides sensible reports on technical matters, and this new report is no exception. (I suppose that means that they have the same prejudices that I have.) Certainly, if you compare my previous comments with what their report says, there is much common ground. The lack of agreement on the way forward is particularly evident in Fig. 2 of the Report [Science Europe member organisations with open access position]. Hence, I think RCUK should recommend Green OA, but should also say that both Gold OA and Hybrid are acceptable. Maybe a thousand OA flowers should be allowed to bloom a little

longer (and dissidents should preferably not be executed).²

RP: Let's return briefly to Jack Meadows. Like most academics, I am sure you have done a lot of travelling in your time, and taught students from all parts of the world. After all, as you indicated earlier the research endeavour is a global activity today.

JW: The Loughborough department had — still does have — very strong overseas links. The first problem that landed on my desk when I arrived there concerned a Nigerian student with a peg-leg. The leg was declared a fire hazard, and I had to figure out a how to get him out of the building quickly in the event of a fire.

I had, of course, to travel around a good deal renewing and extending our overseas links. Student recruitment from overseas changed considerably with time. When I arrived, Africa was important. It was succeeded by the Middle East, then Brazil, and now China.

We always had a few research students from India, and that is a country where I have developed a number of friendships. I particularly remember on my first visit reminiscing to my hosts about a visit of the Indian cricket team to England. The next evening I found they had arranged for me to visit the captain of that team. When I arrived, he pointed to two bottles of whisky and said, "That one is for you, and this one is for me". I had been warned about drinking Delhi water, so I took it neat.

I am told that the lecture I gave the next morning was quite decipherable.

RP: My very final question is this: You are of course now retired, but in light of your extensive knowledge of scholarly communication, and its history, I am wondering why you do not take a more active role in the debate about OA. Can we expect to see that in the future?

JM: Two answers. The first is that current contributors to the debate do a better job than I could.

The second is that I am lazy. I have always enjoyed joining the discussion of a new topic in its early days — as I did with OA. As the topic moves on towards the implementation stage, it becomes increasingly difficult to say anything new. So, at this point I drop out and move on to another topic.

I am happy, therefore, simply to watch the implementation of OA march on — and to see how many of my expectations about it will be proved wrong.

RP: Thank you very much for taking the time to speak to me.



² Shortly after Meadows gave me this answer, the Higher Education Funding Council for England (<u>HEFCE</u>) published a "<u>Call for advice on Open Access</u>." Of note is the fact that the document includes the following sentence: "As the transition to full open access will occur over a period of time, we propose to accept material published via either gold or green routes as eligible, recognising that it is not appropriate to express any preference in the context of research assessment."

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