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Bob Burgess: Thank you for joining us for this session this afternoon. We have found it useful to talk to various groups in order to augment the material that was submitted under the written evidence, and I hope this will be an opportunity for us to explore a number of issues with you in more depth.

We are recording the session, but it is we who are doing this, no third party. Indeed, the audio recording will be transcribed and available on the website in due course, so it's publicly accessible. I think the only other thing is for us to go round and say who we are, so my name is Bob Burgess and I'm chairing the evaluation.

Ms MacCallum: My name's Catriona MacCallum. I'm from PLOS.

Mark Thorley: I'm Mark Thorley from Natural Environment Research Council, so one of the authors of the RCUK policy.

Tim Smith: I'm Tim Smith, Publishing Manager at IOP Publishing.

Steven Hall: I'm Steven Hall, Managing Director of IOP Publishing.

John Hunton: I'm John Hunton. I'm the Publications Officer of the London Mathematical Society.

Alex Saxon: I'm Alex Saxon. I head up the RCUK Strategy Unit supporting the panel in this.

Stuart Taylor: I'm Stuart Taylor. I'm the Publishing Director at the Royal Society.

Susan Hezlet: Hi, I'm Susan Hezlet. I'm the publisher for the London Mathematical Society.

Bob Burgess: Okay, so thank you very much indeed. I wonder if we could start with you outlining briefly what the position is of your organisations in relation to open access publishing.

Steven Hall: Shall I go first? Okay, so IOP has been a gold open access publisher since 1998 when we launched the 'New Journal of Physics' with the German Physical Society, I think long before PLOS was a gleam in Harold Varmus' eye.

We now publish four fully open access journals, three conference series, which are all fully open access, and the great majority of our journals – our subscription journals – support hybrid open access with all of the APC income fully offset against subscription prices; there is no double dipping by IOP.

We use the CC-BY licence for all gold open access articles, regardless of whether they're in our fully open access journals or hybrid, and in 2013 12% of all the articles published in the journals that we own were open access, which I think is well ahead of the average, even in biomedicine.

Steven Hall:

~~Yes.~~ We're also running two offsetting pilots in the UK and Austria in which we're offsetting income from hybrid APCs against both local subscription and licence charges and global subscription prices.

We also have three journals participating in the SCOAP3 project, which seeks to convert publishing in high-energy physics fully to open access. In respect of green open access, we allow deposit in repositories of the accepted manuscript after, in general, a 12-month embargo.

John Hunton:

Thank you. The London Mathematical Society, we've been publishing mathematics for 150 years, and since, I guess, the inception of subject repositories, we've been accepting that authors publish their accepted manuscripts and so following a green before there were such words, I think.

At present we run eight journals and collaborate with other organisations on several more. Of the eight, the majority are hybrid journals. We have started recently one gold open access journal. I should say though that the gold publishing within mathematics, whether it be in the purely gold journal or the gold options [on the 0:04:20] hybrid journals, is very small to date. We're talking about just probably... Double figures would be [at] most I could claim.

I think one characteristic that I think I need to explain is that, although I'm sure you're all aware there are great differences in different areas of scientific publishing, with different natures

of the publishing from one discipline to another, mathematics is perhaps, especially pure mathematics, out on quite a long extreme at one end. We cope with an environment where the majority of our papers, the majority of our published papers, settle to an average citation half-life and usage half-life measured in decades rather than in the short term, so it's against that background that we manage a refereeing and archiving process that has to see this as a long-term investment for the subject.

I think the other point I would want to make – and this is probably not distinct from the Institute of Physics – is that the vast majority of our sales and our authorship is non-UK. Probably only about 15% of our authors are UK-based and similarly in sales, so we are as directed as to what's happening elsewhere in the world as we are by what's happening here.

Susan Hezlet: Can I...?

John Hunton: Yes, go on.

Susan Hezlet: It's only because it's actually more like 5% of the service in the UK. It's considerably less, yes.

Stuart Taylor: Sorry, I wasn't sure, were you talking about authors though?

Susan Hezlet: Yes.

John Hunton: I was talking about both

Stuart Taylor: So, 15% authors, roughly?

John Hunton: Yes.

Bob Burgess: Can you go on and say something about the way in which the introduction of the RCUK policy, what impacts it's had upon your organisations and the implications it carries, either positively or negatively, and what challenges you see appearing downstream?

John Hunton: These are very early days and I would say one of the main characteristics that we've seen is on the part of the community a significant lack of understanding as to what the RCUK policy is, a confusion as to what is RCUK and what is HEFCE policy, and perhaps a distrust of them both.

The community has felt that with the use, although it has to be said a very random use, of various repositories has felt that actually it has followed an open access mandate for many years and feels that there is costly and divisive meddling that has been imposed upon it.

I don't know if you've looked at the results of the survey that we submitted as part of our written evidence of authors – the general feeling there was that they didn't know what the details were and didn't particularly want to in most cases.

That's one of the backgrounds we've been working against and attempting to educate, but I think that's a somewhat uphill

battle as to how you educate a community that doesn't particularly want to hear.

The other aspect, as perhaps I've hinted: the number of UK RCUK-supported mathematicians publishing in our journals are a very, very tiny number, and with a belief upon the part of many of them that green is perfectly acceptable, that has been pretty much the way in which most have chosen to publish.

I think from an operational point of view one of the aspects that we've seen happening is increasing staff time being used on handling queries, and I think there is a lot of misunderstanding within the community – sorry, that's not the right word – a feeling of lack of knowledge by the community as to where, when I have my paper to publish, where should I go that meets whatever criteria?

There seem to be so many queries that have now started to be directed to us, whether from this country or, for that matter, from other countries. That can, of course, get messy when you have papers, as many often the case, papers published by multinational authors. "What is the situation?" they say; "Should we do this or that? What are the requirements?" We've got certain... Time has been taken up with answering queries which we haven't always found that well able to answer ourselves.

Steven Hall: One immediate impact of the implementation of RCUK's policy has been a growth in our hybrid open access publishing. We saw quite substantial growth, admittedly from a low base, in 2013. We've seen very substantial growth this year and we'll probably publish three times as many hybrid articles this year as we did last.

If we look at where those hybrid articles are coming from, then on the latest data I looked at, around 40% of the hybrid papers we published this year are from UK authors. That's against 6% of all of our authors being UK authors – I'm talking corresponding author here.

So, we're certainly seeing some considerable growth in hybrid, which must be driven, above all, by RCUK policy, but if we were to look at all submissions from UK authors who to the best of our knowledge are RCUK-funded, then the majority of them are not asking for open access publication. It would suggest to us that there is one challenge still in getting the message over to authors about RCUK policy, about the requirement to publish on an open access basis.

I'd say a bigger issue probably is essentially the disjunction between RCUK policy with its default position, if you like, being gold – to the extent that there is funding available for gold – and the position of the great majority of the research-intensive universities in the UK, whose default position is green. If you look at their open access pages on their websites, you look at their decision trees, most are pushing their authors towards green.

I've got Bristol's flowchart in front of me and the question the author is asked is "Does the publisher offer green open access?" and gold only comes in as an alternative to that. If you look at Oxford's, Oxford's has improved since it was first published, in that it appears to offer a choice between gold and green, but it's got the green embargo policy wrong as well, in that it shows a six-month embargo for STM which actually only applies if the author has the funding to publish gold but the journal doesn't support it. I think we have a real challenge in properly making the RCUK gold policy work, in that the default position of most universities is towards green – for very

obvious reasons in terms of levels of funding available currently to support gold.

In terms of impact on us, apart from the growth in hybrid and the management of that, we've given ourselves a very considerable amount of work in trying to implement our offsetting pilot in the UK. We have 22 universities signed up to it and the principle of the pilot is that we will offset a part of the APC payment against what they pay us in subscriptions and licence fees – up to 90% this year, which is far larger than any discount offered by any publisher on its APCs; and the balance against our global subscription prices, so that we fully take that income into account but do it in a way that enables us to scale it up as more countries come in and support gold open access, but it's been quite a challenge getting that off the ground. Perhaps, Tim, you could talk about the detail of that now.

Tim Smith:

Yes. In terms of the costs or implications for IOP so far in terms of open access, it really touches on two main areas that impact on the staff time associated with managing open access. I'd echo John's comments earlier about just dealing with some of the, perhaps, lack of clarity that we're seeing from the research community and from our authors in terms of how to interpret RCUK policy.

One of the things, that IOP has done to address that is to do something in the way of outreach and going out to UK institutes – often, actually, in collaboration with the libraries at those institutes to give joint presentations on what RCUK policy means for researchers, and more generally what open access means. This has touched on things like licensing including the considerable uncertainty there is around how to interpret Creative Commons licensing.

I guess the main area of impact is in terms of our systems when we look at how we want to potentially scale up our ability to manage open access. This has knock-on effects in terms of our reporting ability for internal reasons but also in terms of our customers towards ensuring that we're capturing the information in the correct way.

In terms of staff time as well, there's impact in simply processing invoices at an individual article level. Just to give one example, 'New Journal of Physics', a fully open access journal that IOP has published since 1998, and which now publishes of the order of 850 articles per year. For that journal alone we have roughly 30% – or 35%, I think, to be more precise – of a person in our finance department specifically dedicated just to managing the invoicing process for that journal, not just raising the invoices but the queries associated with that process, including potentially chasing unpaid invoices.

This is, from a people point of view and a time point of view, something that we are seeing have increasing impact as the take-up of open access has grown, driven in part by the RCUK policy.

Steven Hall: Yes, I'd make a distinction, if you like, between what you might call 'passive' open access publishing – an author submits to us, says they want to publish on an open access basis and we publish on that basis – and the more active approach in which we're trying to work together with the universities to encourage more open access publishing. That's where we're having to go out and talk to faculty, to librarians about it.

We also find, even within our offsetting pilot, that the 22 universities have very varying policies between themselves on

what they will support and what they won't. Some – a very small minority – are generally supportive of gold open access, regardless of whether they have RCUK funding for it, whether the author is RCUK-funded or Wellcome-funded, or whether it's a mathematician with no funding who's publishing a paper and wants to do so open access.

Many of them are much more restrictive than that and I think it leaves a very large grey area for the publisher and the author in terms of determining whether there is funding available for a paper, how quickly that funding can be found. We were told of one physicist the other day who applied for funding from his university, for an RCUK-funded piece of work, and the university took four months to approve his payment.

That is longer than we take from submission to publication, so clearly there are some systemic issues here in terms of putting in place the mechanisms and actually within each university the policies to enable all of the players in scholarly communications to support that growth in open access. Does that make sense?

Stuart Taylor: Is it true to say that in physics and maths particularly it's quite a hard sell, gold open access, because most of them feel they've already got open access via the arXiv? That's compliant with the RCUK policy, right? Is it quite a hard sell to get them to take up gold?

Steven Hall: Yes, undoubtedly

Stuart Taylor: Particularly with the long half-lives in maths being the other issue, I suppose.

John Hunton: In many ways that's another issue again, yes, but I think the gut reaction of the average mathematician in the street is that they don't see the point of changing what has been going on, because green is apparently allowable so why should I spend time finding out what policy my university has, whether it has money, and putting myself through another hurdle when I could just go and do what I've been doing all along?

Stuart Taylor: In fact, that's not really a problem for the RCUK, I presume, because that's already a compliant process so there isn't really an issue.

John Hunton: Yes, there is – and maybe we'll get along to this later – there is, of course, a long-term problem if everything went... If there was everything going green with an embargo six months, one year, 10 years, it would still in a sense be too short for us because, as I was saying earlier, our game is the long game and we need to have a good long usage of our articles before we...

Mark Thorley: What is the half-life of your...? Sorry, what's the embargo period on your journal?

John Hunton: That depends on which journal. There's a series of journals that we have been running with what is termed a 'reverse moving wall'. I don't know whether Susan actually would be better off talking about it

Mark Thorley: That's fine. It's free to access at the beginning.

Susan Hezlet: It's free for the first six months.

John Hunton: This is free for the beginning and then a paywall comes up – really, precisely to reflect the usage of mathematics, which is not a short-term thing but a long-term thing. This is almost certainly going to become unviable if we have...

Ms MacCallum: Why is that?

John Hunton: If the society says, "It's free for the first year," whatever it is, and then that's also coinciding with the end of the embargo period so it's free for other reasons, then there is no income stream to support the production.

Stuart Taylor: But isn't that already the case via the archive, though? You've been living with that.

John Hunton: We have been living with the archive and it is not ideal, I agree, but it has various somewhat redeeming features – one: that it is not the final published version that appears, so it is the accepted manuscript at most, at best. Not everyone is submitting, and when it is submitted the archive is not a complete record and so it is not the perfect resource that the librarian can say, "It's all out there already."

Stuart Taylor: But you're envisioning then, in the fullness of time over the RCUK policy, that will change.

John Hunton: If it is fought by the UK and all the other countries, then yes, there's a danger.

Stuart Taylor: You're concerned that that will then eat into subscriptions?

John Hunton: Mm.

Ms MacCallum: There is a nice article that you wrote showing the usage on the archive and the articles.

Susan Hezlet: Yes.

Ms MacCallum: It showed it tailed off very, very quickly.

Susan Hezlet: The usage tailed off because we've got six months at the beginning, so that's why it's so high at the beginning and it's understandable. If we look at other journals where we don't have that six months – we have a Dutch foundation who own a journal and they set a different policy – there it's much more sort of shape; it comes in at a much lower level and is steady and goes on for longer.

We believe that actually, because they are allowing it to be free after five years, that is a threat long term to their

subscriptions as well, because five years is too short and they have lower subscriptions

Ms MacCallum: Have there been cancellations?

Susan Hezlet: They have lower subscriptions; they have lower subscriptions, they have a higher cancellation rate and they have...but it's published through a different publisher so it would be very difficult to actually give you a real evidence. There's better evidence from the 'Annals of Mathematics' and what happened there.

Ms MacCallum: Can it be attributed directly to the embargo length? I'm just thinking if we come back to the RCUK policy and very specific embargo periods, is there any evidence that the tail-off of subscriptions is directly linked

Susan Hezlet: It would not be... I don't think it would be possible to, actually, so it could be that evidence in that sense, because librarians' reasons for cancellation sometimes it's very difficult to get them in the first place, but it's just a comparison between...

Ms MacCallum: It's a correlation.

Susan Hezlet: The other journals are holding up their subscriptions better than the one which has free after five years.

Ms MacCallum: Could there be other reasons in terms of the quality of the journal?

Susan Hezlet: They're very similar; they're very similar policies that we look at. In fact, the Dutch journal is actually really quite high quality.

John Hunton: Yes, they are comparable.

Susan Hezlet: The 'Annals of Mathematics', though, is a much clearer example of what happened when they lost a third of their subscriptions in five years when they decided to go completely open access.

Ms MacCallum: That was completely immediate free access, wasn't it?

Susan Hezlet: Because it was organised and that's what we felt, was that the difference there was that it was organised open access. They were still selling it, but it was very easy to find all of the articles.

Ms MacCallum: Yes, and there was no embargo; it was just all available.

Susan Hezlet: Yes, but I don't... Okay, it's my opinion, but I don't think it would have made a damn bit of difference if it had been one year or anything like that.

Ms MacCallum: But we don't have the evidence...

Susan Hezlet: No, but I think losing a third of subscriptions in five years is a very dramatic effect and it does show that that could happen long term to anybody who has a similar level.

Ms MacCallum: Were they charging for an APCJ?

Susan Hezlet: No, their average price was the lowest of any and it's also the highest cited. It's the highest regarded journal beyond the fact it has a high impact and that may have accounted for the cancellations.

Mark Thorley: So, 85% of your authors, or first authors, are from outside the UK. I think you said 15%.

John Hunton: I think I was corrected, wasn't I?

Susan Hezlet: Yes, about 15% of them are UK-based, but we don't just look at corresponding authors; we look at...

Mark Thorley: So, 15%... You imply 85% of authors are outside the UK?

Susan Hezlet: Yes.

Mark Thorley: If anything, a bigger driver on your journals are policies in other countries, as opposed to RCUK policy?

John Hunton: Yes, I think that's probably fair to say.

Stuart Taylor: Could I ask Steve from the IOP point of view then, the same question, effectively, is that to what extent is the arXiv inhibiting the growth of gold OA, because you said you've seen quite a dramatic increase?

Steven Hall: You have to recognise that not all physicists deposit in the arXiv; there is almost no deposit in applied physics, for instance. The arXiv is strong in theoretical physics, particularly in areas like high-energy physics. What's interesting about high-energy physics is that the relatively small number of major funders in that area, like CERN,, have actually decided that green is not the solution. That's why they're funding the SCOAP3 project, which attempts to convert the whole of publishing in high-energy physics to gold open access.

The arXiv, I'd say, is seen by those physicists who do deposit there as, above all, a workflow tool and a means of communicating their research with their immediate peer groups. What you end up with in the arXiv is a mix of preprints which have never been touched by a publisher – not peer reviewed, – accepted manuscripts, which might be deposited before publication or might be deposited sometime after publication, and in a small number of cases the versions of record, so you end up with rather a patchwork.

What librarians couldn't do is rely on the arXiv as an alternative to publication in a journal. If we were to have in

place a number of mandates from major funders around the world that say, “You have to deposit in a repository and it has to be freely available after a short period of time,” then I think those librarians would be able to rely on that and we would see very large-scale cancellations.

We’ve heard about the half-lives of maths journals. In physics, the usage half-life across our journals is about four years, so if we were to make content freely available after, say, just six months, the vast majority of usage is going to come after its free availability. That is bound to have a detrimental effect on subscriptions when libraries all around the world are looking to save money on those subscriptions.

We believe we can live with a 12-month delay, but less than that would seem unreasonable, given those half-lives of journals. Most funders’ policies around green mandates are really not subtle enough in recognising the difference between, say, biomedicine with a relatively short half-life, subjects like physics with the four years, maths – in our maths publishing it’s a half-life of about eight years, – and then who knows in philosophy or other disciplines.

Ms MacCallum: Again, is there any evidence to link cancellations with that longer usage time? Do we actually have any data on that precisely, or is it about the perceived risk?

Steven Hall: We don’t have those mandates in place in most parts of the world, so we don’t have the evidence because those really short embargo periods are not there, but I do know from very regular interaction with librarians – I was at the Research Libraries UK meeting yesterday in Birmingham – they’re all looking for ways to save money.

If they can identify journals which effectively become wholly freely available after a short period of time, those are going to be the first ones they cancel. Once they're cancelled, it is impossible to get those subscriptions back, so experiments in this area won't work, because once the damage is done, it's done.

Ms MacCallum: In terms of authors preferring the version of record as the last, as opposed to the accepted manuscript, do you see no preference for authors wanting the version of record as the source of publication? You think the accepted manuscript is as good as the version of record?

Steven Hall: I think authors will prefer the version of record; there is so much more functionality attached to it, but librarians making difficult decisions with reducing budgets may not take that into account.

John Hunton: If I speak off... Sorry.

Bob Burgess: Sorry, go on, John.

John Hunton: I was going to say, if I speak out of my character a little just as a working mathematician, I would say, "I can't really see the difference."

Ms MacCallum: So, you're saying that publishers beyond peer review are adding value?

John Hunton: There is, but it's not value that is generally appreciated enough.

Ms MacCallum: Is that worth communicating to authors – if you're adding value then they pay for it?

John Hunton: We do and the value that we're adding I think we're also entering into a new... With the electronic availability, I think the value that is being added is going to take off and it may well become in the future that there is more perceived value that we're adding than has been the case in a print.

Ms MacCallum: Because it's true: if they don't see a perceived value, then perhaps it's not worth paying for, but if there is one...

John Hunton: Yes. I think that is something that's going to have to be worked through, but yes, at present there's an issue.

Ms MacCallum: I believe there's one journal that I think does have a long usage life that has a 12-month embargo. Can you remember the...?

Mark Thorley: It's the Geological Society of London.

Ms MacCallum: That's it.

Mark Thorley: The half-life of geological papers runs into beyond decades, into hundreds of years, and they have a 12-month... They're quite simply perfectly happy with a 12-month embargo.

Ms MacCallum: I think there is very mixed evidence, I think, about this.

Bob Burgess: Can we extend this discussion a bit in terms of have you looked at what the implications are with the parent body? I'm assuming that the surpluses that come from journals actually contribute to the running of the learned society dimension of your work, so what are the implications in the medium term, because I'm sure that you or your various executives have explored this?

John Hunton: They are major. The London Mathematical Society publishing income probably represents 70% of our income.

Susan Hezlet: From the profit then. That's the surplus that, after my salary and the other salaries in publishing and the overheads have all been taken into account.

Mark Thorley: That's the surplus?

Susan Hezlet: That's the surplus.

Steven Hall: Yes. It rather depends what form open access takes. Of course, we've done that modelling too. The surplus that IOP Publishing makes is given in its entirety to the Institute and it represents about 65% of the Institute's income, so all the good things that the Institute does to support physics education in the UK, to support early career physics researchers and so on, is highly dependent on that income. I think that would be true of most learned societies in the UK of any size.

Bob Burgess: We have asked others this question, so we have explored this a bit before. How do you see handling this?

Steven Hall: I come back to what I started...

Bob Burgess: Sixty-five per cent of the income is quite considerable in terms of a learned society.

Steven Hall: I think that's why we argue so strongly for a sustainable open access model and not an unsustainable one. Were we to have a green open access policy with very short embargoes, which could seriously damage the income that we make from our subscriptions and licenses, then obviously we and the Institute would be deeply concerned about that. That's why we and other publishers have argued so hard against embargoes shorter than 12 months in STM.

If we're talking about a longer and larger-scale transition to gold open access, then while that might have some impact on our income, I think it would be sustainable. One of the problems with the debate about open access is a conflation of

open access and much lower costs. As PLOS knows, if you publish in one way, as in PLOS ONE, you have to charge a certain level of APC. If you publish in another way, as in PLOS Medicine and Biology, you have to charge a different level of APC.

There is an assumption on the part of some in the debate that gold open access, if widely implemented, would all take the form of PLOS ONE, rather than the kind of very mixed environment we have today with journals with very rigorous peer review processes and high rejection rates, with very high production standards and so on and so forth, charging more than journals with different approaches to publishing.

I don't think that has been discussed widely enough yet. In fact, it was the subject of a presentation I did to UK university librarians in Birmingham yesterday about what it costs to publish a journal and why those costs might vary according to those different circumstances. It's not just the difference between subscription publishing and open access publishing; it's about how you publish your journal and what the research community wants from that journal.

Bob Burgess: Have you got a copy of this paper that we could see? If you have, by sending it to Alex, that would be really helpful.

Steven Hall: I can send you it. Mark has seen it, or an earlier version of it. It needs explanation. It's a series of PowerPoint slides.

Bob Burgess: That's fine.

Steven Hall: I'd be happy to come and talk you through it as well at some point, if that would be helpful.

Bob Burgess: Okay, that's great.

Stuart Taylor: The implication of what you're saying is if the research community wants to maintain the diversity that they like to publish in/prefer to publish in, they will have to accept the fact that there will be a variation in APCs.

Steven Hall: Absolutely.

Stuart Taylor: Because there's been a lot of attention paid to the very low APCs charged by some journals, of course, and the variation upwards to the higher reputation of hybrids. That's been identified as a problem rather than perhaps a part of the system.

Ms MacCallum: Rather than an opportunity, [because] in some respects it should be variable. I think one of the issues around the hybrid pricing is that it's been relatively flat and there is no variation, regardless

Steven Hall: My view on that is that it's largely because hybrid open access publishing is still relatively immature. I think we will see more variation in those prices as it matures, as it becomes a much larger part of our publishing.

Ms MacCallum: Do you envisage different publishers offering different services, potentially even things like submission fees or whatever that will then provide authors with different choices?

Steven Hall: Yes, I've long said I wouldn't want to be the first publisher to introduce submission fees, (Laughter) but we have a very mixed economy already in journals publishing, with journal publishers offering different levels of service to different author communities. IOP takes a particular approach to how we work with our authors: for example, we allow them to submit in any format. Some publishers don't; they require the author to submit in a particular format.

In our view, that's transferring some of the cost between the publisher and the author. We think, with our economies of scale and expertise, we're better to do the formatting than having thousands of authors do that individually. The cost to the academy is greater in that case.

We have this very broad variety of levels of service already offered through those 25,000 scholarly journals that exist. What we've argued for is that there shouldn't be any attempt by funders to impose a one-size-fits-all publishing model on the whole of the scientific community by, for instance, capping APCs at unrealistically low levels., Journals practising different business models, with different levels of quality and so on, require different levels of APC..

If we do get that market operating in which a variety of journal types can flourish, then we believe we can sustain the income that funds our society's activities.

Ms MacCallum: There's no reason then in an open access environment that you couldn't have a range of exactly the same services provided, with different fees associated with it, that could provide authors and libraries with different choices about those different functions and services that they wished to purchase?

Steven Hall: Yes, that needs to be better understood than it is today. We can't just look at the cost to libraries, though; you have to look at the cost to academia as a whole. In the example I just gave about permitting authors to submit in any format, our handling of the formatting of the article takes cost away from the system elsewhere. It doesn't take cost away from libraries; it takes cost away from researchers, and so I think it's really important that we look at the whole big picture.

One of the problems in the debate around open access, and particularly the point of view that libraries often take, is this idea that publishers are simply increasing their prices every year to the detriment of libraries. What libraries often miss in that discussion is the sheer extent to which research output is growing year-on-year, driven by funders and research institutions.

If you look at physics, for instance, the growth in physics output, I think over roughly the 10 years from 2001 to 2011, was a compound 2.8% per year. That's probably in the region of a couple of hundred thousand extra papers between 2001 and 2011. Somehow – that's from a recent report published by the NSA – somehow the system as a whole has to accommodate that growth.

While universities and research funders have been encouraging that growth in research output, they haven't been increasing their libraries' funding at the same level to enable

them to support the journal publishing that will inevitably go with that, so it's really important that this is seen holistically and not just in terms of what a publisher is charging a library or what a publisher is charging an author.

Ms MacCallum: Within that competition then for different services and different prices, it is very important as well, just because there are efficiencies that can be made both because of scale and perhaps because of new innovations and technologies that some publishers are adopting and others aren't.

Steven Hall: It's partly about services, it's partly about efficiencies, but it's also about the community that a particular journal addresses. As we all know, authors like to publish in journals, in the highest quality journals they can publish in, which very directly enable them to communicate with their peers, so journal brand is still an important concept.

Ms MacCallum: Is there any reason that open access can't provide the brand identity as well?

Steven Hall: I see no reason at all. The 'New Journal of Physics' that we've been publishing for 16 years has a very strong brand as a general physics journal, which happens to be open access.

Stuart Taylor: Could I ask you a bit about this issue of what is called 'double dipping', perhaps rather irritatingly? It's an issue for the implementation of open access, or it seemed to be an issue. The global price offsetting, whereby a publisher charges for

the non-open access content in terms of subscriptions and the open access content in terms of APCs as essentially separate entities, is one way of doing it; can you explain the logic behind the other form of more local offsetting, because I find it harder to make sense of that?

Steven Hall:

I'd need to charge you a consultancy fee of course for that, Stuart, because you're another publisher and we spent many months coming up with our sustainable model (Laughter), but at a high level we have developed a sliding scale based on the proportion of the publishing of any of our journals which is hybrid – this is subscription journals – which is hybrid open access.

At very low levels of hybrid publishing, we offset the bulk of the APC income against an institution's licence fees with us, so if the University of Cambridge is spending, I don't know, £50,000 a year subscribing to our journals and spends £20,000 a year with us in APCs, the bulk of that £20,000 at the current levels of hybrid open access will be offset against their subscription fees with us.

As the proportion of hybrid open access grows, the balance between the local offset to the institution funding the APCs and the global offset in the reduction in our subscription price will change. At 5% hybrid open access, there won't be huge demands for the subscription price of the journal to reduce, but if it were 20% – at a global level – but if it were 10% or 20%, then the whole world will expect the subscription price to reduce. Therefore, we came up with this sliding scale that moves the offset between the local and the global as hybrid grows.

We believe this is sustainable and we believe it's scalable in a way that most of the voucher and discount APC schemes that most other subscription publishers have come up with are not. It's a trial, we're running it in two countries at the moment; we're in conversations with a couple of others about whether we extend it there. It's in its first year, it's an experiment, but it was an approach we came up with that we believed would work as hybrid gold open access grew.

Stuart Taylor: Is that because you think that a purely global system is not acceptable to research in terms of universities, because to me that's the logical way of doing things, but what's the objection to that?

Steven Hall: I don't... What do you mean by 'purely global system'?

Stuart Taylor: A system whereby you simply charge APCs for the open access material and you simply set your subscription prices for the non-open access material.

Steven Hall: I think it's very difficult to do that when you're publishing within a single journal – both subscription content and open access content; it becomes difficult to manage. If we go back to the roots of the problem here, the Finch Working Group made the point very strongly that if the UK moved to a gold open access model well ahead of other countries, then the cost to the UK would be greater.

That was the theory; in the implementation universities have become very concerned about how they are going to manage

that cost. At the moment, we don't have a particularly high level of funding for gold open access. There's what Wellcome does, that's what RCUK is doing, but I think this year RCUK is funding 25% of research outputs that come from the research it funds in terms of the block grants. The block grant is supposed to cover 25% of outputs, is it not?

Ms MacCallum: Forty-five.

Susan Hezlet: Forty-five.

Steven Hall: Is it 45?

Mark Thorley: That was last year.

Steven Hall: Okay.

Mark Thorley: Fifty-three per cent.

Ms MacCallum: It was 53 this year.

Steven Hall: Okay, so it's a percentage of a percentage, and about 20% of UK outputs come from RCUK-funded research, so it's a relatively small percentage of the UK total. I think the universities are very concerned, the research-intensive universities are very concerned that the cost to them could be

far greater than the block grants they're receiving from RCUK. They had been looking for solutions that will help them support the growth in gold open access in a manageable way, and that's simply why we're piloting this particular offsetting model.

Mark Thorley: You see these offset schemes then as transitional, not there for the long haul but they're there to help? Do they focus on helping the UK switch, or are they focused on helping, I guess you might say, gold-favoured countries help switch

Steven Hall: If you're going to run the kind of offsetting model that we're now running in the UK and Austria, they are based on the assumption that the institutions in those countries are supporting gold open access. What customers/institutions in other countries will see is some reduction, or some reduction in the price increase, of our subscription journals.

Mark Thorley: Based on the proportion of open access papers in the hybrid?

Steven Hall: Partly based on that – based on our overall hybrid APC income. Two of our journals next year will actually see real price reductions, because those two journals have had very big growth in their hybrid open access publishing.

Mark Thorley: That's not just because of UK and Austrian intervention, is that? Because I guess we always criticise that the UK has kind of gone it alone, is out at the front and no-one has moved behind it, so one of the things I'm interested in is the international landscape. If you are saying that only 6% of your

corresponding authors are from the UK, presumably some of your growth in hybrid has to come from other countries, not just the UK and Austria.

Steven Hall: Yes. As I said earlier, 40% of the hybrid papers we've published this year are from corresponding UK authors, so they represent the single largest cohort. Other countries, from which we publish a good number of hybrid and fully gold open access papers, are Germany – partly because of a particular agreement we have with Max Planck on the 'New Journal of Physics' – the US and China, but the US and China, of course, are publishing far more papers, so you'd expect a larger proportion of our authors overall to come from those countries.

Stuart Taylor: How would you like RCUK policy to be improved and how would it do the job better in terms of delivering OA in a sustainable way? What would you like to see changed, if anything?

Steven Hall: I think we'd like to see a more explicit requirement that the block grants be spent on gold open access than on supporting repositories or on one or two other things that we've seen happening which, shall we say, are not entirely in the spirit of Finch.

We're aware of one university which appears to be taking the accepted manuscript and comparing it with the final published version and making changes to that. We also, in the case of that university, found a number of our published articles on their repository with the wrong publication dates and therefore with wrong embargoes.

We think that's something of an abuse of the funding which is intended to support gold open access, so we'd like to see more of an explicit requirement that a large part of the block grant be spent on gold open access; we think that would help.

Bob Burgess: It is unfortunate we've got onto a really interesting set of issues, as we've gone beyond the time we allotted for this session, but as with other groups, if it is that you would like to augment what you've already submitted or, indeed, to submit material based on the discussion that's taken place this afternoon, that would really be helpful, and if you could send that to Alex and if you can send your overheads for us to have a look at.

Steven Hall: I can send them. I'll ask you not to publish them further.

Bob Burgess: No.

Steven Hall: They're confidential documents in that they include some quite sensitive information on IOP.

Bob Burgess: That's really fine. We've reached agreements like that with other organisations we've seen, so it won't end up in the public domain

Susan Hezlet: What's the timeframe?

Alex Saxon: As soon as possible but no later than the end of November.

Steven Hall: Right, the next couple of weeks.

Bob Burgess: Thanks, Steven, for the comments about what we need to do better or could do differently to improve the policies. I think if you have any other points you want to make, they would be really useful.

Steven Hall: I think the critical thing – and I said this to RCUK about 18 months ago as the whole RCUK policy was being implemented – I think the critical thing is that publishers, and funders, and research groups, and libraries, and universities work together. It's the only way we're going to grow the open access publishing.

Bob Burgess: That's the message that has come through loud and clear from a variety of organisations, so running the oral evidence sessions just to hear consistently the same message of the kind you've just described has been very helpful. Can I just say, thank you all very much indeed, and if you have further material, we shall look forward to receiving it.

Steven Hall: Okay, thank you.

Bob Burgess: Thank you very much.

Alex Saxon: Yes, thank you.

END AUDIO