

# Open Science Talk No. 13 (2019): The history of scholarly publishing : a computer-generated transcript <sup>1</sup>

00:00:05 Erik Lieungh

You are listening to Open Science Talk, the podcast about – well, open science. This is episode 13 and today's guest is historian and university librarian at UiT the Arctic University of Norway, Per Pippin Aspaas. And today's topic is the history of scholarly publishing and how it relates to the open science debate today. Per Pippin Aspaas, welcome to Open Science Talk.

00:00:35 Per Pippin Aspaas

Thank you. Good to be here.

00:00:36 EL

So, Per, as an historian, how do you see the starting point of scholarly publishing? Where did it start, and and how did it develop?

00:00:49 PPA

Well, I think, for the sake of brevity, we should start off with the with printing. I mean, for sure, there has been knowledge out there and scientific research out there since antiquity and earlier than that. But if we start off with printing being invented in the middle of the 15th century, and then after a while you have what we call the scientific revolution, which is mainly associated with the 17th century, then you have printing, then you have publishers that publish books and some of these books are really controversial because they are groundbreaking stuff – I would take that as a starting point for scientific publishing in the way we think of it: you have books and, after a while, you also have journals with scientific content.

00:01:39 EL

That's a good starting point. And how did the business side of it look like back then? Was there a publisher who published it? And did they do it for money or did they do it for other ideals? How was the landscape back then?

00:01:52 PPA

Well, you had lots of printing houses attached to universities and after a while, scholarly societies that had their own printing houses. These were not publishers in the independent sense – they were run by the scholarly community themselves. You also had a supplement, and an early supplement: you had the independent publishers, but most of those were very, very small companies, if you can even call them that. It was family business, usually – and if the man died then, then the widow would take over, so it would have the same family name, and then after she died, perhaps the son took over. But often they just stayed there for a generation or two, and then they just disappeared. So it wasn't like today when you think of them as, sort of, impersonal entities: like huge, commercial publishing houses. For sure, they didn't exist in the 17th, 18th centuries.

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<sup>1</sup> This is a computer-generated transcript of the podcast episode Open Science Talk No. 13 (2019): <https://doi.org/10.7557/19.5296>. The automated transcript has been proofread by Per Pippin Aspaas and is included here for the sake of Universal Design and improved discoverability by full-text search engines.

00:02:59 EL

So how was the distribution back then? Who read the articles?

00:03:04 PPA

Yeah, that's a good question, but an important question. In general terms – today, we don't have any illiteracy, I mean – everybody can read, in principle, in what we call the Western World between very huge quotation marks. The Western World is literate. Back then it wasn't. I mean, there were huge parts of society that hardly could read and certainly not able to read a intellectual piece of work as a scholarly text is and always was. So the distribution was mainly to other colleagues, other scholars, and an educated elite. Often the nobility: you would have people within the nobility that were interested in modernization, in new ideas, and they would be consumers of books and also the funders, often, of scholarly books. Because if you wanted to publish a proper book with a private publisher, you often needed funding, as today: you need, often, at least in small language communities like the Norwegian one, where we have four million speakers, then you often need some sort of funding to have a non commercial scientific book put out. And that's how it was back then as well.

00:04:28 EL

So where did it change from these small publishing houses to the large ones we see today?

00:04:35 PPA

Well, it was a long process, but usually people describe it in general terms, that the private publishers were supplements to the publishing systems that were run by the scholars themselves. Because, as I said, universities had their own printing presses, and still many of them are out there, and important ones today as well. But they were not commercial back then, they were small and they printed limited numbers. And, also, you had scholarly societies – the most famous ones are the Académie des Sciences and the Royal Society of London – these published, generally, on a regular basis. They published their periodicals, but these were periodicals not so much meant for sale, often. They were often meant just for exchange between other scholarly societies, and this system persisted until after World War 2, but then it has eroded today. After World War 2, you had a huge commercialization of scientific publishing. And it has evolved: over a few decades you had bigger and bigger publishers. And today we have we rather few big players out there, and many, many small players, but we have – the commercialization of scientific publishing is a new phenomenon that started off after World War 2 and has taken off even more in the last two or three decades.

00:06:08 EL

So has the commercialization of the publishing changed science?

00:06:14 PPA

Yes, it has. It has changed the way we try to make a career. Earlier, there weren't that many candidates around: the scholarly communities within all disciplines were much smaller than today. I mean, things have really taken off, which is a good thing, but it has the downside that the competition has grown to such an extent that people are desperate to have articles published. In many scientific disciplines, the journal article is the only way to get tenure, the only way to get to become a professor: you need to publish a lot of articles. In this sense, it's good to have many journals to publish in, but you can't just publish in any journal, because – that's not the case that you have only two or three journals anymore, which you perhaps used to have, so that people before World War 2 could publish a decent amount of work, but it would be distributed in, like, 50 papers over 10 years distributed in two or three journals. They had their own journals and not so much

diversity. But today there is lots of diversity, but they also have a hierarchy, and this hierarchy is a downside, I would say: it makes people look for the logo of the journal instead of the content of the article, very often.

00:07:39 EL

But do you see that as a result of the commercialization, or is it just the result of there being more scholars and more information?

00:07:48 PPA

I think it's both. But still the way the incentive systems are run now in the New Public Management world, is that – not only you, as an individual scholar, but also your university is getting rewards based on quantity, not on quality. So if you have, let's say, you have 5 postdocs: one of them writes one really good groundbreaking article, publishes it in an Open Access journal, many, many people read it and quote it, but still this particular postdoc will have problems getting a career compared to others that during three years publish 15 articles, or co-publish 15 articles in high-ranking journals. You could say «oh, they work so much more», but I'm not convinced: they work in a different way, and it's that different way that is being rewarded both by the university – the university says «ohh they are really productive, they do things», but what they do is that they have a huge quantity of articles out, but not necessarily that they help society develop in a good way, they don't necessarily make knowledge develop in a good way. This focus on getting things published in the right journals is very often ... it's overshadowing the thing that science should be about, namely, finding out things, sharing your knowledge, having a real impact on society. So the whole idea of a journal impact factor, it erodes the entire meaning of a word like impact. Impact has to do with something else, I would say. Impact has to do with having knowledge spread and people adopting your knowledge and building upon your knowledge. That's real impact, not the Journal Impact Factor, which is more absurd in that sense.

00:09:45 EL

But you could argue that publishing in one of the big journals has a higher quality, and maybe you could actually reach out to more of the people who can actually apply that knowledge: other scientists who follow that journal, instead of the public? You could argue that those scholars are more important to reach out to than a normal person who doesn't have anything to do with academia?

00:10:13 PPA

Well, I totally agree that in many cases what you write in the cutting edge research is so specialised, it's so technical that very few people can actually understand it and absorb it and build upon it. So of course, the specialised articles are not for the general public. That's OK, that's a fair argument. But still, those that make those kinds of arguments, they tend to be rather blind towards what they're doing every day. I mean, every day, the best professors out there, they have a crowd of PhD's and postdocs around them. And those are educated, and it's not the case that every person around such a huge research group gets a job within academia, there's always a high percentage that goes out of academia and continues their life outside academia. They go on to become teachers, they become ... they work in the private industry, they work on making new inventions in the private or public sector, whatever. And of course, those ... if you claim that they can't read your research, then you're making an absurd claim in my view. If your former PhD students and your former postdocs that are outside of academia will not be able to read what you write anyway, that's an absurd claim.

00:11:41 EL

But there are certainly different ways of communicating science than journal articles today. With today's technology – you mentioned Social Media: could that replace that whole thinking that the journals are the distribution of science?

00:11:59 PPA

Well, you're now asking me questions about the future and as a historian I'm not the best one to answer. Maybe I could draw some parallels in history, because there's always been different ways of going about with the sharing process, and there's always a culture out there and this culture is different in different scientific disciplines. One example could be astronomy. During the 18th century, you had a rapid growth in astronomy. Astronomy became a scientific activity that grew from – like, around the 1720s, there were 16 observatories in Europe, in around 1790 it had grown to more than 130, so you had so many people active in astronomy, and what they did was they shared everything they observed, basically. They wrote letters to each other and they also had their journals. Pretty soon you had specific journals for astronomy and those were often in the form of letters. I mean, «I received this letter and I put it in print immediately». So you had journals for scientific news that came out very often. But some people perhaps said, «OK, I observed something really rare: I want to spend some time reflecting what I observed and comparing what I observed with others' observations and then I can publish it as a real book», for instance. But then you could see people becoming sceptical: «Why didn't you share immediately your research data? Why didn't you share immediately what you observed, why do you come two years later with a book? Is this just a fraud? Is it fabrication? Did you calculate something and make some sensational results?» If we make this analogy, you have many people today that say «Everything that's going on in my research lab, it's there, it's our property. We don't want to share it, we want to write all possible journal articles based on this data, then perhaps in principle we can share it, after 10 years, when nobody is interested anymore». But if you make this analogy with the astronomers of the 18th century, the culture of astronomy back then was: everybody should share everything immediately, and they did so with with the technology they had at hand. Why shouldn't we do so today? Why do we have systems that make you want not to share instead of want to share?

00:14:28 EL

But in a historical context, I'm guessing we should also be grateful for the commercialization of science and the large publishing houses, because they have brought in a higher quality, I guess: back in the day, they have changed science in some ways, I guess?

00:14:47 PPA

Well, when you say commercialization, I would say professionalization. Because, running a journal or publishing academic books – it's a profession, it's something that should be done properly. And all this quality checking, all these considerations on layout, they're really important. If you find something with a crappy layout, you're slightly more reluctant to spend time reading it, compared to if it has an attractive layout. Things like that – it's very important, but doesn't necessarily have to be commercialised through and through and have profit margins of 30 or 40%, as we now hear that the biggest publishing houses have: you can have it professionalised without that kind of commercialization side to it.

00:15:35 EL

So this kind of leads us up to open science and that, kind of, time period we're in right now, where we see a lot of discussion on open science. Where do you see that discussion in a historical context? Is it a return to old traditions? Or is it something completely new?

00:15:58 PPA

Well, I like to think about it – it's perhaps not obvious, but the way I like to think about it is, is this analogy between between manuscript and print in former times and nowadays between, well, you could say, behind paywall versus Open Access. Manuscripts were often sufficient. If you have very small groups of scholars, and there used to be very few – like, one quotation that I really like is from a Danish Oriental philologist: he travelled in the Middle East, and he made a grammar of Ethiopian, but mostly, he didn't publish anything. He was well established as a scholar, people knew about him in the the tiny, tiny community of Oriental language students, but he said, well, he spent his entire life collecting manuscripts, he said: «Why on earth would I communicate to others the knowledge that I have acquired with toil and sweat, with many costs and dangers? Why would I spend money on the post boys?» Which means, he didn't even want to communicate by letter what he had found. I mean he said, «this is my personal property. All this data that I have collected on various languages and manuscripts in various languages». He didn't want to share that and, back then, it was it was not very well received, this kind of statement, but still it was there. And if you look at it, we find it absurd that somebody could say «I'm a scholar, I'm one of the best in my field, but I don't publish anything». Today – well, it's cheeky to say it, but you have people saying «I'm one of the best in my field, because I publish in these journals». And you say, can I see what you've written? «Yeah, sure. Go to go to that journal, go to that journal, go to that journal – you'll see it all there». But you can't, unless you pay a lot of money. Why should I pay a lot of money to see what one of the best scholars in my field has written? But they insist that that's the way forward, to put it behind paywall. So that's not a very good analogy perhaps, but this Theodore Petraeus in 1665, who said «why should I share what I've written», is similar to today: «why should I share with the public what I've found out?». It's there, but only the elite can read it because we put it behind paywalls where only the lucky few can read it.

00:18:28 EL

So where do you see Open Access as being – because I know you work a lot with Open Access here at the university. Where do you see that as a game changer, in that kind of state of thinking?

00:18:45 PPA

Open Access as a game changer – usually, people talk about it, to change the entire publishing industry, which is of course a huge task and there ... it's not obvious that it will succeed in that way. But what I see with the concept of Open Access and how you communicate about it to your colleagues, to other researchers, is to have this idea that people will realise that, «OK, I need to make a career, I need to build my CV. But can I do it in ways that promote Open Access?» To start this reflection is a very good start, to have people think: «OK, so I published in this or that journal, but still they have this kind of green Open Access option – there is an embargo period, but still I should upload it somewhere so that it will be online for everybody to read after a year, or two years». To have people reflect on that and actually start acting in that way is one start, and another starting point is to have them reflect: «Well, there are perhaps ten journals out there and two of them are Open Access, so it will be free to read for everyone. Why should I choose one of the eight others? Well, some of the eight others are the most prestigious, but if I really want to spread what I've found, perhaps I should, for this particular journal – this particular article – perhaps I should make an exception and go for the gold Open Access». To help people reflect like that – and maybe they don't go all in for Open Access with no compromises, but if they start to make concessions, that: «OK. I don't need the prestigious, closed, behind paywall journals for everything I do. Maybe I should have a proportion of what I do in gold Open Access and the rest I should start to have in green Open Access, or upload preprints, or everything at once.» I mean, go preprint, go postprint, go gold Open Access

whenever you can. To have this reflection is, for sure, a game changer. So I look mostly to the younger scholars, and it's hard often to say: «This is the way forward, we know where the wind is blowing, and we know how the future looks like.» We don't, but we can start this reflection with the younger scholars so that they can be conscious about what they're doing when they're building their career without making this total concession of what the public expects from you as a state funded scholar. The public expects something back and you should give something back. This needn't mean that you should give everything back and have no career – that would be absurd. But there are many misconceptions out there and one of them is that we know what the future holds. But that is not just something that applies to us that advocate for Open Access, it also applies to those that advocate against it. They say it's always been like this and for sure it will look like this 10 years from now. Honestly, they don't know and the kind of situation we are in now with Internet technology, which is really new, with giant publishers, publishing houses – it's really new, it's just been there for this particular generation of professors that grew up in this system. And even the best, those that are more than sixty years old, they started off before the Internet. So it's really new and things are changing really rapidly. So that's the most challenging thing, it is to say: «Well, we are in the transition phase and ten years from now, things will look like this». I don't know that, nobody else knows how it will look ten years from now, but it's an exciting period and the most important thing that we can tell younger scholars today is «be conscious of what you're doing and reflect on what you're doing». And very often they know more than their supervisors about technology, about new ways of publishing, and efficient ways of publishing. And they shouldn't always go with what their supervisors tell them, they should be a little bit rebellious. That's what we advise them.

00:22:54 EL

So, a fun question to always ask a historian is «what can we learn from history». Is there something you can draw parallels to, to today's version of publishing and scholarly publishing?

00:23:09 PPA

The only constant factor in history is that we are humans. We are human beings. We are social beings. We live in cultures, and the academic culture has for centuries had this aspect of vanity, which is very important to everybody. This means that we are, sort of, our babies are our publications, or our findings, our new inventions, whatever. These are our babies, and we want them to be seen. And we want them to be praised, and this praise for our babies, goes back to ourselves. So this vanity part, which we are all a part of, is what makes us look for prestige. And often we find excuses. We say: «I need to publish behind this paywall. I need to go to this particular journal because it's the best quality». And people make these claims where they really have no scientific reason to make this claim. Very often, if people look closely – the journals that are behind paywalls and the oldest ones, for sure, there are lots of good quality articles there – really, really good research being published there. But so it's there in the other journals. So there's no reason to go with the old, prestigious ones. Very often it's our own vanity that steers us in those directions, and that's a parallel, you could say: it's been there for centuries and that's one of the main issues that we all struggle with in the transition towards Open Access, how to make people see it as prestigious and good for their vanity part to publish open and to publish in new venues of research publication that don't have this old prestige attached.

00:24:59 EL

Per Pippin Aspaas, it has been a pleasure.

00:25:06 PPA

Likewise.

00:25:08 EL

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