Interview with Professor John Willinsky

Jonathan Sepulveda

Stanford University

John Willinsky began his career in education and working to improve the methods by which students learn. He moved to Stanford, eventually becoming the Associate Dean for Student Affairs, as well as the Khosla Family Professor of Education. His research encompasses literary theory, curriculum theory, lexicography, and European imperialism. However, his most recent work surrounds copyright law and increasing accessibility for students worldwide.

JS: Can you talk a little bit about your general research?

JW: So my area of research and scholarship is roughly called Scholarly Communication, and that is concerned with how knowledge that the universities produce is shared and circulated and published and reviewed and vetted and utilized and excited and how it contributes to the benefit of society.

The question for me is the social and intellectual contribution of universities to the larger world through scholarly communication, namely Scholarly Publishing. COVID-19 has created a very particular set of circumstances, tragic immense and its scale and it's overwhelming in many ways. But it also poses challenges and to scientific and Scholarly Communication.

Where my work comes in, in particularly this area, revolves around the question of access of access rights of what's called Open Access, and that is the extent to which research and scholarship can circulate freely, which is to say how it can be available to anyone in the world. This contrasts with where we as a university possess subscriptions for journals which are open only to subscribers.

We have this new movement made available by the Internet, Open Access, where research and scholarship circulates freely. Now that research and scholarship have a lot of money behind it, both in conducting the research through grants and in institutional support, but the publishing also requires a fair bit of investment from the publishers, whether they're groups of scholars or big large corporations, there's an investment in the software, the platforms, the editing processes that are necessary for and ensure the quality through the peer review process. This is managed as part of the publishing.

There are other processes that ensure the quality and distinguish research from other kinds of publications and have been part of its whole process, namely in contributing to knowledge. For example, the Internet: over the last 20 or 30 years has this question revolving inside it about how research can be more open. This is to say, can research be freely circulated, or is it necessary that it must be closed in order to gain the funding necessary that will require the payments that will support the publishing process; that's actually the question that COVID poses.

JS**:** When it comes to Open Access and in general extending access of publications during this very critical time for medical research, we've seen

journals—New England Journal of Medicine, Nature, and Cell—open up access drastically for COVID-related research to become Open Access. Do you think this could or should be extended to other areas of research?

JW**:** Well, let me set it out at a more basic level—I believe it should be open *completely*. All research and scholarship should always remain open, and to ease this we need another economic model to cover the publishing aspects. And I can talk about what that model is at this point.

There has been for the past three decades or so, ongoing efforts to make this research freely available, and at this point it's less than one third of all existing literature. That is, one third of all the research and scholarship that has been published is freely available.

It means it is freely available because the authors have posted a copy of their work on the net; often illegally, unfortunately, but individuals have gone ahead and done that to no expression of disapproval from authors in these instances. These tend to be Open Access (OA) journals, some 10,000 Open Access journals of them; for reference, only about some 40,000 to 50,000 OA journals exist. These journals publish as OA by charging authors what are called article processing charges, and there are also ways in which the publishers allow you to make your work freely available in its final draft, after a 12-month embargo. This means about one third of the literature is currently available. With the pandemic's effects, this was considered inadequate, so we needed to accelerate and increase the whole speed with which science was progressing. This led to most major publishers agreeing to make their work related to COVID-19 freely available.

Some have gone beyond that, and this speaks to me as an obvious course of action from my perspective of wanting everything to be open. Now there are two dimensions to that. One is that COVID-19 is one of a series of very urgent issues that we face. Getting control of it is absolutely an immediate and urgent issue. But there are many other conditions and circumstances both in line with the environments in other areas where there should exist a similar sense of urgency. The other aspect to this is thus the inadequacy of the COVID response.

One might ask then, where are the limits to COVID-19 research? What biochemical boundaries can you draw that says this is, or this is *not* related to COVID-19? Whether it's the genomic elements, whether it's the material science aspects, all these elements and interrelated connections around knowledge suggest that drawing boundaries and saying, 'this is COVID research that should be freely available'; but that the rest can't be

is an artifice that speaks to the need to make all the research freely available.

The other thing I would notice is that the publishers can make this research freely available because the libraries are buying subscriptions to the two thirds of the literature that is closed-off to the general public; and it tends to be closer to 80% is because there's an overlap between what's open, what's closed. If the world's access to this research then, is this narrow, highly defined domain with COVID-19 in the title of the article, then in principle they should be open to all research because it's to their benefit to see the increase in the circulation and the acceleration of a discovery that results from that.

JS**:** This is definitely interesting to know and hear your perspective on how OA can potentially even help laboratory-oriented research settings- we've seen a paradigm shift in our workforce towards remote work, or reduced hours of operation, and stronger calls thusly from journals asking for publication submissions geared towards work produced in this vein. So, the question becomes, for some of these lesser reputable journals, and even the predatory publishing circles, have you noticed a rise in their activity? Some more reputable publishing organizations such as Elsevier have attracted scrutiny, while MDPI goes back a little further back to the origin of Jeffrey Bell's list. Has there been a noticeable rise in this sort of activity being observed during the pandemic? Or do you think it's a critical problem that ought to be addressed in addition to making more research OA?

JW**:** Well, Elsevier sees itself and position now as one quickly moving to OA completely at its own pace and its own pricing, which is already charging article processing charges more than ever to recover the costs it needs. It has a very high profit margin and perhaps raises other kinds of questions, but it has not been involved in predatory publishing. It has been caught on a few issues reminiscent to 'pay-to-publish', but not often. The larger question that you raise, is that some journals are not properly conducting peer-review—they are exploitive, so to speak.

I resist using the term 'predatory' because the whole field of scholarly publishing has a series of practices that are questionable which we need to be very vigilant about. The accusation of predatory is sometimes used far too loosely against journals based in the Southern hemisphere, for example.

The accusation of predatory reflects a bias more broadly, so the quality question is a very important one, and if everything is open, how do we begin to judge? And that is a responsibility, because when everything was closed, there wasn't a need for public judgment. There wasn't a need for the media's judgment. There wasn't a need for regular physicians who didn't otherwise have access to judge.

In other words, there are standards, and part of what I do entails these responsibilities of both a researcher and a developer. It has even been a part of the work that we do as a group, namely for the Public Knowledge group. Building publishing platforms for these areas is something we believe that merits our responsibility. Certain standards around peer review, for example, can make it universally clear if a journal is engaged in predatory activities or not.There exists a need for public education and for research or education around the qualities which any trustworthy journal is to exhibit. In moving things to a more open platform, to a less of a trust in just what you know and more of a standard so that there can be global participation. We want to proliferate this sense of openness and diminish the 'clubbing' sense of the top journals and the people who contribute to them, in effect closed scientific communities.

In essence, this is a place where preprints can come in to play. What COVID-19 has shown is that one way to accelerate science is to share the work as soon as possible, and to take it through the whole peer review and publication process as soon as necessary; but it's not sufficient for the circulation of research. There needs to be almost an immediate sharing of the data and research followed by cautious use of it while the peer review process takes place. In this respect, setting aside predatory journals, we've seen both Lancet and the New England Journal of Medicine retract flawed work related to COVID-19. I think that can be attributed to the accelerated rate with which peer review is being done and in which the which knowledge is being circulated. But I think that's a kind of fair trade off to get that acceleration. It also speaks to this larger question of a vigilance in terms of the processes, and a recognition of the fact that in accelerating work we are working with a much more immediate sense of the work. As soon as it has been completed, it goes into a preprint state where the data is being shared and where the articles are being shared before it's been peer reviewed. It needs to be very cautiously used and regarded.

But it still can be a part of that review. Could be others looking at the preprint and seeing faults with it, but others can say this is something we can build on and need to start working with bit but being very cautious about it and being prepared to withdraw at any point given the peer review

process. So, the point you raise is a very important one- namely that there exist inherent risks with opening science and research and scholarship. There are always risks when you democratize knowledge and education; it can be abused, and it can lead to results you that were unintended which you may in some ways come to regret. But at the same time, there's a very important principle at stake in the democratization of knowledge and education. But look at the polling results as well. The support for science, has not suffered at this point, but there's been some of the posts showing very strong public support. Obviously not completely given the response of some people, but strong support for Science-based approaches, and part of that has been this accelerated sense of urgency.

JS**:** Absolutely. You raised a very interesting point when you talked about general dissemination of preprints or any kind of scientific work. Now prior to fully completing the peer review process, a lot of authors choose to push information out quicker through preprints. In this time where there's a lot of eager reporting, and particularly from the social side, we see a lot of seemingly scientific journal website outlets, and media reporting tabloid sites that are sometimes branded, other times non-commercial. In general, do you think that accelerating the rate or encouraging at a much more significant level than before the use of these preprints to push through these urgent or potentially breakthrough-prone scientific works quicker should be encouraged, given that there always exists the risk for deceptive practices on behalf of third-party media sites to miscommunicate preprint and article findings?

JW: Yes, that's a real concern and it speaks to my other hat, where I'm a professor at the Stanford School of Education and I see the responsibility there, very much that if we are going to open this body of research and scholarship for the first time to the public, we need to have a general public more educated around what's involved and how to approach it, and how to understand its operations and what its distinctions and contributions are.

The pandemic is not the best time for that in terms of the urgency of educating the public around this, but I think in fact I have seen study by a colleague of mine, one who's looking at how the media is framing this. Are they using the term preprint? Are they using the term peer reviewed? Are they using the term published? These kinds of distinctions in the media constitutes a very good way to increase the educational level or the informed basis with which citizens approach this knowledge, but I think this is a role for the schools as well.

The schools have not had access to this research previously, and while at this point we have accessed only as I say it, less than one third of it, that's going to increase that is increasing and COVID-19 is making a major contribution, which I'm very hopeful about for when we go back and return to normality, which we're all anticipating with great eagerness to avoid closing resources that were open during the pandemic. Hopefully, we will gradually see the value of having it open, but at the same time I think this is the educational role.

High school science class has more a history class for that matter. Learning about access to research, learning about the process is learning about when to be cautious and when to look for the published version of something. Knowing whether there has been a thorough review, or work on it, and how to find critical commentary. So, the sense of having to be much more informed around much more access to knowledge, is generally the case. We wouldn't want students today to graduate without having a critical sense of how information is handled on the web, whether it's research and scholarship or news media or general information, even consumer awareness, so from an educator's point of view.

And this is the pinnacle of STS scholarship as well. The sense of a public awareness and the opportunities for misuse on the one hand, but the opportunities for education for learning and for this general democratization of knowledge and more support for research and scholarship as a result. This is a part of why I'm involved as an educator and an STS scholar in the study of Scholarly Communication, and not just the study but in the advocacy of access and in building open source platforms to assist in the publishing process.

JS: I must remark, that's a very noble mission. Enhancing the level of general familiarity and awareness that a public unassociated to scientific knowledge can better understand it and have direct impacts on technological development is a priority.

Now, a lot of people today are increasingly becoming subjugated to a school of thought where science is a sole purpose is to just advanced technology and an enhanced. You know, processes that sometimes often have to do with engineering processes and not exactly processes related to basic scientific discovery. It's on that note that I'd like to see if you can give some sort of a closing advice to a lot of undergraduates right now, who are of course across the country displaced in many instances due to the pandemic's effects as to what kinds of actions they can take on their behalf to sort of remain more engaged with the scientific literature, and not necessarily, you know about the latest breakthrough in terms of vaccination development for COVID, but just all of these other fields that

are have been out there, and perhaps now more than ever, where we have such a large fraction of the population being connected through the Internet to see if there's new ways for them to remain engaged and to perhaps make the best of it during this time away from school for many students.

JW: I would first suggest needs to be prefaced by my sympathies pipeline expression of admiration for what students are going through at this point and how readily students and instructors have responded.

During a course to having to switch modes, having to change all the rules. Having to do this in a process of dislocation of being having to reestablish their place of learning and the whole process so that full credit to everyone who has gone through this and admirable ways. And when I think the independence or the greater self-reliance that this called for in terms of earning is something that I would encourage students to be cognizant of, in terms of the resource is in terms of learning how to learn and learning how to discover what resources are freely available.

Learning to appreciate that things they take for granted, like the library, and like online access to Stanford resources or whatever institution they're at, is something that they should see as a lifetime expectation of access. That they should see and be able to delve into the research and scholarship that Bears on questions of interest to them of intellectual curiosity or of concern to them and their family members of more urgent of a more urgent nature. And to expect that this knowledge will be increasingly available to them as a right, a right to know and I believe that that expectation, that is, if the public expects to have access to this knowledge, will contribute to it being made public. It will contribute to publishers and researchers and Scholarly Organizations and government agencies all coming into a form of support or providing a form of support for this greater access.

So, it's a matter of just asking yourself as a student, where can I find this? How publicly available is this? Is this something that I will have access to after I graduate? How do I find resources that will last me for a lifetime instead of just for the next course or the next year? The expectation or sense that I don't have a right to this? Or why isn't this work freely available to me as a citizen as a taxpayer as a concerned parent or concerned child of parents?

That element would make a both a contribution to their own education as a lifelong process. It will contribute in terms of being an expectation public expectation to the opening of this research, and to what I think of as universal OA.

This is ultimately the goal when it comes to research and scholarship. It will help the science. It will help education and it will add to the Democratic quality of our lives. We've seen very much in this pandemic question concerning the status of our democracy around the uses of knowledge. And I think that that's an important lesson that people should take to heart in terms of the right to know.