THE BROOKINGS INSTITUTION

KNOWLEDGE AND INNOVATION
UNDERSTANDING PUBLIC ACCESS TO RESEARCH

Washington, D.C.
Wednesday, May 16, 2012

PARTICIPANTS:

Introduction and Moderator:

ALLAN FRIEDMAN
Fellow
The Brookings Institution

Keynote Speaker:

THE HONORABLE MIKE DOYLE (D-PA)
U.S. House of Representatives

Panelists:

ALLAN ADLER
Vice President for Legal and Government Affairs
Association of American Publishers

ELLIOT MAXWELL
Fellow, Communications program, Johns Hopkins University
Distinguished Research Fellow, eBusiness Research Center,
Pennsylvania State University

COREY D. WILLIAMS
Senior Lobbyist and Associate Director, Office of Government Relations
American Library Association

* * * * *

P R O C E E D I N G S

MR. FRIEDMAN: So, we're going to start just a moment or two early because the Congressman, unfortunately, has a vote that he has to make, so we will not be able to have him for the entire time, but great to get his contribution on this important topic.

A few quick reminders, the usual cell phone caveat, we also have the Center for Technology Innovation's hashtag if you are of the Tweeting variety, then feel free to engage in this conversation more broadly.

The modern knowledge economy is based on the principles of both sharing and the idea that information has some value, and occasionally they can appear in conflict when the same business models that drive knowledge production and curation also pose high cost to the access to this knowledge.

The pendulum has been swinging recently towards the prioritization of free and open access to research over the ability of the publisher to demand compensation for copyrighted work. Recent proposals have called for research that has been paid for by public funds to actually be more accessible to the public, and to talk about that we have this even today to explore open access and what it means, both in terms of public policy around the issue and how it is going to affect the long-term issues for innovation and knowledge generation.

To start off, we have the sponsor of FERPAA, the Federal -- dear, I've forgotten the acronym there. FERPAA is the bill that we're all talking about on open access. Congressman Doyle from the 14th District of Pennsylvania, who has been a real leader in technology policy on everything from understanding exactly how to use spectrum and make the most of it, to balancing cyber security and copyright. He's also

the first member of Congress to enter the word “mashup” onto the Congressional record, which I think gives him a lot more credentials in terms of talking about how information is really changing in its use.

So, with that, I would like to invite the Congressman to come and talk about open access.

(Applause)

CONGRESSMAN DOYLE: Well, thank you very much. I apologize, we have a 2:30 vote in the House, so -- and cabs are a little spotty around here, so I wish I could stay longer and hear the panelists, but I want to thank the Brookings Institute for inviting me to speak and I want to thank our panelists that are going to be here today for joining us to continue to work through this issue of public access to federally funded research.

I think everyone here will agree that the Internet has been an agent of remarkable change over the course of the last 20 years and more than anything we’ve seen in our lifetimes, it’s revolutionized the way people communicate and the way businesses operate. And it’s making it possible for people to talk to family and friends in real time even though they’re thousands of miles away.

It’s also making it easier for innovators and researchers to communicate faster and more effectively, and that’s really what we’re here to talk about today.

Just like every other Internet user, scientists are also seeking to be able to communicate better through the web. They realize the Internet’s potential to allow them to access information faster and disseminate their research more widely, which is why there is a substantial benefit for making research more accessible to the public. The

more minds that are at work at a problem, the better chance it has of being solved, and scientists know this, which is why they want as many people to see their work as possible.

But, you know, in today's current political and economic climate, many university libraries are seeing drastic budget cuts. Even the most prominent research institutions in the country are feeling strained by funding reductions, so they're forced to cut back on spending, and in some cases, to cancel subscriptions to important academic journals. To me, this is a very worrisome development.

In Pittsburgh, the region that I represent in Congress, we're lucky to have some of the most renowned research institutions in the country, schools like Carnegie-Mellon University and University of Pittsburgh, to government institutions like the National Energy Technology Lab, and research labs run by private-for-profit companies like Westinghouse. These institutions are constantly making advances that create jobs, along with revolutionary new products.

There are dozens of high tech companies in Western Pennsylvania that are spin offs from the research done at these local universities and much of the work is based in whole or in part on federally funded research. I think it's crucial that we protect the ability of these institutions and others nationwide to innovate. We must not let an economic downturn get in the way of critical research in energy, healthcare, engineering, and other fields.

This country has been home to some of the most vital and influential scientific discoveries in the world and these discoveries have driven our economy in recent decades. According to the OECD the U.S. spent $400 billion on research and

development in 2010 and one-third of that money was funded by the federal government.

I think we have to do everything we can to get the most out of these research dollars so we can maintain our role as a world leader in research and development. But when libraries have to cut back on journal subscriptions, that has a very serious impact on the ability of college students and university researchers to access the data they need for their work. If that one really great journal article you need isn't accessible through your library, that's going to prolong your research process or shift your research in a different direction.

Journal subscriptions are among the largest expenses for libraries, often the largest. Subscription fees range anywhere from a few hundred dollars to more than $20,000 a year for access to a journal. So, the average academic library spends nearly $2 million per year on academic journal subscriptions. That's a substantial amount of money.

Those subscription fees go to journal publishers who use them to recoup their costs for copyediting, formatting, and printing an article in a journal. In fact, library subscription fees comprise an estimate 80 percent of the average journal publisher's revenue base.

And while the role of the publishing community has been very significant in disseminating research results, I think it's noteworthy to say that the largest commercial publishing companies have made good profits receiving these subscription fees. We're told the average profit margin for commercial publishers in 2011 was estimated to be around 35 percent. That's also a substantial amount of money.

Now, I don't want to understate the importance and the important

function of the publishing community. I think journal publishers contribute a great deal to making a final academic research product presentable to the public. That contribution should be valued and respected.

But publishers are also restricting access to that research with the high subscription fees and that imposes a real cost on our society, especially today when our economic growth depends on knowledge-based industries.

I believe that it's in our national interest to help scientists share ideas better in order to solve crucial research questions faster. Companies that spend their own money on research have an obvious interest in restricting others' access to their results, and they have every right to do so. But when the research is funded by the federal government with taxpayer money, the public has a right to see the results.

What's more, as I suggested a moment ago, our society, more than most, benefits from the rapid dissemination of publically funded research, and so, I believe the federal government has an obligation to ensure that it has policies in place to disseminate the research it funds as rapidly and efficiently as possible.

The bill I introduced in the House of Representatives, seeks to find a balance between the business model of journal publishers and the tangible benefits of making federally funded research more broadly accessible. My bill, the Federal Research Public Access Act, would require all agencies with an outside research budget of $100 million or more, to make articles supported by federal dollars available online six months after publication in a journal.

As many of you here know, the White House announced a few years ago that it too is interested in the idea of making federally funded research available to the

public. I'm pleased to see that the Office of Science and Technology Policy in the White House has collected comments from the public about this issue and is currently preparing recommendations for next steps.

I eagerly await the outcome of that OSTP process. But one thing we already know for sure is that public access policies have not been demonstrated to cause financial harm to the publishing industry, quite the opposite, in fact. Since the National Institute of Health implemented its policy four years ago as a result of a Congressional mandate, no publisher has reported subscription cancellations resulting from articles being available on the NIH's Pub Med Central website.

On the other hand, I've heard a whole lot of praise for the NIH's effort from a wide range of students, scientists, libraries, and university chancellors. Even some publishers have come out in support of the NIH policy as well as my bill because they see the value in giving something back to the public that funds the research they publish.

My bill spells out a shorter, 6-month embargo than the NIH's 12-month policy contains. Some have raised concerns that six months are too short for the publishing industry, but to this date, I have not received any credible data to show that a longer embargo is necessary. In fact, most of the funders around the world who have had similar public access policies, like the research councils in the UK, the Canadian Institutes of Health Research, all use a six-month embargo period.

Like them, I think taxpayers should have access to articles as quickly as possible, but I'm happy to work with our stakeholders on this point and we're glad to continue this important conversation on what is a proper timeframe.

My hope is that the panel discussion today will delve into some of the issues in greater detail so that our audience can continue to learn more about why public access is so important for education and innovation.

I'm glad we're having events like this because I think the issue really does speak to our nation's role as a leader in scientific development. I thank you very much for having me here and perhaps we do have time for a question or two before we have to run because I see it's not even ten after two and Camilla's not shaking her head going crazy yet.

MR. FRIEDMAN: So, I will try to project from here if we can get a mic up here and rather than asking one, I will go straight to the audience for a question with the usual caveat that the questions are short and end in an interrogative punctuation of some kind.

So, if there are questions from the Congressman on this issue?

SPEAKER: Hi, I'm Suzie (inaudible) from *The Washington Post.* Do you have any Republican co-sponsors on this bill? And have you received any concerns either from Republicans or from members of your own party about, you know, the flip side of this issue and concerns they may have?

CONGRESSMAN DOYLE: Yeah, the co-sponsor of my bill is Kevin Yoder, a Republican from Kansas, so it is a bipartisan bill and to date I think we have 29 co-sponsors, is that --

SPEAKER: Very bipartisan.

CONGRESSMAN DOYLE: Yeah, it's a very bipartisan -- I mean, we have as many Republicans as Democrats on the bill. It's a bipartisan bill and 29 co-

sponsors and growing, but my prime co-sponsor is Kevin Yoder from Kansas.

SPEAKER: Part of the reason that I ask is that many Republicans have these concerns about the amount of money that the federal government is spending on research and I'm wondering, you know, you brought up the point that, well, this is just trying to get the most of the money and whether that is enough to alleviate any concerns they might have.

CONGRESSMAN DOYLE: Well, I think it's two different -- you know, obviously they're concerned about spending money on research, and I have a lot of problems with their concerns, but I don't see how anybody could argue that it doesn't make sense that if taxpayers are funding research that we shouldn't make that information available to the very people who are paying the bill.

So, I think even Republicans can agree with that and that's why we probably have as many Republican co-sponsors as Democratic.

MR. FRIEDMAN: I'll jump in. Have you talked to any of the relevant agencies about their implementation approach and explored how they might differ based on the different needs of the communities?

CONGRESSMAN DOYLE: Yeah, and I want to stress that in the bill, we leave that language very broad. We want each agency to develop their own -- you know, what works best for their agency, so we're not trying to be too prescriptive in that part, but we have had conversations with many of the agencies and, as I say, you know, we want them to develop what works best for them as they put this together.

MR. FRIEDMAN: A question on the aisle there.

SPEAKER: Is there anything in the bill that talks about the duplication of

research going on in the federal government, federal agencies that are giving out research money and don't know that other federal agencies are giving out similar -- for similar research? I guess what I'm saying is that, during the process of doing research, from proposal through, you know, funding, through completion, there's a period of time there where we could be more efficient in how we use our research dollars. And is there anything in the bill to open up opportunities to do more of that?

CONGRESSMAN DOYLE: Yeah, I mean, the bill, per se, doesn't, you know, examine whether -- you know, what the bill basically is trying to do is get the research, once it's completed and published. There's an embargo period, obviously, publishers have a right to recoup their costs, and after that to then make it available so that it's more widely disseminated because we think that's going to spur innovation.

But the purpose of the bill -- and there's nothing in the bill that sets out to determine whether or not, you know, research is duplicative. I would trust there are other, you know, NIH and others that are doing these grants at this -- you know, we're talking about public research funded at $100 million or more, you know, outside research, and I would trust that there are some processes in place, especially given these budgetary times, that they're not having two people do the same research. But I'm not saying it doesn't happen.

MR. FRIEDMAN: Back of the aisle.

SPEAKER: I'm curious if you've had a reaction from any of the academic institutions in this district as they tend to receive the lion's share of federal grants. Are they happy about this bill? What's been your feedback from those institutions?

CONGRESSMAN DOYLE: I don't know of any that aren't supportive of the bill -- the university, the academic community is widely supportive of the bill. We've got a lot of support from a lot of different areas on the bill. I mean, obviously, publishers have a concern about the embargo period, and as I said, you know, we'd like to sit down and discuss that if there's good data to show that six months is not enough, we're willing to sit down and at least examine that.

But as far as the idea of getting the research disseminated broadly, the academic community is very much in favor of that.

MR. FRIEDMAN: So, I'm afraid that is all the time we have for the Congressman, but I'd like to thank you for making time for this event on such a busy day.

CONGRESSMAN DOYLE: Thank you. I appreciate it.

(Applause)

MR. FRIEDMAN: So, I apologize for the abbreviated remarks from the Congressman, but we now have more time with a very distinguished and remarkable panel, I think, to really explore these issues and the longer-term implications. So, I'd like to invite the panel to join me here on the stage and I will introduce them while we are slowly going to be micing them up.

I'll start off with Elliot Maxwell, who is an author and a lecturer and has divided his time between advising public officials and doing independent research. He has worked with the Federal Communications Commission; he's advised two Secretaries of Commerce on e-commerce and has worked with research institutions that bridge the public-private barrier, such as the Pacific Telesis Group and MIT's Auto ID center, the home of RFID.

He currently is a fellow in e-business research at Penn State University as well as Johns Hopkins University, and is a researcher for the Committee for Economic Development, where he recently published one of the better research papers on the economic impact of open research.

Following Mr. Maxwell we will have Corey, who is going to be -- excuse me, Corey Williams, who is going to be talking to us about the ALA's perspective. She is senior lobbyist and associate director for the Office of Government Relations at the American Library Association in D.C. where she lobbies on copyright, telecom, and open access legislation.

She also teaches graduate courses on legal issues and MIS at Maryland, and is formerly an academic librarian and has done research on e-commerce.

And finally we will be hearing the publisher's perspective with Mr. Allan Adler, who is the vice president for legal and governmental affairs in Washington, D.C. at the Association of American Publishers.

Mr. Adler is a truly remarkable voice in this space because of this background not just as an experienced communications lawyer, but he was a legislative counsel for the ACLU where he addressed the exact same issues of government openness on a variety of issues and is known as being an expert. In fact, he received the Playboy Foundation's First Amendment Award for Book Publishing in 1991, which has always got to be a fun thing to have on one's bookshelf.

So, to start off the discussion, I'd love to hear a little bit, Elliot, about how you see open access really impacting the current state of play in terms of producing and consumption of research.

MR. MAXWELL: Okay. I'm going to speak a little bit about the report that was done for CED, which was about taxpayer access and who's going to have control over the results. There are copies outside if people would like to have a copy.

In Washington, you sort of take it as a given that if a politician makes a statement that you should, sort of, look very carefully at it and not necessarily take it for granted that it is an accurate representation of the world that you know it.

So, what we tried to do at CED was to say, here's the NIH policy. It is to make research available that's federally funded within 12 months of publication. And what's been the impact? Because there were lots of contention about whether this was a good thing or a bad thing for science, for the economy, for taxpayers, for publishers, and we wanted to know what the data said, because in this case, you actually have an experiment, an experiment of four years of work by the NIH.

And so we looked at this pretty carefully and we looked at it from the issue of, does this policy affect positively or negatively the development and dissemination of high quality research? Because that's what this was about. And if it was, great, if it wasn't, we want to know about it, and if it had negative effects we wanted to know about that as well.

And so we looked at this from: does it increase access to the research? What does that access do in terms of science? What does the access do in terms of economic development? What does the access do in terms of taxpayer spending and efficiency? And what are the down sides, if any?

And because we had four years of data, we could say some things, I think, fairly substantially rooted in what the experience with NIH has been and not simply

speculation about it.

There's really no disagreement about whether there has been more access to this information. You can see it in the figures from Pub Med at NIH. That's kind of given. That's not really open to discussion. And it's not rocket science, if more people can have access, then more people are likely to have access, and more people have access because it's not behind subscription walls.

So, that part of it is pretty straightforward. The question is what's the impact of that? And surprisingly, there's some very good economic research about the subject, and it says, essentially, echoing what Congressman Doyle said, which is, if you have more people looking at a research problem, you're more likely to have diverse and different and more exploration of ways of solving that problem.

Again, not rocket science. Who would sort of dispute that notion -- that maybe some of those are not going to be worth anything, but more avenues of exploration are better than fewer avenues. And, in fact, the research shows that.

There's some wonderful research that's gone on by a group of economists at MIT, Fiona Williams did -- Fiona Murray did some work on what happened with transgenic mice in the 1990s and what she found was, if you closed off a subject of inquiry by IP protection, and you opened up the same subject of inquiry by non-IP protection, in this case using different research animals, that more people did more exploration with the open mice, which led to more citations, more diversity in the citations in publications, and a broader acceleration of research.

So, the notion is intuitively correct. People wouldn't necessarily quarrel that.

There's another economist at MIT who did a brilliant piece of work on the Human Genome Project and she compared what happened with the Genome Project when compared with Celera. Now, if you remember, the Human Genome Project was, everything gets published right away. Celera was renting out the results of their gene sequencing and Heidi Williams looked at this, and not only did she look at the academic citations, which is the way people normally measure whether research is being used, but she looked at whether more research was being done on the linking between the genome and diseases -- genotype, phenotype research.

And not only did she find that there were more citations, but there was more research done linking the gene with the disease from the Human Genome open results than from Celera, and she also found quicker commercialization of those results.

So, the thing was not only that it spurred faster science, but it spurred commercialization. So, in terms of research I think the answer is pretty clear: the more people have access, the more likely it is that more diverse views being taken of experiments and ways of solving the problem, faster movement from basic research to applied research, and faster commercialization.

Now, the problem is that in some ways when people think about this question they say, well, if I'm in a field like micro -- like biotechnology or related fields, if I'm in that field, I get access if I'm at a prestigious institution with a big research budget. That's not a problem. Those folks do have access. But it's the people in adjacent fields, it's the people at institutions without as much money, it's the people in the private sector, it's the people who are just curious, it's the clinicians, it's the patients who have access.

So, you have to divide this audience, in thinking about this, between the

expert and the near expert or the related field expert to see, in fact, who's going to have access, because those people don't have good access and there's lots and lots of data about that.

So, we can see it in science, we can see it because that going to commercialization that Heidi Williams points to is the life blood of innovation. That's the kind of thing we want to have happen and there's lots and lots of economic literature about the positive impacts of research and development on economic growth.

So, in terms of the science, in terms of the economy, we see these gains. What does the taxpayer get? The taxpayer gets a lot of things. They get more utility from the money they spent because more people are looking at the results. They have better ways -- to speak to the question about efficiency, they have better ways of looking at what research is available, and you can make the whole research effort more efficient because people can get to the edge of the frontier of knowledge more quickly, but you also know what's there so people don't do duplicative research, they don't do dead end research because they can have access to the research.

And they get the sense, I think, that their investment in this activity is generative, is resulting in things that we want to have happen. So, from the taxpayer standpoint it's good, from the science standpoint it's good, from the economy's standpoint it's good, so what are the downsides?

Well, from the beginning there have been opposition because publishers have said, this is going to be really destructive to our business model. Our business model is based on subscriptions. And so we tried to get some sense of that, what's happened since the NIH policy has been in effect. And there were cancellations of

subscriptions. There were cancellations of subscriptions in 2008 and 2009 and 2010. Does anyone remember that the economic circumstances in 2008, 2009, and 2010? It's not kind of unrelated, potentially, that Harvard's endowment goes down $8 billion and there is some squeeze on the Harvard library. It's not surprising that librarians that are getting cut repeatedly, year after year because of the economic circumstances, are going to look at reducing their subscriptions.

But, in fact, what's happened is there is no journal that has any substantial impact that's been canceled, no evidence that any ability to conduct peer review has been harmed, no evidence that journals are going out of business or are likely to go out of business. In fact, there are more journals being published now than there were in 2008.

If it was to be apocalyptic, then you would see more journals go out of business. If it were apocalyptic, you might see declines in prices of journals as people try to build subscriptions. Prices for journals have gone up.

We don't find any discernable evidence of harm. And we find when we do the kind of cost-benefit analysis, that the benefits for openness far outweigh any evidence that is available, and the people who have the evidence haven't come forward and made a case that this is harmful.

So, the only thing I want to add at the end, because I think that Congress' approach is basically absolutely correct, is that in the future we're going to need to be talking about more than manuscripts. In the future we're going to be talking more about that hardcore researcher who can have access to the journal article now, but who wants to be able to have access to data, to tools, to protocols, and it's those things

going beyond the manuscript that we're going to need to wrestle with and to see what the policies should be about that.

But those are the tools that researchers are going to want to have to be able to work intensively in their fields, and so the beneficiaries of the policy that we're developing now, which go more, I think, to the side of the adjacent researcher to the private sector researcher and the like, needs to get balanced with thinking about this underlying data, the underlying tools, the underlying protocols, so that people will be able to make the progress that we need in all the fields that the Congressman mentioned and more.

MR. FRIEDMAN: Thank you. Now I'd love to invite Corey to come and deliberate about the library perspective in terms of both how the research is being purchased on the library side and also how it's being used by users of information systems.

MS. WILLIAMS: First, I'd like to thank Dr. Friedman and the Brookings Institution for hosting this panel today. And, as Allan mentioned, I'm here on behalf of the American Library Association, which is comprised of more than 60,000 members, librarians and friends of libraries, representing all types of libraries -- your K-12 school libraries, your academic libraries, and your more than 16,000 public libraries across the country.

And this issue of increased access to federally funded, or more descriptively, taxpayer funded or publically funded, research is one in which the ALA has long championed. And the ALA has been strong supporters of legislation such as FRPAA that's been introduced starting back in 2006. And I should note that this FRPAA

legislation that Congressman Doyle has introduced is a top legislative priority for our members. We feel very strongly.

And, really, from the ALA's perspective, this issue of providing equitable access to information to our patrons -- the public -- runs into what I call the pay wall when thinking about this type of research. This pay wall, whether it be subscription or a member of the general public can click to view and clicking to view an article costs anywhere from $35 to $50 per article, has, in turn, erected another type of wall, and that is of, the ALA would argue, a wall of inequity.

And this inequity plays out across our academic institutions across the country; it's a great venue to look at this wall of inequity. In thinking about our college students, our faculty members, our researchers out there, they, arguably, as Congressman Doyle articulated, have really the best access to this type of information, this federally funded information.

However, the extent of their access really depends on the type of institution and the budget their institution or library has to subscribe to journal articles.

So, for example, think about Harvard's budget, a four-year private university versus a small public or private college versus a two-year community college. Depending on where our students attend or faculty teach or do their research, they have varying degrees of access to this publically funded research.

And we see this legislation, the FRPAA legislation, as leveling that playing field in academe, not only for our students for study and exploration, but also for research, which Dr. Maxwell has touched upon.

So, in thinking about this current pay wall, what's so interesting is,

though, is these students and faculty and researchers have the most access. The minute those students reach the end of their academic career and prepare to graduate, walk across the stage, which many are doing, actually, probably today, since it's graduation season, and receive their diploma in hand, they have, in essence, had their library revoked for this type of access to information. And they join us, the public, on the other side of the pay wall.

And so, in thinking about joining the public and speaking to public access, since Dr. Maxwell has talked much about the research realm -- in thinking about public access, I'd like to spend a couple minutes talking about a couple examples drawn upon my own experience as a librarian in an academic library, which was also the community's public library, which was phenomenal, and that of my colleagues, to play out what might potentially happen or what currently happens out in the real world amongst the public in thinking about accessing this information.

So, the first example I would like to draw upon is one, in thinking about my native state of Iowa, is the farmer who goes to the Department of Agriculture website and sees -- just yesterday there was a blurb about research that's been done in the field of corn -- in Iowa we grow corn, not potatoes -- in a field of corn, and there was research available on a particular gene of corn that is believed to be resistant to three different types of leaf disease. And she finds this research fascinating as she's beginning to think about her next year's not only corn purchasing, but crop planting.

However, she even though her taxpayer dollars, arguably, have gone to fund that research, hits the pay wall and will be required to pay a second time -- $35 to $50 for that article. And so, even if she decides to access that article, paying the

additional second fee -- second time, that article may or may not hit upon exactly what she's looking for and she will then be faced with either having to decide to hit and pay through the pay wall again to continue her exploration of the research.

Now, if she decides when she hits that pay wall not to proceed, none of us will have a sense of what the potential could have been for her crop yield in years to come based on that.

Another example is drawing from K-12 and thinking about a high school teacher in the area of STEM, science, technology, engineering, and math, because that is much of the research that the FRPAA bill would provide greater access to.

This teacher is interested in engaging his high school students in research on air quality, water pollution, climate change, goes to the EPA website, the Environmental Protection Agency, thinking that there might be something interesting to grab his students' attention, and sees that the EPA has engaged in an arrangement with a private cosmetics company to look at alternative methods for animal testing to test the toxicity of cosmetics. And he thinks, wow, this might be kind of a cool way to approach science that might engage some of my students.

However, he too hits that pay wall even though his taxpayer dollars and the taxpayer dollars of the parents of the students of his class have funded that research, and either he can choose to pay through the pay wall or perhaps his school will, although given budgets these days that's probably unlikely.

That research could not be incorporated into his curricula and when you think about the amount of research and the breadth of research from 11 additional federal agencies and departments that would be made available that could be infused into STEM

curricula across this country at the K-12 level, at the academic higher education level, the potential is really, really great.

So, while those are just a couple examples of how access to this type of research that would be made available by FRPAA could be taken advantage of by the public, we're actually in a really good position, as Dr. Maxwell noted, that we have four years to look upon the NIH public access policy, and what that tells us is that 500,000 -- half a million users a day access Pub Med Central, and what do they do when they access it? They download 2 million articles. That is a pretty impressive track record.

That also gives us insight to the potential of what could occur if the federal research -- publically funded federal research -- were made available for these additional 11 federal agencies and departments after an embargo period.

And so, with that, I'll conclude by saying that, looking at the NIH public access policy really does tell us, it demonstrates that if you build it, they will come.

MR. FRIEDMAN: Great. Thank you, Corey. So, Allan, a lot of people look at this question of open access and say, well, of course. How could you be against transparency? But once you start poking into the dynamics of researchers, there's a very long supply chain from where ideas come from to what happens to old ideas.

Could you share a little bit of insight in terms of what the publishing industry is doing in this space and how that relates to the concepts of open access?

MR. ADLER: Well, I mean, the publishing industry has been doing a lot in this space for a very long time, for over 100 years. Science journals and journals in other fields, of the humanities and various other research disciplines, have been creating the official record, the minutes, if you will, of research by being fairly rigorous in the way

in which they work with the people who conduct research so that their accounts of what it is they've done, why they've done it, and what the results of what they've done have been will be standardized, will be checked in terms of others in the field who have unique knowledge and can check whether or not the work that was conducted and the account given of it is accurate, has integrity in its relationship to the other work being done in the field, and the journal community has been doing this for well over a century. And there really wasn't a great deal of outcry about what the journal community did.

In fact, the journal community was always cited by the university community, by government, and by others, as a source that they could look to when one needed to be able to reliably obtain information about a particular area of research and what state it is in and what has been done and who is doing the work in it.

What's happened recently, though, is that the government has, in a fairly kind of a populist way, almost a demagogic way, taken up what is basically a customer/vender dispute between the journal publishers and the people to whom they market their journals over the question of whether or not the pricing of those journals is something that the market believes is appropriate, that they believe is reasonable, that makes them willing to be able to continue to purchase access under the subscription model that most journal publishers, whether they're commercial or nonprofit, generally tend to favor as the best and most reliable and most predictable way of ensuring that they're able to recover the costs of the investments that they put into publishing, both over the long-term, and the actual costs of publishing.

No one disputes the fact that to be able to publish the results of research, there are costs involved. The question becomes a matter of, who's going to

pay those costs. Under the models that have generally been traditional in the journal community, the people who are the consumers of those accounts have had to pay the costs. They are the folks -- or at least to offset the costs -- they are the folks who are the readers of the journals, they are the folks who want access to these particular accounts, and so they have been able to pay it.

But because of this, as I say, vender/customer dispute that has arisen, basically there are those who have called for it on a kind of an ideological argument that, frankly, I don't think takes much time to dismiss, this kind of silly, sound bite bumper sticker notion that the taxpayer paid for the research, the taxpayer shouldn't have to pay to read about it.

Well, of course not. I mean, one of the functions of government, which funded the research, should be able to allow the taxpayer to understand what was funded, what was conducted, why was it important, what was the outcome, and perhaps in order to be able to find that out, they shouldn't have to pay the government. The government has a duty, since it is using the taxpayer's money, to be able to inform the public.

That doesn't mean, of course, that there can't be others who will continue to engage in the enterprise of not only informing the public, but establishing the basic permanent record of that research as the journal sector community has done for over 100 years.

So, the question really boils down to a semantical argument, in some ways. I noted that the explanation of what this session was going to be about begins with the statement that each year the U.S. government funds research grants to produce

papers and reports for journals that remain largely inaccessible to most Americans due to subscription fees.

Well, there's something inherently wrong with that statement and that is the fact that it is not the U.S. government that funds the production of papers and reports explaining the research that is conducted pursuant to government funding, it's the publishers who do that. And the reason that they do that is because the researchers themselves want to be published in particular venues, they want to be published in those areas where they know the integrity of their work will be respected, where they know that the integrity of their work will be protected, where they know that their reputation will be at stake but will shine because this is a venue for demonstrating the kind of work they do that is not suspected by people of being subject to fraud or any kind of distortion of what it is that they've done.

And the university community system in which many researchers work, where they either hope to continue to advance in their field of research, or perhaps to teach and maybe acquire tenure in that particular role, all respect the fact that one of the most important judgments that's made about the value of having a particular researcher take up a position within their research community is based upon the type of writing that that person has published.

And so, they rely upon publication in these journals, peer reviewed journals, to demonstrate their bona fides both as researchers, as scholars, as teachers, and as participants in the entire enterprise involved that begins with research but ultimately ends with taking that research into some sort of practical application that benefits society.

So, why do we argue about this question about whether or not it's important for the government to somehow make the scholarly publication of the research that the government funds, which is performed by these private sector journals, available to the public for free? It's not as if publication of the researcher's account of his or her work in these private sector journals precludes the government from producing any other account of that work or even not as if it allows the publisher to tell the researcher, now that I've agreed to publish your article, you can't write anything else about this research to tell people about it. There's no kind of restriction like that.

The question here is, really, why is the government incapable, with all of its resources, of being able to provide the public with access to information about the research it funds without having to expropriate the added value and the investments of private sector actors, namely the private sector journal community?

And this part of the discussion is one in which you find the government, quite typically, as well as other proponents of the NIH public access policy mandate and the desire to extend that to other agencies, basically speaking out of both sides of their mouths. On the one hand, it's very clear that they do understand and value the publisher's contribution to being able to explain what kind of research was conducted, how it was conducted and what its significance is.

Why? Because it's very clear, if you look at the NIH policy, for example, they're only interested in the researcher's final manuscript after it's undergone peer review, which is a process that is provided by the journal publisher, not by the funding agency or by anyone else, and they're even only interested in that manuscript not only after it's gone through peer review, but after it's been accepted by the publisher to be

published in a particular journal.

One of the extraordinary things about the legislation that Congressman Doyle introduced, to extend the NIH public policy mandate to other agencies, is the fact that they are not interested in the papers, in the manuscripts of funded researchers who do not submit their work to a journal or whose submitted work is rejected by the journal. That says to you that they are relying entirely upon the journal's capability, which is based upon the journal's own investments, its own development of assets and expertise, to be able to ensure that the account that is published of that government funded research, is in fact meaningful, will stand up to be able to preserve the account of the work that was done, and ultimately will be able to explain to the public how it's taxpayer funding was used to support particular types of research.

Again, there's nothing saying that the agency that funds the research can't initiate the production of other accounts of what that research was all about. In fact, interestingly enough, this is a memo that came out of the White House in April of 2010, just two years ago. It's entitled *Policy on Research Performance Progress Reports*. What it recognizes is the fact that in any instance in which the federal government funds any kind of research activity, they typically require the funded researcher to provide progress reports back to the funding agency so that the agency can ensure itself that that money isn't being wasted, that, in fact, the research that was supposed to be funded is being carried out the way it was supposed to be carried out, and they want to know whether or not, for purposes of assessing further possible funding of such research, whether in fact that was a good investment.

Well, why can't the government, if the government requires these reports

from the researchers to these agencies, and has even spelled out in this memo the attempt that was made by the National Science and Technology Council to ensure better efficiency, effectiveness, and accountability of the nation's research enterprise by eliminating inconsistencies in the interim research progress reporting standards and ensuring that there would be consistent standards across agencies about how they provide these requirements for progress reports to the researchers that they fund to conduct research.

What happens to that material? I suppose it is used within the agency to allow the agency to keep track of the research that it's funding, but is there any reason that if the government requires the funded researcher to write up these accounts of its research, as the research is occurring, and ultimately to issue a final report explaining what the results of that research were, why that material can't be made available to the public?

Well, the explanation is, basically, yes, there is a reason. Why? Because that material has never undergone and won't undergo peer review. The reason it doesn't do that is because the government agencies can't conduct that kind of peer review. They don't have the ability to conduct that kind of peer review for all of the various research activities and published accounts of those activities that result from their funding.

But they need to have that material peer reviewed in order to have the sense, as we now know from the NIH policy and from Mr. Doyle's bill, that without that peer review, and in addition, apparently, without the publisher's own assessment of whether or not that particular manuscript is worthy of publication in their journals, they

have no real sense of the ability to say that these accounts are legitimate accounts of the research that the public should see if the public wants to understand the research.

The other problem is we're not just talking about the public in the sense of the American taxpayer, although, of course, that's always who is invoked in order to try to justify this play of taking away the added value that the publishers, through private investment, provide in the publication of journal articles. The fact of the matter is if you look at the NIH, the NIH public access policy mandate has meant that when these final manuscripts ultimately are reformatted, put into whatever form is necessary to make them available online through the NIH's Pub Med Central website, they're available for free to everyone in the world.

And, in fact, when the NIH responded to an inquiry from Congress about the nature of the kind of access that was being provided, it was pretty clear that two-thirds of the people who were accessing that material were doing so from outside the country. That's not the American taxpayer. And when I see in Mr. Maxwell's study his concern about whether or not, for example, pharmaceutical companies or research universities -- all budgetarily challenged apparently -- have the need to be able to access this material for free, I have to wonder, why is it that they get to do this for free when the publishers have to make all of these investments in order to be able to provide the material in a way that makes it valuable and desirable and reliable in the first place?

So, this is the type of issue that needs to be examined much more closely. You know, when we talk about what the taxpayers fund, remember, taxpayers fund a lot of things in this country. They fund the National Parks, but they still have to pay fees if they want to go into the National Parks, and they certainly do if they want to

camp there.

And the same thing is true with a lot of other services or goods that come out of the federal government's use of taxpayer money. The question ultimately here is whether or not the private sector journal publication of the funded researcher's manuscript as an article in the journal ultimately prevents the federal agency that funded the research from utilizing any number of other mechanisms to inform the public about the nature of that research and how it was conducted, and the answer to that question is, simply, no. It doesn't.

There is absolutely no restriction on the federal government or the funding agency about what it may do in addition to trying to expropriate the value of the journal publishers in providing an official record account of the research. There's absolutely nothing restricting what the federal government can do to make sure that the public is aware of the research and informed about it.

And that's really what this debate is about. Now, the publishing community has tried, during the course of these discussions, to develop a collaborative, coordinated, cooperative relationship with the agencies that fund the research that these publishers ultimately publish articles about. They've offered the ability of these agencies to link to the articles that are published in these journals on the publisher's website.

What the publishers object to is that the agencies like the NIH, and through Mr. Doyle's bill, the other agencies that largely are involved in funding this kind of research, basically will want to take for themselves the responsibility of becoming the central repository for this work and the main point of access to this work, essentially cutting the publishers out of the deal once they've acquired the manuscript.

Now, the publishers, to their credit, but also to their consternation, have been placed in this really interesting double bind. They could just have stood back when the NIH first initiated its public access policy as a voluntary policy, they could have just stood back and waited to see whether or not the NIH funded researchers would actually comply with the policy by submitting their final, peer reviewed manuscripts after acceptance for publication by a journal.

And guess what. What they discovered was, as a voluntary policy, there wasn't much of a rate of compliance. Apparently the researchers themselves didn't think this was a terribly important or necessary way of them being able to get the results of the work they did out into their discipline and out into the general public to understand what the value of that work was.

So, in the beginning, the NIH, moaning over the fact that it had initially something like a 4 percent compliance rate, went to Congress to make the policy mandatory. But guess what -- even when the policy became mandatory, they didn't have much of an uptick in compliance, not until the journal publishers themselves began submitting the manuscripts on behalf of their authors. And why did they do that? Well, for one thing, they do have close relationships with their authors, they work with them in the publication of these articles, they desire to see them succeed in their field of research.

But more importantly, they felt that these researchers, who now under a mandatory policy, were at risk of no longer being able to qualify to receive research funding from the government if they failed to comply with this policy, would no longer be able to do the kind of research that these journals want to publish.

So, they took up the cause of the researchers. But I would suggest to you that despite all of the plaudits that have been given to the NIH over this public access policy, and I would bet the same would be true if the policy were extended to the 11 other federal agencies that we believe would be covered under Mr. Doyle's bill, if the publishers stepped back and did not themselves submit these manuscripts, even though it's against their own interest to do so because it cuts against the value of their publication of the version of record in their journals, these policies would not be terribly successful in boosting the amount of research that the public has access to.

And that's an important aspect of Mr. Maxwell's report. He spends a lot of time talking about the importance of achieving greater access to this kind of government funded research because ultimately if you do provide greater access, broader access, more timely access to it, the result of other researchers being able to build upon the results of those who came before them will be much better.

It's a straw man argument. No one disputes that point. The only question here is whether or not the government has any other way of informing the public of the research that it funds using taxpayer money and whether or not that research ultimately validates those investments, has to be done by the government expropriating the investment and value that the journal sector publishers provide in their publication of the researcher's account of that work.

MR. FRIEDMAN: So, thank you very much. I'm guessing we'll have a lot of questions for the panel, but I want to start off by trying to sort of tease out some of the themes here, and I think something that really emerged from Allan's remarks is the importance, I think, in understanding the distinction between research and the publication

unit. In academia there's a tongue in cheek model, LPU, or least publishable unit. If you're trying to maximize your publications you just take a given piece of research and turn it into as many papers as possible to help your tenure cause.

But I think there's sort of this general idea that we have research, we have publications, and there are sets of incentives that are driving them independently or perhaps co-linearly and I'd love to get the panel's take on how divorced can we make them. I think Mr. Adler talked about the idea that we need to think of them as quite separate. I'm curious of what the rest of the panelists thought.

MR. MAXELL: I guess I'm not quite sure of what that question is.

MR. FRIEDMAN: Is there a theoretical distinction that is useful between saying there is research and there are publications? Is that a useful distinction in this context?

MR. ADLER: It's not theoretical.

MR. MAXWELL: Well, you know, here's an interesting kind of notion. Allan's view of this is that the government gives money to researchers who go and do something, but that's the only thing that the government is paying for. They go do something and because they're contracting with the government they have to make this progress report, but that doesn't have anything to do with the research which results in a manuscript or has no connection with what appears in the journal sometime later.

Now, I think we could imagine the notion that the government gives people money to do research, but is uninterested in them writing about that research, describing it, making it available, elucidating what they've learned, what they would like to learn in the future, but that, from Allan's standpoint, is kind of like divorced.

When I went to law school there was this kind of “but for” rule. Could there be a manuscript absent this activity? And the answer is, no. Is the manuscript anything like the reports that are made to the funding agency? The answer is, no.

Have you heard a single research scientist say, what I really want to get my teeth in is those reports to the funding agency about whether they did what they said they were going to do? There’s no evidence whatsoever of that, that’s silly.

And so is the notion that this activity that goes on is unrelated to the manuscript, is unrelated to the publisher. And it’s equally silly to be arguing that, by the way, this is -- this progress report is an equal substitute for the manuscript is a -- that the publishers are taking this frenzied activity by the scientist that results in -- maybe he scrawls something on the paper and the publisher produces this thing that elucidates it for the other researchers -- that’s equally silly because there is, in fact, writing that’s gone on by the researcher, which is the basis for this, and that writing is an integral part of the researcher. It’s not the activity research and publication, because they’re not separate.

You can talk about, you know, how many things you could break this up to and publish it, and there may be other things that are done, but this idea that this is clearly broken is just nonsense.

Let me just talk about a couple of other things, which it seems to me are troubling in Allan’s view of this world. One is, those reports were not designed or not intended to be the discourse of scientists.

MR. ADLER: Could they be?

MR. MAXWELL: Of course. And let’s have the American publisher -- the Association of American Publishers come out in favor of all taxpayer money should

be used for a redundant report that has nothing to do with what you're trying to do in the research, but is a substitute for what the publisher eventually publishers.

The person who gets the research money has a choice, as does the publisher. The person who gets the research money says: do I want to take this money knowing that eventually my report will be made available -- my report, my manuscript -- and I will sign that? That's the condition. It's a contractual condition.

The publisher could say: I don't want any of this. I don't want this clogging up my system. It's probably crappy because it's just like I didn't start it. The publishers make a contribution, no question about it. The publisher's value in that is in organizing peer review. But if you think that organizing peer review is the dominant cost of publication, I'd be willing to sell you another theory about academic publication.

MR. FRIEDMAN: So, let's get into governance models in just a second, because I think this question of, you know, the research versus the publication -- one view that says, no, they're sort of the same thing just framed differently. You say it's not a theoretical distinction, it's --

MR. ADLER: I fully grant that doing research without publishing it makes no sense. We're talking about the question of who bears the cost of publishing it? And what I'm saying is, you have private sector publishers, journal publishers, journal publishers, who have long made investments in developing expertise, in developing brand recognition, in developing reputations within the research community, that they are a trusted source for the researcher to take the manuscript to to ensure that when it's published, people are going to take it seriously.

I mean, what Elliot seems to be saying is, is that somehow or another, if

the publisher didn't do that, there's going to be this big void. I mean, what would the agency do? I mean, there's nothing in the agency's contract with the researcher that awards anything to the publisher. There's nothing in the agency's contract with the researcher that even requires publication in a peer reviewed journal.

MR. MAXWELL: Rather than this being a question of vender/customer dispute, which you sort of first asserted --

MR. ADLER: I said that's an underlying issue.

MR. MAXWELL: No, I think you said that was all -- that was it.

MR. ADLER: No, that's not it.

MR. MAXWELL: And that all of this has been about that. The problem here is that it's a question of business model.

MR. FRIEDMAN: Well, so let's get into that. I want to bring Corey in on this question because on one hand librarians rely on brand and understand the value of (inaudible).

MS. WILLIAMS: Absolutely. And so that's -- and speaking to that vein, we do not argue the value that publishers add in facilitating the peer review process and adding value when taking that original manuscript and creating a publication. That's not the argument.

And, in fact, I'd like to herald back to what Congressman Doyle stated in his remarks in that that's why the idea of an embargo period -- he set the marker and suggested six months -- is that from our position in finding -- finding the middle ground, from allowing the publishers to continue to profit and do their value add, and libraries are not going to stop subscribing, especially in the academic realm. Our researchers and

scientists need immediate access to the real time research.

And so that's why this embargo period is, let's meet, let's talk, let's meet in the middle, let's figure out where that sweet spot is so that you continue to do your job, the publishers continue to do their job, because we do need it, and that, at some point then, the pay wall does come down on this type of research.

MR. ADLER: Well, look -- can I just ask a question about that? I mean, first of all, if libraries did not have budgetary shortages, which I really regret that they do because I'm a great fan of libraries.

MS. WILLIAMS: We do too.

MR. ADLER: And obviously I love books and libraries are the place where you can go and read them even if you don't want to buy them, which is a wonderful thing.

So, if libraries didn't have the budget crisis that they have, would they be complaining about the quality of the journal publications? Would they somehow be saying that these aren't worth purchasing, that these aren't worth making available to the library's community of interested readers?

MS. WILLIAMS: I don't think we're complaining about the quality.

MR. ADLER: No, of course you're not.

MS. WILLIAMS: The quality is not the issue here.

MR. ADLER: What you're complaining about is the cost, and I understand that --

MS. WILLIAMS: No, we're not complaining about the cost.

MR. ADLER: You're not?

MS. WILLIAMS: No, we're talking about making this research that is publically funded, from our perspective, available at some point -- at some point -- and what point is that? And that's where we want to engage and I'd be interested in whether you have data that tells us where that marker is. Is it 12 months, is it 6 months? At what point?

MR. ADLER: Actually, I'd be interested in whether you have data, because the fact of the matter is, that 12-month period was completely arbitrary, it was the original NIH proposal. The six-month requirement for embargo was even more arbitrary. I mean, basically, this is something that seems to you to be fairly timely, but still leaves a window for the publisher ostensibly to be able to recover costs.

There's a completely mixed sense of whether or not those periods have any value, especially when you realize the absolute diversity that exists in the various models of publishing across the various disciplines of research. I mean, even the American Association of Universities, which, generally speaking, has been a supporter of the NIH public access policy and, generally speaking, has supported FRPAA, has also come out publically, both through the Scholarly Publishing Roundtable, and in its own comments to the OSTP and said, basically, you know, you can't have a one-size-fits-all embargo period. Each federal agency that funds particular types of research needs to negotiate this.

MS. WILLIAMS: Right, so let's --

MR. ADLER: With the stakeholders and the community.

MS. WILLIAMS: -- so let's negotiate.

MR. ADLER: Well, you don't do that in the form of mandates from

Congress.

MR. FRIEDMAN: So, then that ties into this question of, what are some of the governance issues that we are looking for? So, it seems to me that there are two broad buckets of goals here. There's sort of this accountability and fairness question.

This is taxpayer money; it should be available to American citizens. And then there's sort of the innovation and access argument, that if we want to have better use of this information, especially from non-traditional consumers, then we need to make it more available.

So, between those two general buckets of goals, what are some of the models? And there are some approaches, right, the complete non-mandate approach is one that's being led by some researchers right now in computer science, which is the boycott.

There's a movement right now in computer science that says, we're not going to use a particular publishing company because we disagree so strongly with their work -- and we can talk -- so, that's completely voluntary and may slowly start moving up the voluntary arm, there are university led initiative that say, listen, if you work here, we believe the work that we do here is so important you must make it available. We are going to require you to get a letter signed by your boss -- and if anyone has worked in a university and ever tried to get, you know, a dean to do anything, it's a big hassle -- to get an exemption, otherwise everything that you write has to be made public.

And, to Allan's point, it turns out that's hard to comply with because professors are busy doing an awful lot of other stuff, but this general model, the university wide policy, pioneered at Harvard with an old colleague, Stuart Sheeber, and now

spreading around --

MR. MAXWELL: Which is also budgetarily challenged, I suppose?

MR. FRIEDMAN: And then you have sort of the publisher reaction, which is, for example, I know computer science, I do research in computer science, ACM saying, listen, we're going to have -- we retain the full copyright, but we're going to have some portal by which you can access things.

MR. ADLER: You can add a couple of other things too. For example, the Department of Energy, which funds a tremendous amount of research, doesn't have anything even remotely like the NIH public access policy and isn't interested in adopting one. Neither is the National Science Foundation, which funds most of the basic scientific research in the United States.

MR. FRIEDMAN: So, but let's talk about these governance models, that if a mandate is not the answer, what else might achieve these goals? Or, if we want these goals, is the mandate the most straightforward way of getting this approach?

MR. MAXWELL: I think there's a fair amount of confusion in the discussion. I may have contributed to it, but others may have as well. I think the question is not really one of price, as Corey points out, the question is one of access and if you have research, the research is funded for a particular reason, and it's part of a long history of trying to address problems of social moment and to try to find solutions to those problems.

And you start from the premise that the best way of encouraging further production of that is greater access. It seems to me that's the only way, the only valid reason for thinking about this question is, how can we get more innovation, better

research, more available to people so they can build upon it and grow our society, address terrible problems that we face? That's the first question.

And the question that we have to keep our minds on, it's not whether, if your prices were less, would libraries get off your back. That's not the question. The question is how do we encourage first rate, high quality research? That's the question.

And any other question needs to be taken, how does it affect that? The governance models --

MR. ADLER: Could I ask you a question related to that?

MR. MAXWELL: -- the governance models have to start there.

MR. ADLER: Could I ask you a question related to that?

MR. MAXWELL: Sure.

MR. ADLER: Okay. For 30 years, research universities in this country have benefitted from a federal law called the Bayh-Dole legislation, and what the Bayh-Dole legislation basically is about is the desire of the federal agency to enlist he best minds in the private sector to work jointly with them on research that is going to be funded with taxpayer money, they don't ask the private sector participants to contribute to the funding, and the reward for their participation in the research, based on taxpayer funding, is that they get the patent rights to any discoveries that result from that research so long as they're willing to attempt, ultimately, to take that material, those discoveries, those inventions, and develop commercial applications for them.

Now, I don't hear anyone screaming and yelling about the unfairness of the fact that once Stanford University acquires the patent rights to discoveries from a joint research project with the federal government, that other people don't have access to that

research because Stanford holds the patent rights to it.

So, why all of the sudden, when you have journal publishers doing what they've been doing for over a century, and having that contribution, put the United States far in the forefront of scientific enterprises throughout the world -- why are we suddenly critical of the pay wall, of the attempt to recover the investments they make when, in fact, the entire Bayh-Dole program isn't a matter of recovering investments, it's basically holding out a reward that you get the patent rights, you get to develop that patent, you get the royalties from those patents?

MR. MAXWELL: Okay, and so the reason why there's a difference --

MR. ADLER: Yeah?

MR. MAXWELL: -- is because in the context of the Bayh-Dole proposal, it was to increase innovation, and there's no argument that you can make or are making that it is the action of the publisher that increases access, that increases innovation.

That's what -- you've only said that we do something to now make this more accessible --

MR. ADLER: We do make it accessible.

MR. FRIEDMAN: I want to give the last word on the governance question to Corey and then we'll go out to the audience, unless -- do you have a comment on --

MS. WILLIAMS: No, let's move to the audience. Let's give them an opportunity.

MR. FRIEDMAN: So, I saw a few people who were very excited, especially once we brought in patents, which I feel that universities might also have some

strong views on. I'd like to go here with, again, the caveat that introduce yourself when you raise a question, short and, you know, interrogative punctuation.

MR. ALEXANDER: Yes, I'm Jeff Alexander with SRI; we were formerly Stanford Research Institute. We are a nonprofit research corporation.

I'm glad you brought up patents because that was going to be my question. You know, a predicate of patenting is that you publish the patent, it is publically available, the information is disseminated upon grant. And in the patent world, the U.S. Patent Office has published its patents and you have commercial publishers like Derwent, who make money off the value-added services of being able to identify quality patents and help people to identify -- search for patents and associate them.

In the publishing world, you know, theoretically that peer review happens a priori before the publication happens, but it turns out that empirically there is a higher rate of withdrawal of publications now than in the past, so peer review is not working well.

And so, I'm trying to understand why you make the argument that publishers should be, you know, rewarded for helping to perpetuate the peer review system when the peer review system itself is showing that it's actually not functioning properly?

MR. ADLER: I understand that that's an argument that you're making. What I'm saying to you is, if you look at the NIH public access policy, and if you look at Mr. Doyle's legislation, which would extend, basically, that policy with a tighter embargo period to these other 11 agencies that have extramural research funding budgets of over $100 million, clearly they value the peer review process because they're not interested in

the researcher's account of the research until it's gone through peer review, and more than that, until it's been accepted for publication by the journal that conducts peer review.

So, you can make that argument. I can't dispute you on it, but the government is disputing you on it and Congressman Doyle is disputing you on it. They obviously see the value, not only of the peer review process, but of the publisher's general process of deciding what is worth publishing and what isn't.

Do you know that there are publications, for example, Cell Press, has a publication, a new publication, called Cell Reports that rejects as many as 95 percent of the manuscripts submitted to it? That is what the government values. That's a process that is done by the publisher based on the publisher's ability to perform it, based upon the publisher's investment in their business.

MR. FRIEDMAN: So, right on the corner there.

MR. THAKUR: I'm Neil Thakur. I'm the NIH program manager for the public access policy, and I just wanted to make one clarification.

NIH, and I believe all the federal research agencies under OMB rules, pay for publications that arise from grants in two ways, and first we pay the salary costs for scientists while they write the paper. So, we pay for the papers to be written. The second thing is we pay or we allow the scientist to charge to their grants any publication costs that arise from the process and they're generally two flavors, and one is under -- well, three flavors -- under the subscription model, some publishers charge their authors nothing, other subscription publishers charge their authors page charges, color charges, some portion of the publication costs, and those are reimbursable costs, and under the open access model, the publisher charges the author the entire cost of publication and

we allow that to be reimbursed as well.

MR. ADLER: Can I respond to that?

MR. FRIEDMAN: Yes, please.

MR. ADLER: Okay. First of all, I understand where you get that argument because in this hearing, which was held -- shows you how long we've been dealing with this issue -- this was September of 2008. This was a hearing held before the House Judiciary Subcommittee on Courts, Internet, and Intellectual Property. And at that hearing, as you've just said, Dr. Zerhouni, who was then the head of the National Institutes for Health, did indeed testify that we pay for publication in two ways, and claimed, at that time, that they're paying what are called pay charges or publication fees to the journals so that they don't have to charge the readers of the journals, rather they're charging to recover their costs, they're actually charging the author, if you will, or the funder of the author.

Dr. Zerhouni claimed that amount was anywhere between $80 million to $100 million annually. And that was a piece of information that I thought was really very interesting, and I wasn't sure that I understood it, until I then saw a letter that the current head of the NIH wrote to Congressman Joseph Pitts of the Energy and Commerce Committee in which the same question was asked about whether or not they actually fund the publications of these accounts of the agency funded research that are published in journals. And what he said was actually a little bit different.

He said that former NIH Director Zerhouni estimated that the NIH reimburses roughly $100 million fees per year out of NIH awards. Then he said, "Because the NIH has moved to a modular budget reporting system many years ago to

reduce administrative burden on our awardees, we do not have a precise way of estimating these expenses. We do not have a separate set of funds set aside for publication expenses. The NIH has considered a separate fund for publication expenses and avoided it because of the potential for the NIH to distort prices in the publishing market."

With respect to the notion that you pay the salaries of these people while they write the articles, maybe in some cases you do, but typically, since these articles, the manuscript for these articles are written after the research is done. In many instances the grant funds have already run out, they've already been expended on the research. And the researcher is writing the account of the research in order to be able, again, to demonstrate what they did, not only to be able to satisfy a desire of the agency to have an account, but so that the researcher within the researcher's own field will be able to develop the sense of their expertise, their experience, and their reputation for conducting meaningful research.

So, it is not the case that these types of publications are generally funded by the agency that funds the research. That's exactly the point we've been trying to make, that the publication of the account of the research in the journal is not part and parcel of the research funding, it is not part and parcel of what is expected of the researcher who is funded by the agency.

MR. THAKUR: I don't think we're in disagreement, actually. What you're saying is that some papers that appear to be NIH funded may not be NIH funded, and according to our policy, the university tells us what's NIH funded, and one of the ways they tell us is by listing that paper, actually, on those progress reports you're referring to,

and that's how we figure out if they're actually in compliance with the policy or not. So, that may be well true that there are papers that aren't supported by NIH and they wouldn't fall under the policy.

MR. ADLER: And although I know that there are many publishers who are members of AAP who like page charges as an alternative way of doing this, there is a problem with the idea that that concept can be very discriminatory. It can mean that researchers who don't have the backing of well-heeled funding institutions don't get page charge funding. It could mean that individuals who are independent researchers don't have it unless they take that money out of their own pockets. And it particularly discriminates against individuals who are outside the United States who want to be able to publish their research in well-known, reputable U.S. journals.

MR. FRIEDMAN: So, the gentleman in the tan suit.

SPEAKER: Thank you. On this last point, are you claiming that the publishers pay? I mean, so there's a period in which the federal government pays for the research, then a period in which the research is written up, and then it's published. Are the publishers paying for the write up?

MR. ADLER: No. I'm not saying that they are.

SPEAKER: Okay.

MR. ADLER: And, in fact, well, I guess what I would say is people always do comment on the fact that the publishers don't pay the researcher for the rights to the manuscript that ultimately becomes the published article in the journal. They don't pay them in money, but they pay them in currency that the researcher really values, which is having their work exposed to their peers and to the world at large in a reputable

publication that makes people take what they've done seriously.

MR. FRIEDMAN: There's a question, standing in the back there.

MR. WINTERS: Steve Winters, local researcher. I guess this is to Mr. Adler. Actually, I worked at Johns Hopkins with one of the most distinguished scientific editors of the 20th century very closely for a number of years and, of course, his view was, this was his journal.

Now, the fact is, he had a very famous German, scientific publishing house, which printed the stuff up, and he told me, he said, "Why do I like this house? Well, they do great work typesetting, nice typography, and they also happen to get their journals into just about every library everywhere in the world, so the stuff that my editors approve for publication gets all over the world." That's great.

Let's flash forward to today. We've got some very nice open source publishing programs for scientific publishing that do great typography. We don't need a publisher for that. And secondly, we've got the Internet. We can get it to every person in their back room where their computer is everywhere in the world.

So, actually, his two reasons for dealing with that publisher -- there may have been others, but those are the main ones he said -- but what did he have? He was professor at the university. All those board members who approved the editors, sub-editors, who approved the submissions, all had positions at universities.

So, that's what today is, you can cut out the middleman. The issue is, you don't -- he was making a little bit of money off the German publisher too, maybe a good amount of money, but he could have lived without that.

So, a lot of this discussion seems to be a little bit dated. Can you

address that?

MR. ADLER: Well, it's not dated. I mean, my point is, is that, make no mistake, and I want to be clear about this if I've said anything to create the wrong impression, we're not criticizing open access publications as a business model. We're criticizing open access mandates from the government, we're criticizing the government essentially entailing the value of the agreement between the funded researcher and the publisher at the outset by essentially loading the deck by telling the publisher, oh, and -- by telling the researcher, oh, and by the way, if you want to get this funding from us, when you write this manuscript and try to get it published in a reputable private sector journal that has peer review and that will help enhance your stature within your field, you must first submit to us that final manuscript after peer review and after acceptance for publication in that journal, otherwise we won't give you the money.

We're talking about mandates. We're not talking about whether or not there are different business models that have flourished since the time you were talking about --

MS. WILLIAMS: I'd like to jump in --

MR. ADLER: -- that may in fact well prove themselves sustainable and quite valuable to the nation's scientific enterprise.

MS. WILLIAMS: I'd like to jump in and speak to your point because we're talking about business models and at the outset of your remarks, Allan, you commented that, you know, over the past 30 years up until recently there's been no outcry from the journal community to move to this access after a period of time.

Well, in the last several years we've had the great advent of the Internet

and nearly 100 percent of public libraries in the countries are connected to the Internet, our schools are almost universally connected to the Internet. We're working on every individual and every citizen of our country having at least the opportunity or the ability to access or connect to the Internet from their home if they like, and that has shifted, that has been, in many instances, another helping -- or addition to leveling of the playing field of this inequity.

And I think that the advent of the Internet and the rapid dissemination of information that occurs on it cannot be underestimated and thus you have the public, who is funding this research saying, now we have a way to access it beyond our academic libraries and our academic libraries are still subscribing because at the outset Congressman Doyle stated, and we've seen it, that four years of the NIH public access policy and we're not seeing a decrease in journal subscriptions.

MR. ADLER: Well, but I'm not arguing about that because, I mean, the journal publishers were actually the earliest adopters of the Internet within the publishing sector. There is something like -- I read a UK study that said over 96 percent of journals are online. So, there's not a question about whether or not they should be online, they are online.

MR. FRIEDMAN: They pioneered models of digital bundling.

MR. MAXWELL: Right. You know, somehow we keep getting disengaged from the question about whether -- what policy makes the most sense for generating and disseminating high-quality research. That's the central question. There are all these benefits, you say that they're kind of uncontested, then, great, we won't argue about that. Then what we'd only argue about is where's the downside. And as far

as I can tell, if you look at what happened with the publishers, which have been the people who claimed a kind of apocalyptic response, and they may have been your words in the websites and the like -- the apocalyptic response isn't there. It isn't there.

And there's no data, no evidence from the people who have the evidence about subscriptions, about dissemination, that says it's there. So, I'm just having trouble having the argument revolve around different questions than, what's the country to do if it wants to increase the generation and dissemination of high-quality research in order to get economic growth, in order to solve social problems, and at least one way of thinking about this is to ensure, that at least with respect to money that goes to support research, which I consider entailing part of the writing up of that research, to make that available after some period of time. That's the central question.

And until you can figure out what the downside of that is and try to make that a counterbalance or overwhelm the benefits that you acknowledge, then I don't know what the rest of the discussion is about. That's the core problem.

MR. FRIEDMAN: So, we have time for one last question in the back, I'm afraid. Good discussion --

MR. FENWICK: I'm Brad Fenwick. Senior full professor, been vice president, vice chancellor at top 25 universities, been a publisher -- I mean, an editor, scientist, and I'm currently a Jefferson Science Fellow at the State Department right now.

So, the argument that -- two things come up, one is, when everybody says this is publically funded research, they're wrong. It's partially publically funded. And so you're co-opting other funders and making a mandatory policy. So, you need to bring them into the game.

The other argument, where from an academic standpoint we've seen a lot of compliance requirements coming out of the federal government that weren't well thought through, my argument would be that experiment is going on right now that will bring us to the right place.

So, we have open access journals that are starting up, we have some disciplines -- physics, economics, computer science -- they're doing experiments on themselves with publishing them, essentially, open access and research in progress. So, the idea of creating a mandate to solve a problem that's being, essentially, arbitrated right now doesn't make a lot of sense for most of us in the academic world.

MR. MAXWELL: Well, I think there's probably some question about whether most of us in the academic world that you say that you speak for believe the same thing that you do. So, that's at least a question for me. The second is that no one has to participate in this; it's only if they want government funding. That's where the mandate stops. It's part of a contractual relationship between the researcher and the government.

The theory about the question of these experiments -- experiments have been going on in some way since the early 90s with the birth of archive, and if you look at computer science, if you look at mathematics, if you look at high energy physics, if you look at other fields in which work is available from the get go, you also see a series of successful journals coexisting in that space.

MR. FENWICK: Without a mandate.

MR. MAXWELL: Without a mandate. So, what does the mandate do there? Does it destroy the economic review? It doesn't appear to be that. Does it

destroy the high-energy physics journals? No.

MR. ADLER: What the mandate does -- and this is something you mention in your own study -- I mean, you talked about whether or not the journal community, undergoing all the challenges of the new digital environment, are able to be able to deal with those challenges in the marketplace.

All they're asking is to be allowed to try to deal with them in the marketplace and not have to deal with government mandates.

What you set up with this argument to say that the policy is a good one unless the publishers can demonstrate they're being hurt, why is that the test? This is government action. The government has decided that it is now going to take a particular type of policy that's going to impact the way these journal publishers do business. And you're saying that unless the publishers can say that that is somehow causing them specific kinds of identifiable harm, that the publishers have no reason --

MR. FRIEDMAN: Allan, I'm sorry, we do have to end, and I want to give Corey just the last word on this.

MS. WILLIAMS: I just want us to step back for a second and reflect upon balancing my two colleagues perspectives, is that we're not looking to -- we're looking to fostering innovation, economic growth, academic work, and there is a balance here. It's not to cut the publishers out. We, libraries, understand and respect the role of the publishers.

It is to balance making information available to the public freely without fees, additional fees, at a particular point in time. And this mandate moves us to -- or this legislation with a suggested embargo period, which is -- and we're wanting to negotiate

the embargo period with the publishers -- moves us to a place that moves us forward.

We have four years of NIH experience to draw upon and I really can't see the downside in looking at those four years. So, it's not as though we're blazing forward without a sense of what potential impact is, we --

MR. ADLER: I mean, it actually --

MS. WILLIAMS: We actually can observe what the potential is. Five hundred thousand users a day accessing Pub Med Central, downloading 2 million articles. At the end of the day, I mean, that speaks volumes.

MR. FRIEDMAN: So, speaks volumes and bits and all sorts of ways that we can access information. And with that, I would like to thank Allan, Corey, and Elliot for a very spirited discussion and encourage you to get involved in this yourself.

(Applause)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

Carleton J. Anderson, III

(Signature and Seal on File)

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2012