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[00:00 - 01:30] Speaker 1: It's my great pleasure to introduce our next speaker, and I'm not going to do a traditional introduction. I'm going to tell you a little bit about what we learned about him. I think it's axiomatic that we're entering a new era of openness in higher education, in data, in publishing, in government and across the board. And we've been criticized in higher ed as not being good at change. And some of that criticism is-is merited, some is not. Uh, but it's still a criticism. And I hearken back to the old JFK saying, "Some of us see things as they are and say, why? Others of us who are more visionary see things as they could be and say, why not?" And that's the next speaker. He's had a vision, uh, to do something really profoundly impactful at his institution. And right in the middle of all the Cyber Infrastructure Discussions going on, KU has done something, you know, very traumatic, especially for a Western kind of institution in my mind. And our next speaker epitomizes, um, the saying that is a Mark Twainism, "Always do the right thing. You'll surprise a small number of people and astonish a much larger number of people". So I'm very pleased for us to have Town Peterson from KU with us today to talk about the initiative that he lied about open access on his campus. So please join me in welcoming Town. [applause]

[01:46 - 04:00] Town Peterson: I hope after that introduction, this isn't a pretty profound disappointment to you all. [giggles] We're going to change gears a bit and talk a little bit less about kind of traditional views of cyber infrastructure to one of the building blocks, which is very simply accessibility of information. Um, which is to say, it's hard to have an infrastructure if, if the, the flows of, of, uh, basic fundamental information aren't open and, and vibrant. Uh, so let's talk a bit about open access. Um, I stole some definitions from Peter Suber, who's been a major proponent in this and I should say, with John Wilbanks coming a little bit later, uh, we kind of have this out of order.

Uh, he's going to give you a very nice introduction to the field, and I'm going to give you an introduction to what it feels like to be in the trenches and, and, uh, get some of these initiatives moving. Um, anyhow, open access literature, digital, online, free of charge and free of most copyright and licensing restrictions. That's a very simple, uh, definition. And essentially open access, this movement has become possible, uh, thanks in large part to the internet, um, to essentially the ability to move digital objects around rather than paper objects. The movement at present, or at least the part of it I will talk to you about is focused mainly on scholarly journals. There are other huge nuts to crack, like the textbook industry, okay? But the difference is that we don't make any money by publishing in scholarly journals. And so it's possible for an author to say, here, take this, right? Take, take one of my copyrights. If we were talking about textbooks where some of our colleagues make tons of money off of these things, then it would be a very different dynamic and it would probably be a tougher discussion.

[04:02 - 06:31] Town Peterson: Let's start by dispelling a myth. Um, open access is completely and absolutely compatible with peer review. We are not talking about cheapening the scholarly process. We're not talking about abandoning, uh, traditional academic peer review. We're simply talking about making the fruits of that research more accessible to more people around the world. And finally, uh, we're not talking about something that is free, which is to say open access literature costs a lot of money. The question is, where does the money come from and where does the money go? So we'll come back to that point in a minute. So let's start with some examples. And the best example is the physics community. I love this title, how a community stopped worrying about journals and learned to love repositories. But let's look at this analysis. And this is without a doubt the community that has invested most heavily in open access. And so they have the most data, and they're also good at analyzing data. So you'll see some neat, uh, graphics here. This is looking at the fraction of articles published in, in peer reviewed, uh, journals that are archived for open access. And what you can see is that starting in 1991, the physicists started putting their their publications in open access archives, and they're now well above 90% of their literature is published in, uh, sites that anybody can access from anywhere in the world. So we've got a whole field that's basically bought into this process. I assume that the main exceptions are the things that they managed to publish in science and nature. [laughs] So, here is the evolution of the impact factor as a function of the year, for which the impact factor was calculated. And what I want you to notice is that, uh, our articles that are put in the open access archive and that are published in a peer reviewed journal, are writing an impact factor that's quite high.

[06:32 - 09:01] Town Peterson: Just published but not openly accessible are writing a much lower impact factor. And things that are just archived, essentially dumped onto the web, are similarly low in

terms of impact. We can look at the same data in a different way. Um, this is the number of citations per month as a function of time of citation relative to time of publication. And so what you see is that, that papers in archive, which is their open access archive are out there before publication date. When they get published, they hit a peak. And then as we know, they have this decay curve of, of influence where older articles, which would be way out here to the right, have less and less of a citation impact. And again, what I want you to notice is that the things, the papers that are in this open access archive are seeing quite a bit more citation attention. So, rather than give you a long review of the emerging literature on open access and what it does for, uh, for citation of scholarly research, I'll just show you quickly a, uh, a review paper. And this, this is convenient because we're now up to a couple of dozen published papers about this field. So, the open access citation advantage studies and results to date. And essentially they reviewed, uh, 31 studies, 27 of which showed a positive citation advantage. And most interesting is that they, they broke it down by field. So, in terms of citations and compared to the baseline of non-open access papers, you see in physics a one and a half to six fold increase in citations. You see essentially all positive except here in my own home field of biology and some fields seeing a rather modest increase and others seeing quite dramatic increases. The long and the short of it is that open access is good for attention to scholarship. Yep.

[09:02 - 11:24] Town Peterson: Yeah. So let's ask the question another way, which is to say, why have I personally been, um, investing about the last three years of my life in this challenge? Um, I tried to do a review paper from home a few years ago. I needed to spend some time around home. I needed to read about 120 journal articles to do this review paper. What a disaster. Okay, 85% of the papers I couldn't get. So I had to do these trips to my office where I would just plug in and download dozens of papers. Here are some of my own publications where somebody somewhere in the world who doesn't have the privilege of being at a relatively well-off university tries to download those papers and what happens. Well, here's one in science. Here's one in Not Your Wish In Sharpton [phonetic]. Here's one in Quarterly Review of Biology. And here's one in Global Ecology and Biogeography. Those are the journals where I published. And guess what? They're all closed access. Um, I've even seen some of my colleagues competing based on the average price of their publications. [laughs] And then the funniest one is this one. This is one of those papers on open access. So open access scientometrics and the UK Research Assessment Exercise. And guess what? If you want to see it, it costs you \$30. [laughs] This is what it boils down to. And you guys are more than half library people, so you know this story. Uh, the cost of serials per unit has gone up dramatically, this is since 1986. And you can see the per unit cost going up, um, you also know that there are lots and lots of serials. So the total serials expenditure is way, way up. Um, at the University of Kansas, the yearly expenditure is between 4 and 5 million dollars.

[11:25 - 14:03] Town Peterson: So one thing I want you to remember in all of this open access thing is that it's one of the few things in academia that we do where the money already exists. The question is where you're spending it and how you're spending it. But the money is there. There's a lot of money being spent on access to journal publish scholarship. So remember that. So let's think about how we write a paper, one of these journal publications, um, in particular, this will be in my field. I'm not going to speak for the humanists and such. But let's imagine that we come up with a research idea. One of the first things we usually have to do is go out and find some funding, We do the research, write the paper, submit it to a journal, an editor of that journal receives the paper, some peer reviewers ponder the quality of the paper, goes back to the editor and he or she accepts, hopefully, uh, accepts the paper. Then there's that issue of page charges, and the papers published, and then readers want to see what it is that one published. So that's kind of a very simple cartoon of the publication process. Now let's think about it. At a bunch of steps in this process, we have this input of of thinking, okay? At other steps in this process we have input of money. And we also have another kind of input of money, which is the time that are essentially donated, that is essentially donated by editors and reviewers. So you have a system that's essentially powered by money from maybe it's NSF or NIH or what have you. Um, powered by volunteer time buy from editors and reviewers. I reviewed 62 papers last year, I believe. And by brain power from the scientists or the humanists or whomever.

[14:04 - 16:32] Town Peterson: But where's the money going? Well, the page charges, the access charges and the subscription fees. And so essentially, this is something. [laughs] This is essentially something, it's a system that is powered by academia on a volunteer basis. But the output in terms of economics really doesn't do much good for academia. So, my opinion is that academic publishing has been bought out by an opportunistic commercial publishing world, and that if we continue on this same track, we essentially have no access to our own field. So essentially, we kill ourselves, okay? We choke off our own flow of oxygen. So, we're going to consider three solutions. First solution, um, we can publish in open access journals, okay? So these are journals that by some means have figured out a way of dealing with the cost question, okay. I run an open access journal. It's called biodiversity Informatics. And we've solved that, that challenge in a very simple way. We're tiny, and so three professors, one here at University of Colorado and two at the University of Kansas, we basically are the editors, the copy editors, the type setters. We do it all ourselves. Uh, more recently, the University of Kansas has bought in and handles our systems administration. But by some means, there are solutions to making journals open access. And that set of journals has been growing. So this is a comparison of 2006 to 2009. And you can see that the open access proportion has gone up by a little bit under, uh, 50%. This is a growing trend in publishing. Um, I don't want to

go into this detail a lot, but but there are more and more open access options out there. We'll talk a bit more about that in a moment.

[16:33 - 19:19] Town Peterson: The second solution is to work within the limits. And this is something where I think a lot of university faculty around the world don't understand what they can already do without any open access policies or anything, but simply understanding what the journals permit at the outset with no negotiation. So you all are potentially familiar with the Sherpa Romeo site, but this is a website that allows, it's essentially a compendium of, of access rules, either by publisher or by journal. And so I'll show you a few examples. This is the Journal of Ecology, a very high impact journal in my field. And you see these green check-marks, author can archive preprint, pre-refereeing and author can archive post-print, final draft, post-refereeing, doesn't allow us to, to archive the actual published version. But this is a pretty good, uh, journal in the big scheme of things. Let's go to a slightly less satisfying example. Journal of Ecology, author can archive pre-refereeing copy, under some restricted circumstances can offer, can, uh, archive the post print one and definitely can archive the published version. And then my worst case example um, the, this is something from my field, Vector-borne and Zoonotic diseases. You basically can't archive anything, okay? And so we can as publishing scholars, we can essentially vote with our papers for those journals that have the best policies and that will, that will have an effect on the field. So that's essentially playing within the rules that are set by the journals themselves. The third solution is probably the reason why I was invited to talk to you today, which is essentially changing those limits. And so I'll give you the example of open access at the University of Kansas. It's a long history, and that's something that's, that goes way back before I was involved at all. We had a, a provost, David Sullenberger [phonetic], who to this day is working as an open advocate for open access.

[19:20 - 22:18] Town Peterson: And Sullenberger, starting in 2000, uh, convened a seminar From Crisis to Reform: Scholarly Communication and the Tempe Principles, um. And that led to a series of downstream events and another seminar. And a most important step was it in 2005, essentially our faculty governance, our senate passed a resolution basically saying do everything you can to open access to your scholarship. And that was about as good as you could do in 2005. Another thing we did in 2005 was to open our digital repository, it's called KU Scholar Works. 2007 is when KU started sponsoring its own open access journals, including our own. Um, we, we had more and more activity building into 2008. And so essentially the precursor to our present open access policy is this long tradition, eight-ten years of interest, largely stimulated by, by Sullenberger, but not exclusively. Um, essentially KU's been thinking about this for quite a while. So KU is, believe it or not, the only public university to pass an open access policy twice, okay? And that's why I've got all this gray hair. [mumbling] So, um, the Harvard policy kind of laid out a template for us, okay? This, this was, we've

been talking about things before this point, but the Harvard declaration really laid out a path for us to follow. And so, so we started talking, um, by late spring 2008, we got a charge to the Faculty Research Committee which was to develop a policy designed to promote open access to KU scholarship. Um, and notice that recommended policies have to be discussed by governance, our faculty senate and the KU research community, okay? I had the the, uh, privilege of, of chairing that subcommittee of the Faculty Research Committee. That whole academic year, we met, we argued, we developed policy drafts, we suggested details.

[22:18 - 24:51] Town Peterson: We had a web based survey, which I'll show you in a moment. Some open meetings, we made presentations to basically anybody who would listen. And by April 2009, uh, we had made a policy statement available to the Faculty Executive Committee, which is essentially the executive body of the faculty senate, but without implementation details. And that was basically the difficult decision that we had to make in order to get something passed and not just be turned away at the door. Uh, that policy without any meat on the bones, was passed overwhelmingly by our faculty senate, um, and approved. But the final sentence was faculty governance and consultation with the Provost Office will develop the details of the policy, which will be submitted for approval by the faculty senate. That's why we had to do this twice. So we were the first public institution with a faculty approved open access policy, but there were no details [laughs]. Here we go again. So there was convened a task force of the faculty senate. Luckily and intelligently, I was not in charge of this one. A much more capable politician, Ada Emmett of our libraries, was in charge of it, and I can only say that, had I been in charge of this, I wouldn't be here today and it wouldn't have happened, okay? I was on the task force, which, which involved at least weekly meetings and presentations. Um, so notice that the task force included faculty, including librarians, uh, university administrators, and faculty senate members. We had more than 20 meetings with more than 220 faculty, brown bag lunches, open meetings, presentations to departments, progress reports, etc. We had discussions on essentially how things would work with KU libraries and KU IT. We enlisted, essentially people who would play. It was the coalition of the willing, to quote our recent great president, yeah.

[24:52 - 27:19] Town Peterson: Um, February 2010, we submitted the final drafts of the policy. The policy was approved as submitted with a separate implementation document, and the provost and chancellor approved it. It was not all that simple, but I distilled it down for you. And so finally we had our open access policy. I looked at my email box for open access, and we literally have exchanged 2305 emails as of about a week ago. So here's the list of challenges that we were to take into account from the outset, and I think these are worth considering. Where does this apply? Journal articles, monographs, books, etc, etc. Um, who's responsible for collecting and serving these works?

Um, how do we offer guidance to faculty in the sometimes very complex negotiations with publishers? We have to delineate time frames. Is it just some day I'll do it before I retire, or is it within a day of publication or what? Um, this ended up being perhaps the most sticky of all. You'll see some examples in a moment. Essentially, how do we assure participation? If you used the word enforce, you were dead [mumbling]. Um, take into consideration the special and diverse needs of the whole spectrum of our academic community. That was a huge learning experience for me. I'm the son of an English professor. I do work in geography and biology and computation, and I had no idea that the academic community was so diverse in how we publish. And of course, make sure that nothing we do, um, affects negatively the, the lives and careers of our junior faculty. So here's that survey I mentioned. This was a year and a half ago, almost two years ago. And all I want you to do is see kind of the modal response, the most frequent responses. Down here and things that were the modal response was unimportant.

[27:20 - 29:29] Town Peterson: Making preprint, which is to say, pre-peer review versions available to a worldwide audience. Half of the respondents said I don't care. Good. Um, making my research available before traditional publication. Also, nobody cared about that. But things that were highly important, make it easier for people to search for and locate my work, make access to my work to scholars and other countries more consistent. So that was really impressive that our community had that sort of focus. Same layout, not important to very important. Our faculty didn't, uh, worry much that it would impact citation value or not count towards tenure, and not worried about risk of patentability. Um, they're not worried that it would impact grant and research activities or they don't always already do it, but rather our people were worried that, um, that they would have trouble with publishers. And I'll give you some examples of that. Um, and also, I don't understand these issues. And guess what? I didn't either. So, now we get to have some fun. Remember those 2305 emails? Here are the, uh, the best of the best. This is a nice one, professor in philosophy. Um, as I read the policy, it is mandatory for all faculty. I'm strongly opposed to that. I do not see the need for such a policy. Fine. Here we go with the Department of Physics. Remember, physics is the leader in open access. And for some reason, physics at KU. I'm trying to, you know, my mom always said, if you don't have anything nice to say. So I'm not comfortable with insisting that I will do all these things. Um, what if we give all the publishers? Um, what if we give the publishers names and the journals and the provost person goes and takes care of it all? [laughs]

[29:30 - 31:48] Town Peterson: Basically, I don't care, don't bother me. Those are the nice ones. Here we go. Express my strong opposition to the open access policy that you are trying to shove down the throats of KU faculty. Um, we're already seeing the catastrophic effect of an anything goes attitude toward the economy. And then the best one was, if KU scientists want to cheapen their own

work, that's fine. Let them post anything they please on KU scholar works. Why must the rest of us follow suit? Why can't I opt out forever? That's an English professor. Let's go back to physics, this is more fun. I'm very disturbed. Physicists already have it. Why do I have to do it? I want to do research and publish papers for for KU and not some other university. I want my chair to be able to focus on issues that are really important. Um, and I'll just ignore it. Still not really offensive. Okay. Some of us would rather work than spend time trying to block Stalinist procedures generated by faculty governments [laughs]. You cannot steal my research project products. I will not participate in this program and I already do it [laughs]. I, I do not need my handheld nor do I feel a need to force anybody else to do this. You see, the physics department was a major pain in my butt [laughs]. Um, none of your arguments touched upon the fundamental question of the mandatory nature. The spirit of this policy is dictatorship and power without representation. Um, proposed open access policy is essentially a kind of dictatorship, why not make it opt in? Guess what? We already had that. Do not pretend that it is in the best interest of everyone. I know where my best interest is and absolutely do not need their advice. So that was the fun.

[31:49 - 34:19] Town Peterson: Now we'll go back to the boring part. These were the things that really came out of discussions with 10-15% of the KU faculty. Um, we, we, the faculty were worried that we may have trouble with journals at the acceptance stage. That's a valid concern. Uh, people were concerned that it would be more work for them. There was the comment that KU is not Harvard, which I never really understood. Um, most papers are already available online, why should I bother? That's because we're all comfortably within the confines of KU, and I'm already doing it on my own website. So essentially we had to learn these concerns and evolve valid, strong, uh, responses to them. So, I'll give you just a few examples of what some of our stock arguments were. This was one of our favorites. Um, we have, one of them, the members of the task force is the chair of Slavic studies at KU. And, he publishes in this journal of Slovene linguistic Studies, and he and, he published this paper, this is in KU Scholar Works, Multiple Causation in the Spread and Reversal of a Sound Change: Rhotacism in South Slavic. And the interesting thing was that Mark [phonetic] was sure that there were three people in the world who cared in any way, shape or form about this paper. And after a bit of time on KU Scholar Works, what he found was that people from all around the world were downloading and paying attention to his work, even though he didn't know that there was any reason why they should care. He's a linguist, and he points to several of these countries as using languages that have the same construction. But I'm not a linguist, so I can't tell you which countries they were. A second set of, uh, discussions that we had were centered around reading the copyright transfer agreement, which is something that I'll admit I had never done.

[34:19 - 36:43] Town Peterson: I just was happy that somebody was willing to publish my paper, and I'd sign and be done with it. So here's the publication agreement from the Court of Review of Biology. Um, this was actually pretty good. University grants to the following non-exclusive rights provided that we give public proper credit, which we already do, and it was a fair amount of, of rights. Here's one from the University of California Press, which was okay. Also use it for internal educational, classroom, and research purposes. Publish it in books or anthologies, post it on my personal website, and to post in the funding body archive. So these are, these are copyright transfer agreements that are okay. Then let's take a look at just one example of the ones that are less clear. The good news is that I retain the right to use the substance of this work in future work, so I can give you a talk on my, my own research. Uh, publisher waives the copyright to the authors to allow, uh, photocopies. That's nice, but otherwise you just transfer all copyrights, okay? So you have no right to distribute other than photocopies. And there's much worse than this. So walking our faculty through this process of actually reading and contemplating the copyright transfer agreement made a huge difference, because people thought that they were fine and some people were finding that, oh wow, I don't even have the right to present a lecture on my own research because I've published it. Somebody else owns that intellectual property, okay? And that made a big impact. And then third, we had this long and repeated discussion up until the very moment before the the final policy was approved about opt out versus opt in. The proposed policy is in by default, and you need to opt out. Uh, it has a huge advantage of collective action and collective voice.

[36:43 - 39:08] Town Peterson: Essentially, we as faculty are able to say, hey, this is part of my employment. You notice that the US government doesn't have to deal with these issues, because right on, every one of those copyright transfer agreements is the thing where you can say, I'm a US government employee, so I don't have to do this, right? So this was a way of basically pushing it off on our institution. And it encourages very broad participation. So the question was asked of us repeatedly, why not out by default and need to opt in? Well, we already had that. Remember 2005, we had that policy in place. Um, it's not going to build, uh, increased participation. And the publishers can then just say, well, opt out. Or sorry, don't opt in, okay? So that was a big detail that we had to deal with over and over again, essentially with every department that we ever dealt with. So to me, where is all of this headed? Okay, I've given you three solutions to the Scholarly Journal Publishing Challenge as far as making access better. This was really interesting. Note this, this is a Market Intelligence Service market report, okay? Somebody slipped us a copy of this at some point in the process. Uh, and this is including an a Bentham science, Biomed Central, Heimdall nature, Oxford, Public Library of Science, Springer Science. And essentially what this was was the publishing industries, the, for profit closed access publishing industries primer on what open access is. And so they, they go through, um, the beginnings of this debate. They present a lot of graphics about serial

spending. That's this curve and US research and development spending, etc, etc. To me, this is the really interesting thing. They're essentially trying to figure out how seriously they need to take the open access movement, okay?

[39:09 - 41:34] Town Peterson: Scholarly publishing is a goose that lays golden eggs for the commercial publishing industry. They're not going to let that goose go away. So I don't think we have to get everybody in the world under some sort of open access agreement. I think there's a, there's an unstable state where we push it so far and boom, the whole thing switches because the publishers don't want to be left out. Um, in April 2009, outsell estimates, open access penetration to be 9.8% by number of articles, or \$277 million, 3% of the primary publishing market. Essentially what they're doing is they're doing growth projections for this portion of the, of the industry. We don't need to go into the details. The point is we've got their attention, okay? If we keep pursuing these three options and essentially voting with our papers, voting with our institutions, the industry will change. And it's already changing. You can rent papers from nature now, you can buy papers, etc. etc. So, let's start to wrap up here. There are several ways of skinning this cat, if you'll pardon the biological, um, reference. Scholarly publications presently are not easily available 75-85% off limits. And we are the privileged ones, okay? Go anywhere outside the US, North America and Europe and it gets massively worse, okay? Uh, try to do this in the developing world where you have a very rapidly developing scientific community, it's almost impossible to do scholarship if you don't have access to these privileged access points. On that same note, I would argue to you that the Public Library of Science model is not the correct one. Why? It's great in the sense that all those papers are open access. Anybody can go in and read. But what about the scholar based in a developing country who's a first rate scholar and wants to publish in those journals?

[41:35 - 43:36] Town Peterson: Guess what? We have a different open access problem. You can read, but you can't write, okay? So we don't want to just push the barrier back one step. We're in a global community of scholars, and we should recognize that. We have to solve this problem once and for all at a more fundamental level. And last of all, the academic community is extremely broad, and so it's very difficult to do this sort of work if you don't have a panoramic view across the whole field. So, you have your open access policy, you need to learn about it. I need to grow out the implementation. This is the phase where we are right now. I'm learning from interactions with publishers is really critical. So we commonly see this sort of response. This is from an Elsevier representative I'm trying to get an answer on this on our open access addendum. Uh, it seems to have taken us by surprise. Yeah, right. Here is my own experience with a year of open access addenda. 53% of my publications in 2009 and 2010 have been an open access journal, so not an issue. 23% were accepted or no response, which our open access addendum basically says is the

same as accepting. And problems were 24% of the time. If we look at that 24% of the time, a quarter of it was no. Just flat out no. Go to hell. People at KU know not to put me in front of polite audiences, sorry.

[43:37 - 45:41] Town Peterson: Three quarters of them, this was the interesting part, three quarters of them said, no, but we will allow you the post review copy. So our addendum asked for, I think I have a copy of it, yeah. Publisher agrees to provide author with the final published article in PDF format. No technical restriction to prevent copying or printing, and that the published version can be used in the executive, the execution of the the rights and licenses. We were asking for a lot and so we now have a reduced version. Essentially, we're trying to capture back this three quarters of our failures. We were asking for a bit too much, and now we have a reduced version of our addendum that basically just says, let us put up the post review copy, which is the final text. So to wrap up, uh, we need significant investment from faculty admin and administration if you want to pull off one of these policies. You need champions. You need to get your faculty involved. You need to find sympathetic, uh, minds in the administration, um, and whoever is going to be in charge of this, usually it's the libraries needs to be bought in. [laughs] Flexibility, you get what you can get, you take it and you run with it. Um, never trust anybody, okay? [laughs] And literally we almost failed at several points, including the final vote. It was 18 to 8, if you're wondering, but we almost failed even given that. Um, and we would love companies, so anything we can do to help. [applause]

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