

Doing Digital Preservation: Notes from the Digital Preservation Management Workshop Public Panel

The following is an edited transcription of the public panel discussion “Doing Digital Preservation: Moving from Aspiration to Action” held in conjunction with the OCUL/COPPUL Digital Preservation Management Workshop. The panel took place on November 12, 2019 at the Ryerson University Library and Archives and the event was co-sponsored by the Ontario Council of University Libraries, Ryerson and TAAG. The panel was moderated by Grant Hurley, who also wrote this transcription. It featured the following speakers:

Amy Furness, Rosamond Ivey Special Collections Archivist and Head, Library & Archives at the Art Gallery of Ontario, where she leads the collection development and public programs of the AGO’s E.P. Taylor Library & Archives. Amy is part of the collaborative working group on time-based media at the AGO, which has been tackling the challenges arising from technology-based artwork at the institution.

Danielle Robichaud, Digital Archivist for Special Collections & Archives at the University of Waterloo Library, where she is responsible for managing the creation, management and use of digitized primary resources, and improving the online discoverability of archival holdings.

Sarah Romkey, Program Manager for the Archivemata Project at Artefactual Systems. Sarah’s responsibilities in this role are product roadmap and backlog management, release management and community engagement. She is based in Hamilton, Ontario.

Steve Marks, Digital Preservation Librarian at the University of Toronto Libraries. His job is to ensure the integrity, authenticity, and usability of the digital “stuff” the library has collected through the implementation of policies, workflows and tools.

Advocating for resources to support preservation can be challenging, especially if managers, directors and other higher-ups don’t understand what digital preservation work involves or why it costs money. What strategies have you used or observed for advocating for digital preservation and the resources that support it? What misunderstandings or misconceptions have you seen along the way, and how did you tackle them?

Danielle: We are really fortunate to work in a library where we don’t have a ton of pushback in terms of why digital preservation is important. Nonetheless, we still have a lot of education and awareness work to do. Shortly before I started we had an instance where a chunk of scanned photographs dropped from the shared drive. They were never retrievable, so thankfully we always have that one example to point to: the shared drive isn’t digital preservation. Scanning something isn’t digital preservation. It’s a component, but it’s not the whole picture. One thing we’ve been doing collectively in the department is taking advantage of the strategic planning and service reviews that

take place in the library. For example, we have something called the MAP 3 planning process where the entire library puts forward projects, and it's an opportunity to justify and explain why a project is important and why we need to dedicate time and resources to it. It's a great opportunity to define things that people may be familiar with hearing but don't fully understand. The other thing I wanted to flag is that it is important to find relatable examples for people. They are effective when examples reflect or resonate in a day-to-day way. One I regularly use is making reference to the photos that you take on your phone. When you download them they all have file names

like "xyz-123," and unless you click into it, you can't tell why it's useful. That's a great way to explain to people why we spend

so much time talking about naming conventions. It's also a really great way to explain metadata. These are small components of the whole digital preservation process, but when you boil it down to something that people do day-to-day it starts to resonate a bit more. Another thing that's really useful is relating the experience of trying to click something open and the version is wrong, or finding a WordPerfect file in the depths of your shared drive: "I don't even know what this extension is!" People understand that and those moments are opportunities to move the conversation beyond "It's

scanned—isn't that good enough?" Because I think that even though we are fortunate to not have to push very hard about explaining why digital preservation is important, we do still have to talk a lot about the whole idea that it's a one-and-done scenario. This is similar to how librarians and archivists have this burning desire to have one software program that will do everything: "if we just get through this one migration we're going to be good until the end of time," which is completely false. The reality is that you're doing this migration work or shared drive purges well so that the next time you have to do it it's hopefully a little less arduous.

Amy: In terms of advocating for support, I am going to go back and tell you a little about this history of this issue at AGO. Time-

DOING DIGITAL PRESERVATION

A panel talk featuring:
Amy Furness (Art Gallery of Ontario)
Steve Marks (University of Toronto)
Danielle Robichaud (University of Waterloo)
Sarah Romkey (Artefactual Systems)

12 November 2019, 3 to 5 p.m.
Room 405, Ryerson University Library and Archives, 350 Victoria Street, Toronto

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based media artwork is a broad and difficult-to-define category, but to a large extent people are talking about technology-based artworks when they talk about time-based media. This is an issue that started to define itself ten to twelve and possibly even fifteen years ago. I became involved in a group that was self-starting and collaborative across the gallery and included interested conservators. I think I was the only archivist involved at the time. It was quite eclectic. None of us had any power and none of us had any money, but we were starting to recognize this issue emerging: that if we did everything according to our traditional

modes of dealing with physical artworks, we were going to have a real problem. The thumb drive was not the artwork: you couldn't just stick it in a vault and hope that everything was going to be okay. At the time this issue was something cool to wrap my head around. I wasn't sure exactly what my relationship to it was going to be except that I thought that archival thinking would be useful here. I started to see that the answer to how to move digital preservation forward at the gallery lay in the work of this group. And for a long time it felt like we were talking at cross-purposes because I perceived the problem first and foremost as an archivist: we needed to make the equivalent of an art vault but for digital works. Whereas some people were thinking about changing procedures around bringing works into the collection, and others were thinking about documenting artists' intentions. The answer is that all of these things are dimensions of the time-based media problem. But it took a long time before we were able to get to the point where we could see how they were complimentary efforts, and how me going on about preservation management systems and starting to talk to IT was not at cross-purposes from what the registrar wanted to do. In terms of advocating, where we started to get traction was realizing that IT was really grappling with ballooning storage costs because everybody was keeping everything. And that question came up when I submitted a capital budget request: "we're paying for servers anyway, why do you want this digital preservation server?" The value proposition was that if we do something deliberate and strategic and are only keeping the things that need to be kept and keeping them well, then we don't need twelve copies just in case. We finally got to

the point where having defined the problem and with access to a little bit of money (because money is hard to do without in this area), we were able to get the funds to have a consultant in last winter to take the temperature of the institution, interview a bunch of people, and help us move this forward to the leadership team of the gallery, who are the ones who control the budgets and make the big decisions. So far it had been front-line workers and a handful of middle managers, and that's as far as we were able to get. Now we are actually in a much better position because people really understand that technology-based artwork is a really exciting field.

Sarah: My answer is partially based on experience and partially based on the writings of one Nancy McGovern, so I hope I get this right. I think the problems that we see come from the common view of digital preservation as a project and not as a program. I 100% understand how this happens because I see it so often and I've experienced it myself. I feel like in Canada especially we have this tradition of funding projects of various kinds and not really understanding the funds needed to program something. I know it doesn't seem like a bad thing to get a grant to kick-start your digital preservation work but it's just dead in the water if you don't have the continuing resources to devote to it; if it becomes an off-the-side-of-the-desk project for somebody who is already overstretched doing the arrangement and description, accessioning and all of your other archival functions. I think that if you have access to grant funding, then you should use that to do a gap assessment and to come up with an advocacy plan so that you can advocate for what you actually need. Another thing we see because of the

line of business we are in is this conception of “if I pay for a hosted version, it’s like a silver bullet. All the funding I have to come up with is the \$10,000 a year to get the hosted service and then I’m going to be okay.” It’s really just the same problems: someone needs to operate that service and put content through the system, create archival information packages, put them in storage, and think about their management over time, including preservation policies and the formats being ingested. Archivematica can help you with a lot of those things, but we can’t be the ones to say, “put some stuff in the system.” That has to be on your end. We sometimes see people subscribe to those services, I hate to say it, a little prematurely—before they’re really ready. I know what funding cycles are like: “I’ve got to use this funding or lose it.” But I do believe that this impulse needs to follow through with action: just buying access to a hosted service is not sufficient.

Steve: For me I would start with the second part of this question, because one of the things that opened up the conversation so much for me at U of T was dealing with the understanding or misunderstanding that digital preservation is this kind of binary state where—as Sarah and Danielle have said—you put it in a system and it’s done: that’s not the case. And we all sort of know that. Not only is it a process that requires ongoing care and effort and support, but it’s also a gradation. The way I tend to think of it internally is that every digital object we have has this meter associated with it. One end is green: prospects are pretty good for the long-term survival and use of this thing. The other side is red, and prospects are not so good for whatever reason; format obsolescence, its media carrier is corroding away.

And then given that meter for every object, every single thing that we do, whether it is specifically a digital preservation action or not, is going to have some effect on that meter. It’s going to move things in a positive direction or in a negative direction, and sometimes it will do both. Sometimes it will make things better in one way but worse in another. But ultimately we want it to net out in a positive direction. So instead of saying “these things are preserved” we can say “we’re doing things that are contributing to the long-term prospects of this particular digital object.” Having spent a lot of time and energy to trying to shift organizational thinking to something more closely reflecting this model, I think it opens the door to a lot of different things. One is the idea that sometimes you can only do some things, and in those cases if you recognize that these actions are contributing in a positive direction to the prospects of the stuff you have, maybe it is worth doing even if it isn’t the silver bullet. The other thing that I’ve experienced is that once you recognize that everything you do is contributing positively or negatively to the preservation prospects of your digital collections, then it really opens the door to a conversation around a much broader range of activities going on in the organization. You can start to talk about things not happening just within your digital preservation department but what your organization is doing overall and how those things are affecting your collections as time goes on. We have this whole rich tapestry of activities that our organizations engage in to curate and build and maintain collections and maybe this is the digital preservation guy thinking digital preservation is important, but we have things to say about all of that stuff, and it affects us and affects

the work we do and are responsible for. If we're able to enact that shift in thinking, it lets us start to have conversations about other things that are going on in the organization, and what that lets us do is start to have an effect on those processes and start moving the needle in a positive direction, even if it's not a process that we know or control. We can start to say: what are the pain points that our organization is having? We can almost move through an organization and act like troubleshooters in a way. For example, we were having this problem where digitized material was coming back from various libraries within our system, and was just kind of sitting around. People didn't have a good place for them, so they were sitting on drives. We don't have a great a/v repository to rule them all, but we can get this stuff from the hard drives that they're sitting on. I don't think anybody is going to say that this is not contributing to the long-term prospects of this material, and at the same time, we're helping that department solve a really pressing problem that they have. We said "we'll take it and write it to tape. This isn't the last thing we're going to do, but we're going to get things moving right now." So we solved this specific problem that they were having in a way that made it a net gain for preservation, but at the same time it got us some good karma, and so we've tried to engage more and more of those things we say, "there are problems that are happening, can we help resolve them in a way that makes the long-term prospects better?" Our willingness to engage has gone up a lot, our ability to make the argument to administration that we're adding value has gone up, and that has been a very positive thing for us. So I guess recognizing that in some ways

digital preservation is an attribute of any action we take has been really transformative for us.

Digital preservation policies are a key component of supporting and guiding a program. Policies can provide direction and a means for advocating for support, but it can sometimes be hard to write policies when you haven't actually started doing the work itself. Or you're not sure what a policy should include or exclude. So I'm curious how you've worked through or helped others work through the policy and practice chicken-and-egg problem. Do you start doing things and write the policy after, or do you start with the policy and try and help that guide all of your practice? When it comes to writing policies, how would you recommend starting from scratch?

Steve: One of the things that has been really useful for us has been thinking about what you actually need policy for. As an organization we've sometimes fallen into this trap when taking on projects that we don't want to do is to make a policy that cuts those kinds of projects out. That's a trap that I see a lot of organizations that are early in the process of policy development making: "policy is going to save us from doing all this stuff that we don't want to do." In fact, you're doing that stuff not because you don't have a policy about it, but because the organization wants to do it in a lot of cases. So you're setting up this crash course between the policy you're creating and the organizational culture that's enabled this situation to grow in the first place. That's not to say that there isn't a role of policy in making sure that projects become sustainable, but I think one of the more successful avenues of exploration that we've

had for the development of policy is to justify the organization doing things that we want to do in the right way, and redirecting the energy from projects that are coming in. How can we still enable members of our administration to say yes to incoming projects, because they obviously feel that they need to, but to do it in a way that makes it more sustainable and makes our actions as a department a little more predictable? This is another thing that we do in terms of our policy: less than saying “we will do this, we won’t do that,” we lay out a set of principles: what our values are, what our attitudes are. Obviously that only goes so far when you’re talking about things like file formats and there are very specific touchstones in the work that need to be policy-driven, but at least when you’re starting out, starting with the big picture and saying “what do we really want to accomplish with this in a positive way” is a good way to start.

Sarah: Generally when people come to us they have a sense of what they want to do, but having said that we do have clients who come to us specifically to help them through the policy process. I’ve definitely seen and supported users of Archivemática who have overthought their policies, and I’ve seen and supported users who I’ve felt have underthought their policies, but I don’t know what the secret sauce is of getting just the right balance of “we know enough about what we want to do to start doing it.” But I’ll take the opportunity to say a couple of things on the topic. One, if you are starting to define policies from scratch, truly, I would tell people to take the Digital Preservation Management Workshop. The workshop has been something that Artefactual has been aware of and somewhat involved in for a long, long time. We use it as a reference

point for digital preservation. Secondly, I do feel that insofar as it is possible, I’d love to see more sharing of policies once you have them. Because there’s nothing like having a reference example from another institution, particularly one comparable to your own, to really help you out. Steve alluded to the University of Toronto being the largest research institution in the country, so there’s a level there that a small local historical society or archives is not going to be able to aspire to. But there are other organizations that perhaps would compare themselves to UofT and it would be so helpful to compare apples to apples with similar institutions. If you do have policies that you feel like you can share out, I would encourage people to do that.

Steve: To add on that, I don’t think anybody ever got a copyright ding for ripping off somebody else’s policy. Credit them, but it’s not like that.

Amy: This question is super timely for us because I have actually just finished a very first draft of our policy. As I mentioned, we have had consultants in, we have a fairly clear sense of where we want to go with time-based media, and we are preserving things in small ways. In terms of my context, we’re not really a super policy-heavy institution. We have the right security policies and so on, but nobody is sitting there waiting for our digital preservation policy. I became interested in this partly because I like to clarify and partly because the scale that we’re at is having one or two individuals in several departments that need to work together to make this work. Something that spells this out, articulates how it will work, and establishes it as a matter of institutional importance would be helpful rather than just

bureaucratic. We also need money. It's pretty clear to me if we want to go for any of the US money, they would like to see such a document because it shows that we have a purpose and are organized. At this point I am working with our Chief, Exhibitions and Collections who is interested in seeing this happen. I don't mind doing the policy work. Thank goodness for all the institutions who have shared their policies; there's actually a lot of great examples out there—even one or two art museums like the Baltimore Museum of Art, who have done amazing work in that area. We're piecing away at it.

Danielle: We do not have a digital preservation policy. That said, we did dive pretty deep into Permafrost and Archivemtica, so are we an institution that dove in too early? Maybe. That said, I want to name-check my colleague Nicole Marcogliese. We were having a discussion about this last week because I wanted to get her take on some of these questions given that she's spending more time with the Archivemtica workflow. She had a really good suggestion about something that I realized we tend to do as a department pretty frequently but we haven't really ever clearly articulated. It's this idea of intentionally splitting out policy from procedures. We have a tendency to think about policy as "how are we going to do it?" Policy is sometimes a bar or blue sky scenario and there needs to be an understanding that we're not going to hit that mark every time, but at least you have something you're reaching toward. We have found as a department and as a team working in a larger library that it's been really helpful to try and set the bar and go off into our little units and go and do it, because the reality is that you can have an overarching policy for the library or archives or whatever the case may

be, but every person and unit is going to be contributing in a different way. If you weave your policy and procedures together too tightly it becomes this insurmountable "I don't know where to begin." The other thing is that though we don't have a defined digital preservation policy yet, doing the digital preservation work has spurred us to firm up policies relating to supporting things going on in the department. For example, we now have firmly articulated questions and checkpoints for when and why we digitize something at a preservation benchmark versus something that we're going to send somebody by e-mail because they want to see what it looks like. I think the ongoing discussion about digital preservation and the related work has been really useful for us in terms of building relationships with people in other departments. We have several advocates in IT, but there was one person in particular who was involved in that shared drive drop, and now very clearly understands why it's important to have a disaster recovery plan and why digital preservation is part of that discussion. And why when we're thinking about expanding the shared drive space for the next 5-10 years and they're trying to come up with this magical number about how much space they need, there's costs associated with that, and sometimes moving things through a digital preservation process can help flip those numbers back and forth. Actually, it's not all that cheap to have infinite shared drive space and just have it sitting there and perpetually backed up. We're also starting to work much more closely with our digital initiatives department. I should be clear that we don't have a defined digital preservation unit, so having someone like Steve sounds supremely dreamy, because we really are in a situation

where all of us are doing things off the side of our desk. So we are hoping in the next year to have more concerted discussions, maybe by way of something as casual as a community of practice, so we can start advocating outside of our own particular units.

Steve: Can I “yes, and” one thing? Danielle articulated the difference between policy versus procedures and I agree with that: in some ways a procedure is just a policy about how you do a thing specifically. One of the things we found really useful about having those separate levels of policy is that it can help to more flexible on the implementation side. So if you look at the U of T digital preservation policy, it’s very general and very handwave-y, but it says some big things, and the big things had to be run through the administration and approved as being harmonious with the overall mission of the University of Toronto Libraries. The procedures and workflows are instantiations of the ideas of this policy, but they change more quickly than our overall policies do in response to technologies and organizational change. We don’t necessarily want to go back to our large digital preservation steering group and run all this stuff by them whenever there’s a change to the procedures. For example, we have procedures and policies around digitization file formats for a/v. The people who really should be having those conversations are the a/v experts. So there’s a bit of a firewall that you can instantiate by having different levels of policy and still maintaining consistency within the organization.

As Sarah noted, some institutions buy into tools for preservation before they are ready to use them, and some aren’t sure how to

begin using them and as a result are always just testing tools and have yet to move into more day-to-day uses. I’m curious if you’ve seen this situation and how you’ve avoided or responded to it and what kind of strategies you recommended or employed to move forward from the testing phase to more active “doing.”

Danielle: In our situation we just dove in. There were lots of reasons for doing that. The first one is that we were really fortunate to have a lot of high-quality digitized stuff in need of attention. We were also fortunate to get into the pilot for Permafrost so that gave everybody a training wheel environment to get confident with using it. But in terms of getting over the “I don’t know where to start,” we have a photographic negative collection that is very heavily used and so in our case it was an obvious place to start. We’re never not going to benefit from having that stuff backed up and preserved in a meaningful way. Strategies that I recommend: just do it. I can’t believe I just said that, but it’s true. Because when you actually move through the process and see where you get caught up, where the documentation is unclear, where your particular resources don’t necessarily fit into the case studies that you’ve seen or heard talked about, it’s a really edifying experience. I think more than anything what you need to be mindful of is how quickly obvious near-future issues start to present themselves. We’ve been working in Permafrost either as part of the pilot or the paid service for more than a year now, and we already have a growing list of things that need to be worked out that might cause problems in the future. I don’t know if there’s a good answer: you really just have to do it and believe that any kind of embarrassing screw-up or complete

face-plant is going to benefit you in the long run because you will understand why it happened, hopefully, and better understand how to avoid it moving forward.

Amy: In the context I am in, devising workflows is rather like the policy thing: nobody's waiting for us to draw up these things. My experience has been that there are a lot of exemplary workflows out there that university libraries are often really proud to publish and share, and that can actually be kind of daunting. There are really wonderful colleagues that I have on the time-based media working group. One in particular is an information technology representative who brings a lot of curiosity, imagination and enthusiasm to the issue of preservation and the sensitivity of digital material that has an aesthetic component. All of this is fun intellectual territory for him. He and I work back-and-forth to see who needs to do what to achieve a rudimentary level of preservation. We know we need to write what we're doing down, because we are both doing it off the sides of our desks and will forget whose court the ball is in at a given moment. We don't need to perfect them so much as have the pathway marked. Right now we have a Young Canada Works student who has been preparing workflows for in-house audiovisual production and how that data needs to move from the media production department through IT and to vetting by library and archives. So that's again, two or three people working together off the sides of their desks who need to remember who does what. That's kind of where we're at: we find the workflows are really useful as mapmaking without worrying too much about who is going to see them.

Sarah: This is some practical advice from observing so many digital preservation practitioners. If you're overwhelmed and you don't know where to start, what I would say is, start with your most straightforward collections that you have the most control over. Usually that is digitized collections. I don't mean to say "your work is so easy," but it's especially true for a recently digitized project, or as Danielle highlighted, something that's an obvious win because it's highly used material that you know you need to preserve. In a digitization project you have control over the file formats, the naming conventions, the metadata, the file structure, everything. It's far less complex than diving into a disk image of a professor's hard drive that they dropped off on the way out the door when they retired. Anything that you can control from creation - because digital preservation begins with creation—through to preservation, that is where I would start if I were overwhelmed. We have Archivemata camps a couple times a year and the most recent one I attended was in London over the summer. Rachel MacGregor from the University of Warwick was our community counsellor. To loosely quote her, she said: "Just have a go at it—you probably won't break it!" I thought that was so refreshing. Like what Danielle was saying, you just have to try it. Make yourself an archival information package, open it up, interrogate it, look at it. Do you understand it? Do you know what's in there? Do you feel like if you had never seen it before and didn't have any control over it would you understand it? And if it's missing pieces of information, missing preservation metadata, if you don't feel like it's a good description of the digital preservation practice that you put into it, then

keep working at it, keep working with your system, with consultants if you have them, until it looks like something that you understand. That's what I would say: give it a go and try not to get stuck in decision-itis.

Steve: Yeah, that's a great example and I use a very similar frame for talking about preservation metadata when I'm talking to researchers. We're doing all this work around research data management and preservation right now and you go into these research groups and they're like "this is annoying, how do I do the bare minimum?" One thing I've had luck engaging them with is this idea: you're just sitting at your desk one day and a research assistant comes up from the basement. That person throws a box of data on your desk and says, "I found this, it looks like it would be great for the project that we're working on." What are the questions that you would have? Where was it gathered from? Where did it come from? What's it about? And then if they can start to engage with that question, you're getting somewhere. As a Dad I've started to say more and more Dad-like things: not letting perfect be the enemy of the good is the biggest part here. It doesn't have to be perfect and nothing is ever perfect. It's always going to be this work-in-progress. I think if you have a few signposts that you keep your eyes on then you can keep moving things in a good direction. One of the things that's been really reassuring for me as a way to think about how do we even move this forward when we don't know anything—and I think this is a Nancyism from back when I took the workshop—but maybe unless you really know what you're doing, don't do anything that you can't undo. If you keep that in mind, what's the worst that can happen? Maybe you

messed up, but you can go back to the copy that was a known good. You can experiment and you can play if you keep some basic rules in mind to do no harm to the material. The other thing I would say, which is related to harnessing digital preservation work around other institutional activities, is that a lot of times one of the other upsides is that motivation comes from that. If you're talking to a department that needs help clearing some kind of acquisitions logjam, it's not just you who has a stake at that point, it's them too, and that can help drag you forward if you're feeling a lack of resolve. It can also help demonstrate the importance of this activity within the organization. You can borrow or team up to move projects forward in an organization where you might not be finding a lot of traction otherwise.

I've been working in this field for a little over four years, and even during that short time ideas about digital preservation work have changed. I'm curious to ask: in your time doing this work, how have attitudes, either your own perspectives, or ideas shared among the community of practitioners, changed?

Danielle: In the more than the decade or so that I've been doing professional work, the biggest change is that people are actually doing digital preservation now. For the longest time it was talked about as something that someone else will deal with after I'm retired or it's just that one single person's responsibility and there are no implications for me. I have multiple colleagues in different departments of the library who are thinking about digital preservation, who are doing training and learning, and starting to understand what it means to be involved in that ecosystem. That's really encouraging

because when you have "digital archivist" in your title it's so daunting to think that everyone is looking to you for an answer. As with most things, the more heads involved in a discussion, the more likely you are going to come up with solutions that are more productive and useful. The nicest thing for me that has happened in the past couple years is that there are identifiable ways to start doing the work. It is a little bit easier to identify and move through component parts of the preservation ecosystem, like something as straightforward as going through a set of digitized files and making sure all the metadata's consistent so that when it does get to the point that you're going to move it through a software program for preservation, you can reasonably feel confident in what you are going to be moving through. The other benefit of having more people involved in the discussion is that more people understand how much work is involved. There are more people who understand that simply scanning something isn't simply the end of the day. I'm looking forward to seeing how things move forward, particularly when it comes to having more critical discussions about what actually makes sense to preserve long-term. At the very beginning of my career I worked in public service in enterprise information management, and I had a director who loved to talk about how we could just keep everything forever because of the cloud. And so our job was to try desperately to get people to take naming conventions seriously so that they could somehow find everything in the cloud. More critical discussions are nice to see and I'm interested in seeing how they're going to unfold.

Amy: I would echo all of that. I've been in the field a little longer; almost twenty years,

so when I graduated people weren't really talking about this except the looming apocalypse of digital information. For somebody like me who went to school before I got meaningful training in this area, and have had to figure everything out mid-career, the only thing I would add is the really heartening development of peer mentoring—having really helpful colleagues. Right here in this room are people who have made things possible for me from just being really reassuring and liberal with their knowledge. All of that has been really great because it makes it possible to move things ahead without praying for a digital archivist who is going to solve it all. There's less freaking out these days.

Sarah: I love both of those responses. My planned response is extremely similar to Danielle's. The biggest change—I've been in the field about ten years—is that digital preservation has gone from something we just talk about to something we do. I'm a graduate of UBC; I did the InterPARES thing, so it's been really great to be out in the field and apply that theory. I'm not saying the theory's not valuable—it is—but digital preservation is a practice, you need to do it in order for anything to get preserved. To take it one step further, we're getting to the point where not only do we do digital preservation, but we actually start to think about doing it in ways that align with our professional ethics in terms of financial sustainability, environmental sustainability, and acknowledging the context of not just our institutions but the land they sit upon in this country. And that's all really heartening because it's really easy to look at digital preservation as a technical problem. But as with everything in archives, it's all contextual. The other thing that I've started to see

just glimpses of is much closer integration of our work with information technology professionals. For anybody who was at iPRES in Amsterdam this year, the best presentation I saw was from the University of Melbourne's Jaye Weatherburn, Sean Turner and Lyle Winton. For years in the archival and records management professions I've seen a lot of presentations about how to work with IT and communicate with each other, and this was the first time I've really seen a presentation where they went one step further than that and it didn't feel adversarial - it felt like an actual collaboration. And Jaye's IT colleagues have become very invested in the digital preservation mission and they are moving forward together. I think we're going to see that more and more because I think we have to. That's the reality of this kind of work. We're not the only profession with skin in the game; a number of different disciplines need to work together to make this happen.

Steve: Ten years ago I went down to Ann Arbor and took the Digital Preservation Management workshop when I started my prior role at Scholars Portal. In that time I think we've started to see an encouraging shift in the field away from best practice orientation towards good practice. I'm heartened by that because it means that more people are adopting this working model where we recognize the universality of the impact of actions on the preservation prospects of the stuff we're looking after. We're also lucky to be in an age that we now have a body of data to look at and ask, "what are the things that worked?" People have been doing this stuff for a long time, and a lot more people have been doing it more recently, and with that comes with some power to look at data and make evidence-based

decisions. We can look at the actions of large repositories; we can look at TDRs that have been in existence for a while now; we can look at projects like Archivematica that have really successfully managed to make inroads into organizations that weren't engaging in preservation-positive actions before and ask "what worked there and how can we take some lessons from that?" At the same time we can look at things that maybe didn't work so well, like the failure of DPN [Digital Preservation Network]. As somebody that engages with a lot of shared service providers in the preservation space, that was kind of an "oh shit" moment. And I feel like on some level we're starting to unpack what happened there and how to build services toward sustainability in a shared service context. There are also new challenges arising. One of the big ones that we see particularly as we're dealing with professors, researchers, and collaborative research teams is how we preserve files stored in cloud environments that we don't control. Everyone uses Google Docs now for collaborative document editing. There are ways to bring these things into our physical control but it's not as easy as dropping a box of even floppies or CDs on the table or handing over your computer. As much as we have the past to leverage in helping us understand where these issues have been and where we can make improvements, new things are coming up. And also the earth is going to die, so we need to figure out the impacts of computing and computers and human activity on that because that's a whole other level of sustainability. I'll admit that wasn't something I was thinking about even as recently as a few years ago.

A question from audience member Nancy McGovern: What is something that sur-

prised you about doing digital preservation, and what is a thing that you are proud of in doing this work?

Amy: I mentioned my colleague in IT and I know this is a luxury and this person is really rare, but part of me was shocked how easy it was once someone with technical knowledge said, “let’s do this, what a great problem.” I’m proud of the collaboration. We were able to get so far in an institution just by the power of contributing shared thoughts and helping each other along. If there’s anything we’ve achieved today it’s really through that.

Sarah: I think the thing that surprised me the most is how non-technical digital preservation can be. I work for a technology company. I work with extremely technically proficient people. When I left my job at UBC and went to work for Artefactual it was so interesting talking to my colleagues at the academic institution because they said “that makes a lot of sense because you’ve always been such a techie.” And I was like, “I am?” I never thought of myself that way at all. To turn it into a lesson learned, it’s more about how to think computationally than it is being technical enough to write code, for example. I don’t write code, I’m not a programmer, I have no interest in becoming a programmer. I work with really good programmers and I could never be as good as they are; there is no point in me trying to do their job. But I have a role to play and it’s not technical in as many ways as it is technical. I am proud of each and every Archivemática user. Every time an Archivemática-created AIP is put into storage somewhere, I like to think that my heart sings a little. When I was a collections archivist starting to think about digital preservation, Archivemática was just

starting to come on the scene. Pieter Van Garderen was doing the rounds. Courtney Mumma and Evelyn McLellan joined them and they were banging down the doors at conferences, telling people that this was a system that they needed to think about and a way to do digital preservation. I am so proud to work for this company because it aligns with my professional and personal ethics. It’s a feminist company, it was a woman-owned company for a large period of time, we are diverse and multidisciplinary and all over the world. I couldn’t work with better people. I never really thought of that question, Nancy, but now I’m just welling up inside!

Danielle: I’ve said this before in different venues but the biggest surprise for me doing anything digital asterisk are the spreadsheets. I don’t think it’s possible to convey to people how much time you need to spend with a spreadsheet. One of the my defining moments in diving more deeply into digital stuffs was spending two weeks while on contract at U of T thinking I’d missed a critical point in the documentation for getting something into Islandora because I was finding all the walkthroughs and understanding Dublin Core and MODS, but assuming I was missing something because all I had was this spreadsheet. If you haven’t done anything digital or you don’t deem yourself techie, if you know how to use Excel or any variation of a spreadsheet you are 95% done. That’s not true entirely but you can feel that way. In terms of what I’m feeling really proud about, I feel a lot of pride in the metadata work we’ve been able to do. I talked earlier about making decisions about what whether or not it makes sense to digitize something and if we’re going to digitize it, where is it going to go, can we put it

online and do we have the rights to share it and use it in interesting ways? Part of that discussion for me, and what really motivates me, is making sure that we also have meaningful metadata to go along with that. And I don't necessarily mean when it was created or what the file type is, but specifically, what are these peoples' names? What are we looking at? If we are going to be maintaining these photographs long-term, it's really important that someone can do a keyword search and find what they're looking for. It's really important that the file name is meaningful and that these items resonate with people in 10 or 15 years. I've spoken previously about the work I've done, a lot of manual work, to find newspaper captions for our photographs. That's been really fulfilling. It's been a lot of work but it's been fulfilling because we get people now who find items that were otherwise labelled "schoolkids, 1956," but now they're finding their parents or family members. If you're going to spend all this time moving something through a workflow, make sure it's not the best but as good as it can be. It's worthwhile to spend that extra time if you're going to be preserving this, in theory, forever.

Steve: I'll say my proudest thing and kind of transition back. Over the last year we've been transitioning to our new digital asset management system at U of T. We made a conscious decision to move away from monolithic digital repositories for preservation towards a series of systems that were a little more loosely coupled based on some standards and services that are passing things in between. It was a huge leap of faith for us. We went into official production towards the beginning of 2019 and we just marked 200 terabytes and just under 300 million objects managed through the DAMS.

I mentioned earlier we were starting to solve problems for departments; we had said "we'll take it for now and we'll work on it more later." We're now at the point where we're starting to see some of that early stuff that we took now feeding into the DAMS, which feels like a loop is being closed. It's been a really happy feeling for me to see that the things that we did in the past to do no harm and do better later, are now being done better later. I'm really proud of us as an organization and obviously super proud of the team because I didn't build any of this: developers and systems people did it, and they're amazing. To start to tie it back to what was surprising to me: in making that break from the repository software, we had to make decisions about whether or not we were going to hold onto the technical legacies of those things. We knew we didn't want a big repository around it all, but there were questions around things like unique identifiers: "maybe we should use ARKs for this." We ended up using xids, which is a standard way to generate unique identifiers, and it's worked out pretty great. I don't want to come off in saying that standards are not useful because they are, but I would like to encourage that even if you can't do those things, you can still do good work with things that are not the specific preservation tool.

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