

# Digital Humanities and Libraries and Archives in Religious ...

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## SUMMARY KEYWORDS

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## SPEAKERS

Ana Cackley, Cliff Anderson, Bo Adams



A Ana Cackley 00:22

Good afternoon, everyone. Welcome. Thank you for joining us today. My name is Ana Cackley. I'm the communications assistant at Atla, and I'd like to welcome you to today's program, Digital Humanities and Libraries and Archives in Religious Studies. Just a few things before we get started, so by default, you will be listening in using your computer's speaker system. But if you would like to join by phone, that is an option as well. At the bottom of your screen, you should see a control panel. It has a chat box where you can type in your questions for the speakers, and contact us about any technical difficulties. You can send in the questions for the speakers at any time, and we will collect those and address them during the q&a session at the end. We do now have live transcription for our Atla Webinars. You can find the live Transcript by going to the red button in the top left corner of your screen labeled live on custom streaming service. If you click the carrot, and then click View, live streaming service, it will open up a transcript in a new browser window. And we will make this transcript available on our on demand learning web page. As a reminder, today's presentation is being recorded. That recording will also be available on our on demand learning web page. everyone who registered for the webinar will receive an email notification when it's available. And with that, I'd like to introduce our speakers today. We have with us Dr. Bo Adams, who is the director of Pitts theology library at Emory University. And we also have Dr. Clifford Anderson, who's the associate University Librarian for research and digital strategy at Vanderbilt University. And with

that, I will turn it over to Bo and Cliff. Thank you so much for your patience, folks while we switch presenters.



Cliff Anderson 02:28

All right, I assume everyone can hear me okay. can see the screen. All right, fantastic. Okay, so thank you, Anna, for the introduction, really pleased to be giving this webinar with Bo. And I think this is going to be fun, I'd love to hear your questions as we as we go through this topic. So just as by way of introduction, I can get these screens to advance. There we go. So I'm Cliff Anderson, as you heard, and I both an associate University Librarian working in the area of research and digital strategy. But I also have a PhD in theology, and have a secondary appointment as Professor of religious studies. So what we're talking about today is of real importance to me. Especially as you know, how do you blend these two interests, the digital and the interest in religious studies? So the place I think that we probably want to begin is just thinking about what is digital humanities? And I give a shorthand definition, saying that we're talking about the application of digital methods to problems in the humanities. But really, there are so many different definitions that is hard to settle on just one. For example, if you were talking about digital methods, and you're applying it to questions in the humanities, would you include the use of word processors to write theology papers? You know, it maybe doesn't seem as sound as unreasonable as it might when you realize that one of the leading digital humanists, excuse me, one of the leading digital humanists, has written a book called track changes, literary history of word processing. So we're really talking about a big tent with the digital humanities. And there's a site that you can go to by Jason hepler at Stanford called what is digital humanities.com. And every time you go to that site, you'll get a different definition. And then we also have to deal with the question of what is digital humanities, in dialogue with theology and religious studies? This is again, something that I've been thinking about for a while, and I'm sure that many of you had happened. So how does digital humanities differ when it's applied to theological and religious studies questions? One thing I'd say is that digital humanities is not the same as for example, the religion and science conversation. It's not about sort of finding like fundamental truths that at a deep level cohere with each other. And it's not about the communication of religious truth in digital format that study about how you communicate. For example, the gospel online is been going on for a long time. But it's not the same as the digital humanities conversation. And it's also not about apologetics, I would say, you know, we're not trying to prove anything here, you know, trying to demonstrate Christian truth, that kind of thing. What we're talking about is, I think, trying to use computational means to find Layton connections that are in our theology. And to make them more explicit, I'm going to get to some of that later. But there's a lot of like unearthing these connections that are hidden in what we might not regularly consider data, but actually in a way can be

construed as data. So one thing that I think we have to think about also, just as we begin is that there are different scales in the digital humanities. So a lot of what I'm going to be talking about will tend sometimes towards the large scale, and that's where a lot of these interesting projects are taking place. But they're also quite a few like micro scale projects. So digital humanities can be done by individuals and in the way that a scholarly research initiative like writing a paper might be done. And in a lot of cases, you'll need a team to realize your ambitions. But I think both are perfectly fine as digital humanities projects. For University divinity schools, I would say divinity, you know, and both could probably speak to this better than I can, in a way. A lot of these projects will take place in interdisciplinary fashion that either with a digital scholarship unit that's in the university library, or with faculty in various areas. And you know, that's something that I think smaller schools can also think about, but might think about working together, you know, across schools and colleges to get the expertise you need for larger projects. But as I say, The scale is very different depending on what you're trying to achieve. So I'm going to start just by sharing some examples of what I mean by digital humanities projects, I think it's easier to think about concrete examples, rather than just talk in the abstract. So these are some projects that I've worked on personally. And they fall into different categories that I've think, are kind of broad buckets for what you might consider dh projects. So one here, for example, is called Berlin in the 20th century. This is a course that I taught with a professor joy Calico, who's actually our Blair School of Music. It was called the digital flounder, mapping Berlin in the 20th century. And what we tried to do here was to teach students to think geospatially, about historical locations and events, we did that by geo referencing maps of Berlin. So you know, as Berlin changed in various periods in history, we used contemporary maps. And then we located For example, here, you see a synagogue on that map. So you can sort of see, okay, in the 1920s, this is where that synagogue would have been located, you know, if it survived. Now, this is where it had been located, or, you know, you can you can trace that historical archaeology through the use of maps. And that was, I think, a really great way to get students to understand how, you know, how cities change over time. And they, you know, especially a city as dynamic as Berlin has changed. There are also network projects that are really core to digital humanities. This, for example, is a network visualization of my publications as a few years ago in the Atlas serials project. And so what I've done here is I've just located myself as an author, and then the papers that I've written, and then the topics that I've written, and then the other authors who have written on those topics, and so on, and so forth. So this graph is just one very tiny node in the Atlas serials. But you can imagine that you could pull out, you know, the 10s of thousands, hundreds of thousands of Billy, you know, a bibliographic items that are in that database, and expand this graph, and sort of see where the clusters of, you know, interest or, you know, what are people working on, and as well as the way that scholars are connected, both within institutions and across institutions, the text, the code for this, by the way, is up on GitHub at the adla repository, if

you want to try it out for yourself, I should say, Atla, I'm sorry, I can't get out of the habit. And then, you know, another type of project that's very popular and dh are textual projects, working on digital additions. I'm working on a digital edition of the Dutch theologian and Prime Minister Abraham Kuyper in something called the text encoding initiative. And this is the kind of thing that you can do, you know, on the smaller scale, although there are, you know, really big addition projects involve lots of editors. It's perfectly reasonable to just start working on a digital edition in ti. And, you know, consider that a publication in the sphere of digital humanities. We'll talk more about it publishing digital humanities projects in a bit. And then I'm saying like a new era. area that is really emerging across a lot of dh projects is using machine learning and, you know, thinking about how to teach machines to recognize patterns in our data and then help to predict them or to unearth. Find clusters of related patterns. And, and sometimes this can lead to really interesting results, like, there's something called GPT, two and three, which Michael Hemenway, if you know, him has been using that at the Island School to, to do really interesting things with, you know, taking in biblical commentaries as inputs, and producing really novel outputs. So having the machine comment on the Bible, which is kind of fantastic and scary at the same time. But this is definitely a growing area of vhx. And the other area that I think is growing right along with it, is thinking about the way that these machine learning processes can also inject bias into our conversations, how they represent and perpetuate bias, and so that ethics of machine learning has become a central part of DHS as well. So moving on to the next area that I want to focus on, I want to talk about, like what a building, what are the building blocks of a project seen from a library perspective? So one of the first things that I think maybe different I mean, this is my personal opinion differentiates dh from digital scholarship. it you know, those terms are obviously interrelated. But I would say that dh questions, always start with a research goal in mind. So they start with a research question. And then they develop the the technologies, the tools, that the people with the various skills to be able to answer those questions. Whereas I think, you know, a lot of librarianship is actually, about developing tools that are somewhat research neutral, and then we allow, you know, the researchers to to use them to answer their particular questions. So, dh typically works, not by developing tools and frameworks, just for themselves, although sometimes that does happen. Just building infrastructure is a valuable and important contribution. But it's generally done for the purpose of answering specific questions. The other place that I think that that librarians, you know, support dh is once those questions are formulated, then we we often work with library with faculty to help think through the intellectual property sides of the topics that they're investigating. And what I mean by that is, you know, is it particular data set available for a vendor for text mining purposes? And if so, what are the limitations? To what degree can can, for example, those that text be shared with the research group or across college boundaries, university boundaries, those type of questions will frequently come to librarians to help researchers solve. And so that's

another place where I think librarians are working alongside dh folk a lot. And also in thinking about how they select licenses for sharing and publishing their code and data when they're done with a project. You know, there are a lot of open source licenses. And librarians usually work with, with groups, like if you have them at your universities, a center for tech transfer, but if you don't have them, then it may be the library and sort of helping to sign is it reasonable to use a General Public License to release this creative commons license and so on and so forth. Another, I think, really important area that librarians are involved in dh is in the area of data curation. So you know, it's often the case that a researcher will find a dataset that he or she is interested in working with. And then it turns out that the the data is really messy and hard to it's not very tractable, for the purposes that they want to use it. And so in those cases, librarians can take those skills that are, you know, sort of transferable from the cataloging and metadata realm, and apply it to making these datasets cleaner and available for use. And of course, the gain is once you make a dataset available for one particular project, it should be reusable by other projects. And so publishing these curated datasets, I think is a very important activity for libraries. software systems is another place where librarians are involved. And I would say that most digital humanities projects that you know that faculty are just starting out off with, they're already systems written to support their needs. So for example, if you want to do a digital exhibit, you might pick between omega or scalar, for example, and if you wanted to publish a digital edition online, you might look at something like t publisher. And so I think a lot of librarians working in this space, have a good time. sense of what those off the shelf tools are and can make recommendations to faculty about the types of tools that they use, or should be using. And some libraries have gone beyond that to set up support for these systems. So they might, you know, be allow anyone who wanted to to set up an a mecca site. If they can't do that themselves, then they work with groups like reclaim hosting and other hosting companies that have dh specific tools that they can contract with to provide access for their researchers and dh. But I will say that once you get into sort of the cutting edge of dh, the type of work that gets funded by funders, like the NIH, a lot of the projects do involve building infrastructure alongside solving those research questions. And so librarians will also sometimes get involved in software projects themselves. And finally, you know, I mentioned publication, but this is an area where I think there's a lot to contribute for the libraries have a lot to contribute, thinking about, for example, various means of open access publication, as we know, from our scholarly communications work, university, researchers don't always know the different ways that you can publish and open access the difference between green and gold and, you know, the different types of licenses that you can apply. And also, helping researchers think about not just publishing their written outputs, but also publishing their data on tools like fig share ours or nodo. And thinking about associating a dry with those data so that people can find the data and reuse it in future projects. And I would say, librarians can do a really good job of documenting code and making that available on GitHub. But those

are other areas in which I think librarians and dh scholars collaborate effectively. So it's like kind of wrap up, because I want to make sure I get both plenty of time to talk about what's going on, in his neck of the woods. I just want to focus on a particular case study that I think goes through all these various steps, but it's something that I've been working on. So you can sort of see how these steps work together in a practical way. So I'm working with Professor Mark schoenfield. He's a professor of English and a scholar of Georgia and literature, who's interested in a question that he wants to look in the periodical literature to answer some questions he has about how particular concepts were changing in this period of British history. So the first question, you know, the first thing that we did was we met together, and we just sort of thought about the project. This is the, you know, the classic research interview where we just said, Okay, what are your goals? You know, what would you like to achieve? And, you know, we discussed just very broadly other projects in this area, what people were using the kind of algorithms, data, databases, programming language, you know, just a very wide ranging conversation. And, you know, it became clear after that conversation, that what we needed to do was to turn to the British periodicals database, which is a ProQuest database. And Professor schoenfield is extremely familiar with this uses a lot. But what we wanted to do was feel to use it, not with the interface, but just the data itself. So you want to think about how do we get to the data, and, you know, allow ourselves to run these queries over the back end, rather than trying to manage this through the front end, because obviously, we're looking at sort of trends across the data, which is harder to do when you're using an interface. So the university library, licenses database, and, you know, we work with our collections group to do that. We, of course, as I mentioned, had a license, we had to get a separate license to, to get the data itself. And the data arrived, I would say, with three hard drives full of PDFs and XML files, roughly 3.4 million files. So I had these sitting on my desk for a little while, and, you know, so the next task was, how do we get this off my desk and into a research environment. And that is not an easy task, you know, when you're when you're dealing with that many, that many files. So we also need to interpret the files, you know, these are XML files. And so, you know, they're, they're semi readable, you can sort of make sense of what the tags are saying. But, you know, we, once we looked at it, we realized that ProQuest hadn't sent what's called the XML schema file. That's the sort of the interpretive key you need to understand how all the data in those files related to each other. So we got that. And once we got that, and we had the files, we, we've moved this into two databases where we decided we could do our queries one is a XML database called basics. And another is a database for doing like large scale, big data analysis called Spark. And again, that was based on those initial discussions we had about goals, and we realized that one database wouldn't satisfy all our needs, so we actually move it into two. Then the next thing we did was we we set up our programming environment. And this is where, you know, one of the subsidiary goals we have is to make this research accessible not only to specialists, but also to students, I think that we thought it was very important



to be able to involve students in this project. Because we thought, you know, it's, it's an interesting research exercise for presser schoenfield. But it would be also really interesting to get students into this data set that we've licensed and now made available so that they can also, you know, ask questions themselves about the data. And we, you know, we've been working with students over the past year and a half, really, maybe two years. And they've raised lots and lots of interesting questions and searching for connections that we wouldn't have thought about in data this is so this is in a way that the data, just having the data turns out to be really generative, and just kind of builds on itself, the interest just grows as people discover what you can do with it. But one of the things that we want to do to make it accessible was to plug it into a programming environment that we actually have been developing here at Vanderbilt. But it's, it's for computer science education, that's called netblocks. And what you can do with nestbox, is write your code in these friendly blocks, rather than having to learn, you know, a text based language from scratch. This makes it a lot easier, because we can teach people much more quickly. So for those coming in, without any CS background, and that tends to be a lot of our students, we can get them programming with the data in a matter of weeks. Whereas, you know, normally that would take, you know, a matter of months. And so that's one way that we try to lower the threshold, while still keeping the ceiling highest, while still enabling the research to get done to answer those core research questions. And our team has expanded to include a professor from our School of Education, the Peabody college, as well as a computer scientist, who's working on the nestbox environment. So again, it's a very interdisciplinary team. And I think that's quite characteristic of the way that works. When you start moving towards these large scale projects. One of the things that we're facing now is thinking about how to visualize the data. And the end, when you're working with a text mining project, and you've got 3.4 million documents, you realize that you can't simply look at them one by one, or even in groups of 100. So you have to, you have to be able to develop good visualizations, to sort of pull out those trends that we're talking about. And this is just another area where I think, you know, librarians have been showing a lot of expertise, certainly, our librarians have been spending a lot of time thinking about how to do effective visualizations of not only our library collections, but of all these data sets that the library curator is involved with, in some way. It certainly its own skill, it's not necessarily my skill, but I've learned a lot from seeing other people's wonderful visualizations. Okay, that was, that was a lot, and just a few minutes, but I just want to end with some thought about where things are going. So as I alluded to, you know, the, once you start moving to these larger scales, in digital humanities, the computations start becoming really complex. And, you know, I've heard this also from other dh scholars, like, it's, it's getting a bit harder, I'd say, to jump in. And that's just because, you know, as like, with any discipline, I would say, this is true for, you know, New Testament studies of, you know, church history, anything else, you know, once the scholarly conversation, you know, gets off to a certain scale, just to take time to like, dive into it and understand what

people are saying and the disagreements they have. Takes a lot. And that's true with with digital humanities as it becomes more and more mature discipline, but we're thinking about in particular, is trying to lay the foundation across our library for what we're calling computational thinking, this is a term from Jeanette Ling, Janet Wang, sorry, who's at Columbia University. And the idea is, no matter what discipline you're in, you should think about how you can use computation to effectively do research in that discipline. And so, I would say that, that my particular interest and I think that there's a growing interest within dh circles, is to develop and make it easier for people to enter those conversations even as the car even as the DH discussions are becoming more advanced. We're trying to build the tools to reach out and help people to get started more easily. To this point had been a kind of rough road sometimes to get to the level where you can be productively making contributions. And our goal is no, we want to actually make this onboarding process as smooth as possible. So I hope that we can work with other schools in Atla, to think about, you know, working with you to test these environments. And let's see whether some of the computational thinking tools would be helpful in your areas to lead people into these dh discussions. All right, with that, I think I'm done both. So I again said a lot really quickly, but let me just pass it over to you.

B

Bo Adams 25:37

Thank you, Cliff, that is a fantastic I always learn a lot from you. And always learn a lot from all of the cool stuff you guys are doing and Vanderbilt. So your first lesson in dh is just go check out what Vanderbilt's doing. And then you can learn a lot just from seeing that, um, I am going to also share my screen. I hope that works. As everyone see pictures of fees, and clip, you can see that I've absconded with your Vanderbilt color scheme. So I thought I would keep us some

C

Cliff Anderson 26:04

looks great.

B

Bo Adams 26:06

So I am really glad that Cliff just ended on that idea of computational thinking. Because I think in the midst of all of these conversations about what is the digital humanities, for me, it is a habit of mind. And I think what you see and the kind of enthusiasm that clip shows and the work that they're doing at Vanderbilt, is you really just have to engender in yourself a kind of sense of play, because we're in a kind of early phase of this. And so many of our conversations are driven by the so what question but at this point, I think we need to put that aside and just learn these skills through sheer joy of, of seeing the power



and the and the capabilities that computers allow for us. So what I want to do is talk a little bit about our context. Again, I work at Pitt's theology library at Emory University. But I wanted to focus more specifically on instruction, and how we think about the digital at our library, and particularly as it relates to our students. And I want to begin by talking about context, because I think it's really important for the work that I do. This is our beautiful library here. But I think what you need to recognize is our little library here is the little red circle on this giant map of Emory University. And that means a couple of things for what we do. First is it means we have the incredible resources, a much broader University. And for a lot of those kind of interdisciplinary projects, like Cliff was just describing, we have the benefit of relying on things like the Emory center for digital scholarship. And I think one of the hallmarks as cliff is highlighted for digital projects is this collaborative spirit. And the lovely part of that is that's something librarians have been doing forever, right, we are the people who collaborate. And so there's a real opportunity for libraries to be involved in digital projects. But the intimidation factor is Oh, my goodness, now I have to become a data expert, I have to become a software developer, I have become all these things. And that's simply not the case. Even if your institution doesn't have a wonderful Emory for center for digital scholarship, there are cross institutional opportunities for collaborating. And so what I don't want you to feel like is the intimidation factor is too large to enter in. And I think what you'll find and put fullback this up, people are all willing to share to help to get on board and to help you to get things off the ground. The second thing that I want to say about context is we are a theology library in the midst of a large university library system. And so what I'm going to talk about now is our immediate focus, which is on students who are training in the discipline of theology, whether that is for future professional work as professors in theology, or if it's parish ministry, or all of the various forms that our seminary students live out their vocational cause. And I think it's just as important to as it is to advance research through computational thinking. So it is to equip our students who are going into all of these various vocational calls to likewise think computationally, even if they're never going to do anything with a big data set. Because again, it's about a habit of mind. And an understanding that the digital age is not simply a bunch of new tools, it really is a different way of thinking. And so when we think about instruction at Candler School of Theology, or Emory University, it really is about engendering those habits of mind that incorporate the wonderful things that have come in this digital age. The other thing, the last thing I want to say about context is I have one person of 16 people who work at this theology library. And what you're going to have here is a classic example of the leader taking credit for all of the work that his colleagues do, because everything you're going to see here is what all of these people do. And I'm incredibly fortunate position of working with really talented but also really curious people. And that to me is what is really makes these things work. Is there people who are always saying, What if we did it this way, or what if we tried it that way. And so I just want to highlight to you that it certainly takes a very large village to do some of the wonderful

things that we do. The last thing I'll say about staffing is we recently hired this person, Spencer Roberts here, who I encourage you to get to know and to reach out to, but that was an institutional buy in on our part to say this is a significant priority for us. And so we created a new position that allowed us to do some of these projects. We wouldn't have been able to do before, we were fortunate to have support from our Dean to do so. But I just want you to know that at times, it really does take an institutional buy in to say this is a new priority, just like collecting books or creating access to databases may be a priority. So is, as Cliff said, computational thinking or the digital humanities. And we've been a real beneficiary of having Spencer on staff to help us do that. So I want to talk through the way in which we instruct in the digital under the premise of five basic principles, what kind of things that I've learned through this, and don't get too intimidated. I'll go very quickly through this, so we're not going to spend too much time. But I want to start by talking about connecting digital skills to students vocations, this is really important in our context, because as we all know, our students are busy, they're overwhelmed with school. And so to offer them a simply, another thing to learn is never going to go over well. However, if you can connect it closely to this is what you want to do with your life, or this is the next career step for you, then there's a real buy in that I think we've seen from the students a very simple way we do this, as we teach a course every year that we call hacking ministry, which is very practically focused, it simply says, you're going to go into your next church appointment, and you're going to be the token young person, who's all of a sudden gonna be handed the task of running social media or building the website. And just because you're young doesn't mean you have any idea how to do those things. So we really try to take a very practical approach and say, we're going to teach you how to do WordPress, we're going to teach you how to podcast, we're going to teach you how to do whatever. But in the midst of doing that, we always reflect on what those new tools say about the practice of ministry, right? So we always have space to say, okay, you learned how to do a podcast. Well, now you take your sermon, and you throw it on the internet, is there still a preaching moment? What does that mean? And what's wonderful about that is it allows us to enter into those classic conversations of theology that have been going on for thousands of years. But the new tool is simply prompted or given an opportunity to approach those questions, a new this course has been very well received. This is my favorite quote that I got from one of my students. The summary here is she was sitting in a clergy meeting, and the clergy were trying to teach her how to use social media. And she had already learned all that stuff. And so the irony here is you have this older church guard that's trying to teach these new tools, when it's really in seminary that students should be learning these kinds of things. This is a nice little pat on the back that what we were doing was probably the right thing. But what we seen out of this course is students developing their own digital projects that continue far beyond their time in seminary. This is one of my students from a couple years ago, who's created a video podcast series. This is a student who built a whole new website for his church, the rural church that did not

have a website before. So again, the goal is to connect these digital skills and to teach these habits of mind that are directly connected to what they're going to do when they grow up, or when they leave us from the seminary. The second is, in order to do that the library has a role in cutting down barriers to access. And students oftentimes, I mentioned before, feel intimidated by all of a sudden, you're going to have to learn x skill wise skill, or you're going to have have to have access to this tool or that tool. And this is a place where I think it's really important for libraries to step in and say, we're going to take care of some of that for you. So that you can simply learn or so that you can simply build. One of the ways that my colleague Spencer has done this is to create a what we call the pits domain program. So we will offer to any student who puts forth a proposal Who says I have a digital project or I have a website or I have something I want to build. And we will provide them space through reclaim hosting that cliff mentioned earlier. And that that simply takes down the bear and reclaim if you haven't known, it's not just web space, but they build in certain kind of core digital tools or methods, a tool that cliff mentioned earlier, which are really just kind of click and turn on. And that kind of cuts down that lead time to learning how to do some of these things. But alongside providing them this free websites, which we give them for two years, and they can renew it beyond that is we mandate that they meet with Spencer, right, we build in office hours so that they learn how to use these tools. It's not just a freebie, we're kind of keeping them connected to the library, by making sure that they learn the skills from someone who's a real seasoned expert. So again, cutting down the barrier, both in terms of access to a tool that costs a little bit of money, but also the barrier to providing them some instruction on how they actually build a website or build a digital exhibit. The third thing I'll say is that we reinforce information literate literacy skills through digital media. So one of the little tricks here is that we use new tools or new skills to reinforce these learning outcomes that we as librarians have always been focused on right, this thing called information literacy can actually be taught very easily through some of these new tools. The classic example of course, is using Wikipedia in the classroom. Something that we do all library instruction has a Wikipedia output as all courses and increasingly we have gotten our faculty on board with using Wikipedia as a platform whereby students not only can put out work but can also enjoy And that fun conversation that is worth being edited, removed, re edited through Wikipedia. The first thing we've done for this is we create a very comprehensive guide. And we do in person instruction on how do you edit Wikipedia not only the nuts and bolts of doing it, but what are the basic rules of conducting yourself in Wikipedia? What are the five pillars of playing nicely in Wikipedia. And once we do that in classes, then we invite classes to see Wikipedia as kind of the output for their scholarship. This is, I won't walk you through this. But this is one of the early examples from 2014. And what you the point I want to make here is as students started to edit, this is the image of God entry on Wikipedia, which was horrendous before these students got to it. Not only do they add their scholarly output into Wikipedia, so it's in a public forum where their work is actually

being seen. But it's pushed back against by other people, and they have to justify their edits. And they have to cite their edits. So again, these ideas of providing evidence of making arguments all of these things that we as librarians pride ourselves on teaching can be done and done a knew and done in a very explicit format here on Wikipedia, because you have the world's greatest instantaneous peer edit by going in, you know, 80 of you have had the experience of going in and changing an entry on a biblical book of the Bible or theological concept, you're going to get pushback really quickly. And that's a great thing for students to learn from. We have used the Wikipedia wikia Edu courses. And if you haven't explored that, I highly recommend this, this is where Wikipedia will set up a course for you. They have structured assignments, they will give you instruction videos, guides on how students should make edits, they'll even structure the assignment. So you kind of students slowly wade into the process of editing. This is output or stats from a course I taught last year where you can see our students focused on seven articles, they made 126 total edits, which is about 10,000 characters or 10,000 words, but the article has been viewed 136,000 times. And they've had lots of pushback. In fact, when we started doing this, the Wikipedia community flamed us because we did not warn them that we were about to do a course edit. And so it was a great opportunity for students to justify what they were doing and to really think through what does it mean to do scholarship in this kind of public forum where people actually looking at it. So it was a much more effective teaching tool than them writing, you know, an end of the semester paper, and then me reading it, and then putting it in the desk drawer. The fourth thing I'll say is, in order to make digital projects effective at a school is you've got to identify faculty advocates, right? The faculty are the authority figures, de facto for better or for worse for many of these students. And if you can get a few key faculty on board and see the real value of this that spreads like wildfire amongst the rest of their faculty, colleagues, you got imagine for a faculty member to say, Hey, why don't you do a digital project as the output for your course? That sounds great, but it's a little intimidating. How do I grade that? How do I don't know anything about the digital? How do I you know, compare one student to another. But if you can get an ally on the faculty who's done it and done it successfully, then they become the authority figure that teaches their colleagues, one of my beloved colleagues here, and burkholder, who teaches Methodist studies has been a great advocate for this, almost every single one of her courses creates digital exhibitions through a mecca hosted through reclaim that we provide the space for and almost every other faculty meeting, she will stand up and give a testimonial of this that encourages her faculty colleagues to likewise do so here's a good example of her students who normally have to document the timeline of the Methodist Church. And if you know anything about Methodism, that can be incredibly complicated. But they've done it in a nice visual way here using a neatline timeline, right, a very simple digital tool that again, allows them to take the work that they're doing in the course to work on it collaboratively, and to produce something that will persist beyond the course, this only works and it works

semester after semester, because people like Professor burkholder are advocating for it amongst students. The final thing I'll say, and this is where I get really excited about our work is to model digital impact through the work that the library is already doing. If you as a library are innovative enough to say let's use computational thinking to innovate, how we do our work, please invite the students in to see that because it provides a real model for them for how they likewise can innovate their work through again, cliffs term computational thinking. Here's a very simple example of something we've been working on. We're a library that focuses on collecting materials from Germany in the 16th century. And a lot of those materials are illustrated by woodblock printing Here you see a nice wood cut from the 1540s. And one of the projects that we work on is how do you reverse the process? How do you take an image and then move back to a woodblock and so I have some very crude images that I'll show here. So here's the original woodcut. You simply turn that into a vector image black and white here. I love you can see this but this is the STL file that's generated from that. So this is actually a 3d image that has some effects. to it, and then you can actually use 3d printing to print a plastic woodblock. And we've had some this is this is our first one print actually made from the woodblock that we reverse engineered from the woodcut. The point here is not the perfection of what we generated here, it's actually quite helpful to show students the process of how 16 century woodcuts were made. But involving students and showing them the possibilities and showing them the possibilities that exist on campus, we have several 3d printers that they have access to, is what gets their creative juices going, right. And so it's not for me to say, now you can do this in your work, that's their job. But if I show them the excitement, the tools, and how easy some of this stuff can be, then they are fully capable of taking this and applying it to their work. A second way we do this is through digital publications. Cliff mentioned before, we have a project that's taking some legacy publications of the library for about the past 20 years, Pitts library has been involved in printing, real publications, largely edited volumes and translations of 16th century works. And hard, you know, hardback print volumes that are very nice, but are out of print and aren't being sustained anymore. And so we've started to take some of these and using a very simple tool to acquire digital publishing tool for, you know, produced by the Getty Institute, and we started to make much nicer versions. So here's an example of a work that was done in the 1990s by an Emory faculty member, it's on the Magdeburg and karidian, which is really important work that our library happens to hold. He put together a facsimile version of it and an introduction, which is a nice volume, but it's out of print. And with His permission, we've now created a digital version of the facsimile. And it's now much more navigable, searchable. And one can really actually do some work with this volume. We did this requires a very simple process. And we're doing this for all of our legacy publications. But we're involving students and doing that. So they can say, Hey, here's choir, here's a tool that's available, freely available, let me think about how I can apply that to my work. A final example I'll give is our use of the matterport tool, which is a virtual tool. If you've ever

been, you know, searching for a home recently, you've probably virtually walked through at home. We were doing this, we have some metaphor, technology. And we were interested in creating a virtual tour of our library. So if you want to go see our library, you can go visit it virtually. We also have extended it to our exhibition gallery. So this is a screenshot from you can tour through our exhibition galleries. And so our exhibition, even though an exhibition may end after a few months, now it persists online forever so that students can go through and learn from the exhibitions. But students got really interested in using this tool. And so we partnered with a project here in Georgia called the historic rural churches of Georgia, which is all about preserving historic rural churches, many of which are falling down. And we started to take our metaphor, technology and do 3d scans of these spaces, which is wonderful so that people can actually explore the spaces, but also a lovely digital preservation tool for many of the churches, again, that are falling into disrepair. This was an example of a very kind of innocuous we wanted a virtual tour of our library being taken on by students and by our staff, and now expanding. And I think we've scanned over 27 churches in Georgia and are now applying some for some funding to really document digitally all of these spaces. The point here is it is a very simple idea involving students, and then that's where it got the energy and moved on. So again, these are my kind of off the cuff five principles for taking the idea of computational thinking, and injecting it into what libraries already do really well, which is reaching students and kind of helping them see the next level or the next steps in their educational journey. So I'm going to stop here. I'll start with my image that I always stopped with, which is the gentleman here and the the 18th century Dutch asking, Why are there so many looking at the bookcase? And the point is we have all these resources here in the library, we need to answer the question, what are we doing with all these resources? And I think one of the things we can do is take the creativity of computational thinking in the library, and expand that to researchers and to students far beyond. So I'm going to stop sharing, and then I hope there will be questions or conversation.

A

Ana Cackley 44:10

Great, thank you both so much. Do we have any questions?

C

Cliff Anderson 44:22

I guess while we're waiting for questions to come in, Oh, I thought that was a fantastic presentation. I just wrote a lot of notes about things that we can do here to emulate what you what you all are doing at Emory. I love the hacking ministry course. So so so did you say that was a required course? Or is that just it's an optional course that people can take?



B

Bo Adams 44:42

Yeah, I would love it to be a required course. Right. And that's that institutional volume that you actually need. Right. It's one of those things that it's it's offered an elective course and if you know anything about an in depth curriculum, there's not a lot of time for elective so that becomes a challenge. But without fail every semester students get to the end and say this is the kind of practice stuff that we really needed. And I think seminary education as a whole isn't this kind of question of, you know, are we a professional school? Are we a vocational school? And it's one place where we've tried to do both, because like I said, it's, it's about learning the skills, but it's also about creating the space to think about, you know, because I think oftentimes people unreflectively, particularly in this pandemic world where people are forced to do technology quickly is to step back and think, well, what's changing about this? And as you know, Cliff, this is not the first time the church has dealt with technological innovation. And we need some theological or historical consciousness of that. I'm sure that the students that took it now are like, really thankful they did because I mean, you know, what? Fascinating, we have a we do a unit on virtual the Eucharist virtually Can you do that? Right? And of course, different traditions have hypothetically thought about it. But we were in the middle of the semester when this hit, and then everyone, of course, every church was like, absolutely, you can do it, right. Because we need something

C

Cliff Anderson 45:55

very pertinent question. Looks like we do have a question that came in Oh, from our friend, Andy.

B

Bo Adams 46:01

Hello, Andy.

C

Cliff Anderson 46:03

And I don't know, if you want to read the questions, or should we just respond to them? What's the right way to go?

A

Ana Cackley 46:07

Yeah, I'll read it out loud. Absolutely. Um, so the question is, what do you think about the maturity of using VR tools for teaching, the pandemic has been making us think, think of catching up with business and medical schools that are doing more in immersive environments?



**C** Cliff Anderson 46:26  
Okay, probably should go to Bo first.

**B** Bo Adams 46:30  
I, first of all, my first response to Andy would be Yeah, why not? Let's give it a shot, right. We've done some fun stuff with Oculus, headsets, and those kinds of things, allowing people to explore virtual editions of sacred spaces, right, and to kind of get a sense of what it's like to stand in the Blue Mosque and assemble, you know, these kinds of things. So I think there's a small opportunity for that. But I think we should explore those kinds of things. And again, not be afraid of kind of seeing this as a new space for us.

**C** Cliff Anderson 47:02  
And I'll just mention, you know, one of the fun things that we've done with, with VR, well, this, this is, this is sort of the going along with like 3d imaging, and then printing, which you were talking about, which I thought was a great exercise. And I'd love to repeat that. So I'm gonna follow up with you about that with the word prints. But we, we have a collection, just a small collection of Babylonian tablets. And so we had a faculty member come in, who has done a lot of 3d imaging and image those tablets, and then another one has been deciphering them. But along the way, since we had the 3d image, our university library and have sent them out and had chocolates printed in the form of those tablets, which you could eat. So I, you know, I think the thing is, once you have this additional form, you can also be really creative. And, you know, we always encourage people in our special collections, you know, you can touch the book, you can interact with this physical, physical object. But of course, there are limitations to that, too, you know, I mean, certain objects are in danger of deterioration, so we really try to preserve them as best we can. But once you have it in a 3d form, you know, you can do all kinds of things with it, that would be very problematic. If it was the true original.

**B** Bo Adams 48:14  
I get that just makes me think of another example. So an interesting point for the 16th century books, right is the binding, right is the the provenance of the book, but a lot of these bindings have been rubbed down, or they're dirty. But what you can actually do by shifting the light of a really high quality image is actually recreate what's etched on the binding, right. And that allows you to connect the books you have with the book, another institution has like, virtually pull libraries together. So yeah, I think there's lots of

opportunities, particularly Rare Books, which, like you said, are a preservation concern, but no longer become a preservation concern in the digital space?

**C** Cliff Anderson 48:47

I will say that, you know, I think it's somewhat challenging to move into the, the digital side of VR, when you're trying to do new applications. One, you know, again, with this group that I'm involved with the computational thinking and learning initiative at Vanderbilt, we do actually now have a VR pilot, and they have the same goal as we have in our text mining pilot, which is to not only to explore the affordances of this technology, but also to make it more accessible to newcomers. And, you know, I think the bar is somewhat higher for development there, you know, because there are tools like Unity and Unreal Engine, which allow people to develop these kind of immersive environments with these objects. But but you kind of move quickly into the area where you need some professional help, not just, you know, thinking about awesome, the modeling, but also the programming behind it. And, and there are, like easier to use two toolkits, I'm thinking about, for example, a frame and three.js, which are JavaScript frameworks that you can use within VR headsets. But again, there's still a somewhat high learning curve to be, you know, productive in those areas. And, and I think it's just, you know, inherent to the the spatial nature of this when you're thinking in three dimensions rather than than two It becomes just that much more challenging really says my bias. But I know that there are a lot of people working on trying to make it more accessible as well. And I'm sure that we'll see more tools coming along. That will do so. Great. Thank you both.

**A** Ana Cackley 50:19

Do we have any other questions? Look,

**B** Bo Adams 50:24

it looks like Brian Schiller, just from June just asked the question. I don't know if you want to read that.

**A** Ana Cackley 50:29

Yeah, absolutely. Brian says, thanks very much for the talk. It sounds like you both had great responses from students using digital tools. How has the response been from faculty? How open have they been to adding these digital humanities components to their classes?



Bo Adams 50:45

Go for it, Cliff.



Cliff Anderson 50:48

Well underscore a point that you made, which is I think that if you're working with faculty, and they haven't worked in dh before, using Wikipedia is a really great place to start. And so we've, we've done that successfully in a number of classes, sometimes faculty already using us. And so, you know, part of this is just to sort of survey your faculty and say, Do you already have student exercises that involve, you know, editing Wikipedia, you may discover that they're already doing this, but if they're not, and if they're interested in sort of getting students into that, you know, the sense of what digital editing is, like, in a collaborative environment is both said, you know, there are definitely positives and negatives, more positives, I'd say the negatives, but you know, if you are entering into a different community, that's not necessarily the traditional academic community. And so you have to be able to relate to all kinds of people who have different concerns, perhaps, than yours. But that's sort of part of the learning process. And I think that faculty find it fascinating for exactly the reasons that Bose said, which is, you know, it's it's, we had this theme at Vanderbilt called student as students as producers. And that notion that you're not just producing things in order to get a grade, but you're actually like, making a difference in people's understanding of a topic area that you spent a lot of time thinking about, that I think is, you know, enlightening for a lot of students. And some students have gone and just caught the bug from that. And some faculty members have caught the bug from that. And now, you know, this is both saying regularly incorporate that into their instruction every semester. So that's a fantastic place, I totally recommend that as a place to start with other dh projects, I think the next step up is using some of those off the tool, you know, off the shelf tools that we were talking about, and thinking about where to get support for them. But you know, if you if you can use like an A Mecca, or scaler, which is actually self hosted at University of Southern California, and, and just integrate one or two exercises that you said, I think that we've seen, you know, that work very well in classes. And then you know, the next step up is to really like, collaborate with faculty, I tend to almost all the teaching I've done at Vanderbilt has been collaborative in the sense that I come in alongside a specialist in the subject area. And and you know, we, we work on the DH component together. And I think that's, that's something that I obviously really enjoyed doing. It doesn't scale particularly well. But I mean, it's fantastically interesting. And it helps us as librarians to think about the resources we need when other faculty and more faculty get involved in teaching with dh.

B

Bo Adams 53:06

But I was kind of curious Cliff, like you mentioned, the big English 18th century English project, was he was he read the faculty member, someone who was already inclined to this kind of work? Or was it the research problem? And then you you created the solution?

C

Cliff Anderson 53:21

I think, you know, so Mark came to me with the idea that this would this would be the kind of project that you'd need, like a large data set to solve. So he, you know, he was aware of that already. What we talked about initially was, you know, could we do this with, you know, some packages in the our programming language or Python, what would that take, you know, we read along the way, some other work that's being done in this area, people like Andrew Piper or, you know, others who have been working recently on large scale digital projects, and just thought about the way that they've done it. And then we moved into our own tools based on, you know, just really kind of drilling down to exactly what he's hoping to do in terms of answering his questions and the scale of the data, which pushed us into big data environments, which, frankly, are a little bit less used. Just because I think it's, it's, it's harder to get them going. But you know, but they are and this kind of goes back to Andy's question. They're used quite heavily in other areas of scholarship, like in, you know, say business or in the sciences. And so, you know, the humanities, in a sense, in a sense of you calling us digital humanities is problematic, because what we're seeing is, it's more or less the same set of tools. They're just servicing in different ways in different disciplines in somewhat unevenly. And so that's why I think from the library's perspective, we tend to call it digital scholarship because what we learn in the digital humanities, we can transfer and this of course, is a you know, I'm, I'm working across our library system, we can transfer it to people working in in the area of physics or chemistry, as well as in the area of management it actually I'll be teaching a course coming up You know, just just a one shot on analyzing the Panama Papers for for fraud using network analysis tools. I mean, you know, I could teach that same course. And I had taught art history. So you know, in a way, these skills are very transferable. And so you learn a lot from your colleagues in the different disciplines too. And I feel like, for Mark, what we've done is just borrow some ideas that I've seen work in other places, and then apply it to his particular English questions.

B

Bo Adams 55:25

But I mean, I think it pushes the librarian into an uncomfortable role of being an outreach person, right? Because Mark may publish a great essay in journal about British literature, but it's your job to say and look, other people who don't work in British Literature, these kinds of skills can work for you. And that's hard. That's not a natural load. For most

librarians. It's certainly not this one.

**C** Cliff Anderson 55:46

And I think that's, that's the challenge, I find, you know, as someone whose own specialties in religious studies and theology is, it's thinking about the kind of questions that we want to answer in our field. And I think that the faculty, and I'm sure you have them at Emory, you know, like, they're the faculty that are interested in these questions is growing. And you see more and more at the AAR and other places, including at the digital humanities conferences, there's there's a kind of international digital humanities conference. It's called adho. That that meets yearly. And there are more and more presentations on religious studies. So so there's becoming a community of practice that kind of crosses the boundary between those who attend the AR spl, and those who attend the d h conferences. And that's become really great to be a part of, but it's still very small compared to what's going on in history or English. And so part of what I feel like this is, this is such a great time to jump in, because you can really make a big impact right now. We just aren't that far along as a field. I mean, we're getting there, but we still have a long ways to go.

**A** Ana Cackley 56:53

Great, thank you both so much. Do we have any other questions? Okay, if not, we can go ahead and wrap this up. Thank you so much bow and Cliff for presenting today. What a fabulous webinar. Thank you so much, everyone who attended and just as a reminder, this has been recorded and so we will be sending out an email notification as soon as it goes up on Atla's on demand learning webpage. Thank you so much, and have a great day everyone.

**B** Bo Adams 57:28

Thanks. Thanks for having me.