Work/Cited Episode 2 Transcript

Kate Cordes: I'd like to welcome you all, again, this afternoon to the program. My name is Kate Cordes. I'm the Associate Director of Reference and Outreach at the Stephen A. Schwarzman building. Work/Cited is a new program series that showcases the latest scholarship supported by the rich collections of The New York Public Library with a behind the scenes look at how the finished product was inspired, researched and created. In this second episode, the library's Map Curator, Ian Fowler, will be joined or is joined by Eric Sanderson, former Cullman Center fellow and author of the Welikia Project. They will discuss how the project builds on his past work [inaudible] a natural history of New York City and how the original ecology of the city has changed and what its impact is on our modern built environment. Little bit about the run of show. Our guests will speak for about 30 minutes and then we'll open it up for conversation with our attendees. Please use the question and answer function at the bottom of your screen rather than the chat function to submit your questions. You can submit your questions throughout the course of the talk. And, if you wish to remain anonymous, please click that option before submitting your question. If you'd like to chat during the conversation, and we encourage you to and share your comments with everyone. Just remember to switch over your chat audience to panelist and attendees so everyone can see that. And, right before - one last thing before we jump into it, I'd like to ask you to take a few seconds to take a quick poll. That helps us design this series. I'll launch that and then I'll pass it over to Ian and Eric. Thank you.

Ian Fowler: Thank you very much, Kate. Eric, wonderful to have you. Thank you for agreeing to be on our program here. You are, I would say, an extraordinary research of NYPL's resources and map resources in general. Do you want to talk a little bit about the research that got you to where you are now?

Eric Sanderson: Sure. Well, hi, everybody, and, Ian, thanks so much, and Kate, for inviting me. You know, I love the library so much because it's been such an important part of my work for so many years to try to reconstruct what Manhattan - what New York City was like when Henry Hudson came in 1609, the sort of original [inaudible] landscape of the city. And, you know, I'd like to - the first - my first ten years in New York, I was working on this book, Mannahatta, A Natural History of New York City, which you know was trying to imagine the amazing ecology of the island. I'm an ecologist, so that makes sense, but to do this, you can't really start with ecology. You actually have to start with geography and that's what eventually brought me to the [inaudible].

Ian: That's excellent. Eric, it appears your sound is breaking up a little, tiny bit.

Eric: Okay. All right. I'll try and move my mic closer to my mouth.

Ian: Okay. I think that's much better. So, this is kind of where you started. This is published. I can see it wonderfully displayed behind you in your video screen there. And, of course, we have many copies at the library. And so, this kind of reverted back to Henry Hudson and seeing what Manhattan was like before. And, then you had a common fellowship and a new ongoing project with the website and that's related to the rest of the burrows in New York?

Eric: That's right. That's right. Yeah. Like I said, it took about ten years to work on Mannahatta and to produce this book that was timed with the quadricentennial of Hudson in 2009. And, after that, I was - I was a little tired of it, you know. I work at the Wildlife Conservation Society, the Bronx Zoo, and I have a life and wildlife conservation, and there's part of me that really wanted to get back to that, but people kept asking me to talk about Mannahatta, because they liked it so much. And then, in the Q&A's, there would always be someone who would say, but what about Brooklyn? You're not going to do Brooklyn? Or, you know, I heard you live in the Bronx, which I do, I live on City Island in the Bronx, and they'd say, you've got to do City Island. Or, haven't you ever been to Staten Island? Staten Island is so cool. You know, Staten Island, that's a place where you can actually see a little bit of this nature left. So, yeah. So, ever since then, so since sort of 2010-2011, we've been slowly working. And, when I see we, I mean literally hundreds of people, students and scholars and all kinds of experts have helped one way or another to help us figure out what the rest of the city is like. And so, I thought for our talk today, we could start with some of the Manhattan specific material and ten move out - sort of out geographically into some of the other materials and other parts of the city.

Ian: I think that sounds great. So, what should we talk about first?

Eric: Well, let's talk about maybe my favorite map. The map that sort of started on this whole adventure, which is this map you're seeing in front of you here, which is the British Headquarters in Manhattan, so called the British Headquarters map from 1782 or 1783. What we're looking at here is Manhattan on its side, so that's the tip of Manhattan, I guess, to the left of the screen. You can see the sort of pink blocks and streets of the original part of the city. And, then what you see to the right is the rest of Manhattan when it was hills and streams and shoreline and little homestands and little orchards. And, it goes all the way - it goes all the way up to the northern end of Manhattan. This particular map isn't in your collection. I feel a little bit bad about starting with a map that's not in your collection. This is actually the original that's in the [inaudible] archives in London. What you guys have is this, which is the Stephen's facsimile of the British headquarters map. I don't know, do you want to talk a little bit about Stephens [inaudible] or I can?

Ian: Feel free.

Eric: Yeah. So, Stephens, he was an American. He was in London at the end of the 19th Century, I think working for the State Department or something like that, but he had a strong interest in materials about America that were in the British library or in the public records office at the time or in the war office. And, he published this facsimile. I think originally 100 copies that he made of the British Headquarters map. And so - and there's several copies of this, including the [inaudible] that you have. One of the things that I wanted to point out about this map though is if you - this is a complete mystery to me. I don't really know how to explain it, but if you look at the two together, this isn't an exactly match, but it's close. So, we're looking at the Harlem Plains here. I don't know if you can see this. The Harlem Plains. On the left, this is the original map and, on the right, this is the facsimile. And, you can see they're more or less the same, but they're not exactly the same. They're not exactly the same at all [laughter]. You know, and for someone like me who really cares about the exact details, this was a great mystery to me. I saw the original one, because it was published in Cohen & Augustyn's maps of Manhattan back from 1997. And, that was the first time that I'm aware that it was actually - the original was photographed and they published it in their book. Most of the time, you've just seen the facsimile. And, so then I, you know, when I saw that, I had come down to the library and looked at this one and I thought, well that's good, but then eventually I went to London and saw the original one.

Ian: Yeah, it's interesting, because I mean even those, there's like two little hills up in the plains of Harlem to the left of the river that are not displayed on our facsimile copy of the map.

Eric: [Inaudible] these guys? Yeah.

Ian: Yeah.

Eric: Or, here. This is the great hill. I don't know if you can see my pointer.

Ian: Yeah.

Eric: And, on the facsimile, it has like these three little flames, which actually if you actually go to it, they're more like these three little toes, like one of these has the block house in Central Park. And so, whether Stephens added in more details or used other information from other maps, because the, you know, the British didn't make just the British Headquarters map. They made literally hundreds of maps of the New York City region, several lovely one that are in your collections. We'll look at one from Brooklyn in a minute. Anyway. So, this is for all those researchers out there that want to map cartographic puzzle to solve. Figure out for me why the facsimile is different than the original. I'd love to know.

Something else to say is that for Mannahatta, I mostly used the Manhattan portion of the British Headquarters map, but there is this section of Brooklyn Heights, which you see here, and Gowanus. This is Brooklyn Heights, Brooklyn, and Gowanus Creek, or Canal as we know it today. I know it is as a creek. This is [inaudible] down here, Governor's Island. And, it even has little bit of the [inaudible] with tons of little, tiny ponds and lakes that you would expect from the [inaudible] marine.

Ian: Yeah. It's incredible to think about that area of Brooklyn, especially as we know with post World War II buildup and having this type of typography, especially the heights of Brooklyn Heights and kind of going back to like the original naming of these [inaudible] in Brooklyn.

Eric: Yeah, that's right. That's right. And, one of these hills, this one here that had a fort, they called this in the Revolutionary times the Corkscrew Fort, because it had a road that had to go around like this, because it was so steep to get up to the top of the fort. Yeah. These are all - all these little hills, of course, the little [inaudible] that were left as the Glaciers were retreating 20,000 years ago, it created this typography here.

Ian: Yeah, it's a beautiful section of the map.

Eric: I love this part of the map. It's so great and, you know, this is one of the things that also inspired me to continue on with Welikia. I mean, there's just so many discoveries about the natural geography of the city that now Manhattan now just feels like just a small, little segment of all the things to learn. In that vein, there's Ratzer's map from actually before the Revolution showing Brooklyn and lower Manhattan. I know, this is one of your favorites.

Ian: Yeah. This is and the Montresor map of almost the same era are two of my favorite post seven years war maps of New York City. Lots of great detail on this, especially with the view at the bottom from this edition. So, I assume you're looking at this for Manhattan and parts of Queens?

Eric: Yeah, that's right. [Inaudible] I wanted to highlight the view, because, you know, views are also an important part of the research. You know, with the maps, if they're well mapped like the British Headquarters map [inaudible], we can geo reference them in the computer and actually lay them on top of the modern geography. It's a little bit harder to do that with respective views like this, but you can still learn a lot, but this view is from Governor's Island. So, we're actually standing on the beach here of Governor's Island and you see all these rocks that used to be on the beach at Governor's Island. Governor's Island today doesn't have a beach, right. It has a storm wall.

Ian: Yeah.

Eric: There's, you know, there's a couple little places where on certain tides, the sand collects. You can tell that it wants to be a beach, but now it's not. But also, you can see Brooklyn Heights over - I don't know if you can quite see that, but over here on the side, you can actually get a sense of the elevation of Brooklyn Heights. And, there's plenty of other little anecdotal details. Like there's this plume of smoke, which, you know was presumably from a capsized ship or something. And, why he decided to --

Ian: I think that's a kind of apocryphal story. I think they're actually blacking the bottom of a boat.

Eric: Oh, is that what it is? Ah.

Ian: Yeah.

Eric: Ah.

Ian: I've had my magnifying glasses upon lenses upon cameras to examine this plume.

Eric: Okay. That's good. That's great. Yeah. So, we can --

Ian: And, just one little detail about the map

Eric: Yes, please.

Ian: -- that our current curator of history, Julie Golia, when she worked for Brooklyn Historical wrote a wonderful webpage pamphlet on the history of when they discovered and conserved theirs, so that's a great resource for people to look at if you want to know more about one of my favorite maps.

Eric: Yeah, that's true. That is a really great resource, yeah. Yeah. It has lots of little details like this that you can look at.

Ian: Yeah. Speaking of great resources, I'm excited about the next portion.

Eric: Yeah. Well, I just wanted to mention, probably some of the researchers online already know about this, but those of you who don't, this is Stokes iconography of Manhattan Island in six volumes. And, that's actually Stokes standing there in the shadow of his wife on the right. It's from a famous Sargent painting or portrait that hangs in the Metropolitan Museum of Art. Stokes was kind of independently wealthy. He lived at the end of the 19th Century and into the 20th Century. A really important figure, I think, in Manhattan and not somebody

who's not very well recognized. He was really important for the original zoning plan of 1916 and some of the rules around, you know, around tenements and that sort of thing. But the thing that I know him for is this amazing set of documents. This is a facsimile copy. The library has several versions of this. It's in six volumes and [inaudible] just to ride you. Stokes' idea was that for the 1909 tercentennial, the tricentennial of Hudson, that he would survey as many maps and images and so forth as he could of Manhattan and write about them. And, he wrote about them in extraordinary detail. And, that's this historical survey, that's in Volume 1 and then continues in Volume 3, but it was realized as he was doing Volume 1 that he had this appendix, which is another book that's like 200 pages long, 300 pages long, which is like an appendix to the first volume. And, then after he did that, he's like, I think should have done chronology, and so he has this extraordinarily detailed chronology, day by day in many cases, of what was going on in Manhattan from 1609 up till 1909. And, then --

Ian: Very reminiscent of your new work at the website. I mean, he had hundreds of research assistants that went all over the world to compile every last graph of data to compile this immense history of New Amsterdam, New York.

Eric: Yeah, no, that's right. That's right. That's right. Yeah, and it's still such a valuable resource even, you know, even today. In some ways, the volume I like best of it is the index, because it has this very detailed index, which then takes you into this other material. So, if people don't know Stokes, it's definitely worth looking. Unfortunately, iconography is the iconography of Manhattan Island, so it's less help for Brooklyn, Queens, and the Bronx and Staten Island, but still, a wonderful resource.

Ian: Yes. And, I'd be remiss if I didn't mention that the Stokes collection is at the New York Public Library in both the Wallach Division and the Manuscripts and Archives Division.

Eric: [Inaudible] that was remiss of me too. Yeah. Very important. So, moving forward a little, you know, one of the good things if you're interested in the natural geography of the rest of the city is that, of course, you know Manhattan developed first and a little bit of Brooklyn, and the rest of the city developed more slowly. And so, you can use, you know, resources from the 19th Century very effectively, including, you know, the U.S. Coastal Survey. So, the U.S. Coast Survey, later Coastal and Geodetic Survey, was the first scientific agency of the U.S. government, federal government. It was actually established in 1807, although it didn't really start working until the 1830s, and one of the early places it started was here in New York. And, its goal was to make maps, charts for navigation purposes, but frankly under Hassler's guidance, Ferdinand Rudolph Hassler, he was a Swiss immigrant and famously fastidious and detailed. And, he often mapped well inland and I'm going to show you, you know, these detailed maps. Again, like the amount of time and effort that goes into making maps like this is so extraordinary. The little numbers you

can see in the water, that's actually math metric depths for people dropping the chain to see how deep the water is there. And, these lines here are showing contours. I'm showing you Coney Island and Pelican Beach, which is kind of around Palm Beach to Bay. This is sort of where the [inaudible] goes around. This sort of [inaudible] is showing kind of wetland. All of this is filled in Southern Brooklyn now. It's up to a little bit around Coney Island Creek, which is here. But also, you can see these hills, like there's these sandhills. These are actually sand dunes that formed on Pelican Beach and on Coney Island, which is part of, you know, nature's way of making the coastline resilient. It builds up dunes and then when a big storm comes, a hurricane or something, these dunes get knocked down and it protects the marshes and the land behind. Something we don't have anymore because we have built on all these places.

Ian: Yeah. And, this is a great example. These coasts and geodetic survey charts, especially under Hassler, built off of the Atlantic Neptune, which was the first scientific charting of North America, began in the 1760s by some of the same people that made some of the British Headquarters maps. And so, there's a kind of direct scientific line of charting and surveying from the earliest parts of this presentation up to this. And, it is interesting when you look at all of these natural features that we have changed and redeveloped and how climate change is going to react to those changes and kind of reclaim the map as it were.

Eric: That's right. That's right. That's why I think this work is so important. You know, it's completely fascinating from the historical and chronographic perspective, but it actually has real salience for the way we think about the city today. I mean, this part of Brooklyn here behind Barren Island and so forth, this area was, you know, like Marine Park. It was really heavily flooded during Hurricane Sandy. And, it's because it's on fill, it's on salt marshes that then were, you know, raised not like 10 feet above sea level, but just like a foot above sea level, right, because it's a lot of work to make landfill, and especially if you're landfilling such a huge area. And so, the consequence of that is, is that then people generations later build on it and their houses are there, and they're not expecting to get flooded, but in fact, they're still very low and so it has consequences. Also, you can - these band of sand and [inaudible] that you can see over here left off of Coney Island, this is actually the sand that's coming along the south shore of Long Island. And, then when it hits the flow of the Hudson River coming to the narrows, it actually bends around. And, you know, an early question, of course, was how do you get into the [inaudible] with the shifting sand banks and things and so, that was something these maps directly contributed to.

Ian: Yeah. It's an incredible history of engineering, but one that might not last for much longer.

Eric: No, that's right. That's right. And, it's why I also always am laughing, you know, like the

Army Corps of Engineers is trying to dredge every day the amount of - or every year the amount of [inaudible] that becomes in the Hudson River. I mean, we're actually trying to compete with nature instead of trying to live with nature because we have a [inaudible] idea about the way the [inaudible] should live instead of doing what the landscape has done for the millennia, which is [inaudible] conditions change. I also wanted to mention quickly with Hassler here that these place names are really important to our work. We spent a lot of time with the place names. And, speaking of place names, out on Staten Island, there was a famous naturalist, William T. Davis, and his friend, Charles Leng, who as I was reminding myself last night, was a famous coleopterist. He wrote a book of the beetles of North America. 18,000 different beetles he described. He also has a nice paper about the beetles of Staten Island, if you're interested. Anyway,

Ian: it's an amazing time for renaissance people, because the previous Hassler was actually more well known for establishing the [inaudible] of weights and measures in the U.S. than he was for the coast survey.

Eric: Right. No, that's right. That's right. That's right. There's such an amazing tradition of people crossing fields that's so wonderful. And, Davis with the help of Leng, you know - Davis wrote a long, long paper that's original place names of Staten Island and then Leng helped him make this map. And, it's just overwritten with names. It's so wonderful to have all these names. And, for me and the research, what's so important is this - I find a name on a map and I can go and research that name. You know, I can do what historians do. I can try and do a search about that name and where that name comes from and why do they call it that and who lived there and what did they see. So, the names are really a way to go back into time and to get more details. And so, a lot of my work is now this sort of back and forth between the kind of textual sources, some of which, you know, can go back to the 17th Century. And then, you know, interacting with the map resources that are 18th and 19th Century, and then trying to see that in the context of the modern ecology and geology, as we understand it, so. You know, Brogan's Rock, like, who was Brogan? This rock was probably glacial [inaudible], right, that was left here by the glaciers, you know, etc., etc. Or, Pleasant Valley or Jackson Hill, so forth and so on. So, and we've done a lot of work to actually try and locate these names. I'm working on an atlas and gazetteer to the natural geography of Manhattan, and currently our database has over 6,000 names in it, 6,000 names of hills, streams, ponds, you know, Native American sites and so forth from New York City.

Ian: Yeah, I'm very excited about that, because one of the things, especially like looking at this is, when we do this type of research at the library, we're going back to early 19th Century gazetteers because these names disappear so quickly, and so trying to figure out, like you said, like who is this guy that has this rock and what's going on with this kind of toponym. I also love this map from a design perspective, because I think we still [inaudible]

with it today [laughter].

Eric: Totally. Totally. If there is ever a map that could use the [inaudible], it's this one [laughter]. Where you can like turn things on and off.

Ian: Layers, yeah. Some layers on this map would be great.

Eric: Yeah. Another map, this is from the Metropolitan Atlas, the atlas from the Metropolitan District from the 1890s, which is a sort of, I don't know, how would you say it? It's [inaudible] the coastal survey as we saw them.

Ian: Yeah, and also of the first scientific survey of New Jersey, which was done by Vermeule a little bit previous to this, so the really kind of scientific establishment of surveying by Americans. I think Vermeule might actually be the first American to do a really important scientific survey, because everyone else was kind of Swiss and German and Prussian.

Eric: Right. Right. Right. Right. So, you know, again, like this I'm showing one of the half plates from the Bronx. We're looking at the Bronx here and you can see like a lot of the what we think of is the South Bronx, but what's kind of the West Bronx, was pretty developed at this point. You can see the boundary line, which is mapping the edge of New York City, because the western part of the Bronx was annexed in 1874 and it wasn't until 1895 that the eastern part of the Bronx side, including out where I live here on City Island, became part of the city. And, you can actually see how like West Chester Creek here is connected with the Hutchinson River marshes right here. You know, when I go to the zoo, I'll ride my bike along here and there's actually still a low point, which is kind of right where I95 is, it's right where these wetlands are. And, actually, I don't know if I told you this, but a few years ago, I was visiting with an architect and they were redesigning the 911 call center, you know, that was destroyed in 9/11 and they put it up here in the Bronx. And, he was telling me about all the major security designs for it. And I said, but did you know it's in the old flood plain of Westchester Creek? And, he's like, what?

[Laughter]

Eric: And I was like, I'm going to show you a map.

[Laughter]

Ian: This is why map historians are always very popular at parties.

Eric: Yes, honestly [laughter].

Ian: It's a great new house you got there. Did you notice something? I think it's also the, like you mentioned, [inaudible], but the depiction of the islands and the sound on this map I think is also is quite interesting from what we see today and how that impacts the ecology and how that would have been different than, you know, what we look at on Google Earth or something.

Eric: Right. That's right. That's right. Yeah, like, this whole area around Pelham Bay, you know, this is the area that Robert Moses built Orchard Beach right across here and he pulled in all this trash and then basically filled in this shallow bay here. But if we go back to the Lenape times, this was such an important place. In many ways, this was much more important than, I mean, it was probably equivalent important to say [inaudible] on Manhattan, but they were, I don't know, there's maybe 25 different Native American sites in this area on Hunter Island, twin islands, you know, all around here. Very important place in the [inaudible] Mansion property right here. And, you can see why. Like, it was such a, you know, beautiful sort of mosaic of the water and all these little islands, part of it was shallow, part of it was deeper. There's probably, you know, tons of oysters and clams and things to eat. Lots of freshwater streams coming down. So, really abundant, you know, wonderful, beautiful place to live. And, you know, Pelham Bay Park is still a really beautiful place. I mean, it's extraordinary to go to Pelham Bay Park. But I actually - there's still a part of me that feels like it's like a remnant of what it was before.

Ian: Yeah. I definitely can understand that.

Eric: Yeah. So, I just wanted to end, I know we're coming up on time, but we can go back [inaudible] as people have questions for it, but just to [inaudible] place name geography a little bit more. So, these are several really important books that I use all the time in my research. The Native American Place Names in New York City by Robert Grumet back in 1981. This book, it's a little hard to get a hold of, but it's - Grumet goes through the Native American naming of New York City in enormous detail, great detail. And, what's important about that is that there were several people, particularly in the 19th Century, that were making up Native American names for features in New York City. And, then they get quoted and then they get quoted and then they get quoted and it's very confusing. And, Grumet just sort of cuts through that and he'll tell you, like, here's the first time that these names are used. And, of course, it's all of [inaudible], because a lot of what we know about the Lenape place names, many of those are names that are in the Dutch deeds, in the Dutch, you know, land grants and things, which, you know, were basically representative of the appropriation of that land from the Lenape. So, you know, it's a little bit hard to, you know, hard to think about. And, how relevant that is to it is today, you know, like, I remember when we bought our house on City Island and did a title search. I didn't know what a title search was. And, it turns out, you know, the title search is making sure the person who owned the

house before you actually had proper title to it. But if you go back in time, if you do that over and over and over again, what do you actually get? You actually get to these Dutch land grants and then the British gratification of them in the 1660s. So, in fact our private property, our entire system of real estate here in New York City is based on this original appropriation from the Lenape. And, that is almost never acknowledged, but is so true. So, obviously [inaudible] true in reading the history.

Ian: Yeah.

Eric: Anyway. Yeah.

Ian: And, I just want to - so, it's interesting. So, one of - and, we've talked about this before, but the book that we share in common that we love is Names on the Land.

Eric: Right.

Ian: The broader history. And, that's kind of like a post-World War II, if I remember, 1930s maybe.

Eric: Yeah.

Ian: But it seems like there's a gap between, and going back to the Staten Island map, like these studies about these kind of names, and I think definitely a History of Asphalt, which is a fantastic book on the Bronx. And, then your works, do you find that there's a gap or that some of these older resources might be more reliable or the new research?

Eric: Yeah. I mean, I find you just have to like keep indexing things against each other to try and figure it out. Sometimes you can figure it out and sometimes you can't but, yeah. Yeah. Actually, sometimes I just [inaudible], because it just seems so intimately deep, you know. But there was certainly a real nostalgia back in the like the late 19th, early 20th Century, that reclaimed something. And, you can imagine, like, you know, Manhattan's population in the 19th Century went from like 40,000 people to 2.2 million people. You know, it went from kind of a, you know, a town to an enormous city in the midst of the industrial revolution, right, especially in the industrial revolution, you know, in the New York City environment. You find all these nostalgic accounts, you know, like remember the census of octogenarian, you know, writing in the 1880s or the 1890s about the, you know, about the streams he used to go hunting in, in the marshes he used to go hunting when he was a kid. I mean, can you imagine that, like, you know, you used to go fishing, I don't know, like in the stream that's where Canal Street is.

Ian: Right.

Eric: And, you grow up and you have a whole life and you're, you know, a grandparent and you're trying to tell your kids that there used to be a stream at Canal Street, you know, like.

Ian: Yeah. Well, you know, it's like reading Walt Whitman [inaudible] sitting on the Brooklyn Bridge and staring up the FDR and kind of trying --

Eric: Right.

Ian: -- to put parts together, that vision.

Eric: That's right. That's right. I just wanted to mention briefly too, Sergey Kadinsky's book, which is a lot more recent, but this book is a really a great resource for - for me, you know, not so much the natural history, but the kind of human history, like what happened to the stream or the hill or the pond. So, I just wanted to mention that.

Ian: Yeah, and a great map on the background of that does get [multiple speakers] --

Eric: Oh, sorry.

Ian: -- topographic --

Eric: Right.

Ian: -- interior map of New York, which is another great one for seeing where we've done the fill.

Eric: Right. Fantastically, yeah [inaudible]. I just have one more map. I wanted to show [inaudible] maps, which this is a draft map for our atlas, which we're trying to use the U.S. GS [inaudible] graphic style. We're trying to show the landscape of New York City as it would have been in 1609. And, then putting the place names on the map and prioritizing where we can [inaudible] names, as you can see here for Brooklyn or for Manhattan. And, then I'm in the process of writing thousands of these sort of short descriptions of the actual features and what we know about them. And, I'm trying to, you know, trying to learn to be a good historian and give people the references back so that they just don't take my word for it, but they can actually go back and look at the sources themselves. And, that's all I had to say.

Kate: Okay. I'd like to start with a few questions. I had a question that you addressed in [inaudible], but I'm going to ask it anyway, because you mentioned Lenape and sources of knowledge. I'm assuming on your website, which we haven't looked at on the [inaudible]

site, there are your references and your sources, and if there are any particular indigenous sources? Like, we talk about western mapping of the land and [inaudible] recounting all the place names, but are there any indigenous sources that exist that you've called upon?

Eric: I mean, not as such, not from the time, right, because the Lenape were - they were not a literate culture. They, you know, they told great stories and so we have some of that, but mostly what we have, you know, is either the Dutch land grants from the 17th Century, and then we have accounts later on where people remembering from the 17th, you know, 18th and 19th Century, actually after people had been moved off of here, moved off of the land. And, then in this like this flowering of nostalgia that happened at the end of the 19th Century, there are several kind of antiquarians, again, like Robert Pelham Bolton --

Ian: Right.

Eric: -- who wrote several books, you know, Indian Trails in New York City and so forth. He did a lot of actual excavations up in northern Manhattan. And so, and then his friends, Allison Skinner [assumed spelling] and, I don't know, Calver - W. L. Calver, you know, these people were digging stuff up all over New York City. And, then they wrote books and they wrote papers and so we accessed that. And then, you know after, I think it was in the 1960s that the laws were changed so that you had to start actually doing archaeological excavations in sensitive areas. And so, the Landmarks Preservation Commission has just an enormous amount of reports that were done by consultants writing about, you know, whether this part of the Bronx or this part of Manhattan or this part of Staten Island might be sensitive. And, in every one of those, they review as much as they can the original history. So, again, there's this like multilayered, like --

Ian: Right.

Eric: -- you know putting all of the pieces together and, you know, nobody summarizes things exactly the same, so every time you read it, sometimes you learn something a little bit new and then you track it down and try and put it together. The great advantage that I think I have, you know, compared to some other people in the past is we have these maps that we've also been generating, so bringing in kind of the graphic stuff that we've been talking about today along with these descriptions, and then sort of putting them together in a way that makes ecological, coherence and sense. So, like the streams all go downhill, you know, like things like that are really, really important. Or, like, you know, there can't be a Lenape site in the middle of a salt marsh, right, because, you know, they're not going to live someplace that gets, you know, flooded on every other tide, so that mean, you know, sometimes you had to move things in the map. A lot of actually what I was doing when I was at the Coleman Center is trying to synthesize all these things together, put all the pieces of information together, and then sometimes realizing I don't have a piece of

information and then running down to Ian or, you know, running down to the manuscript collection or to the local history section and trying to find like that little piece of information about that hill or stream and so forth.

Ian: And, I think that's an important part to remember, is that, you know, we're looking at the Lenape and most every Native American group in what's now the United States, and the Dutch and the English are looking at them from a European cultural tradition of mapping and surveying. And, while Lenape and others did have maps, they were mostly oral through storytelling and temporary. And so, when these land grants and these deeds are produced, it's putting one cultural system that's dominant on another and so, it's important to parse that out and put that in perspective.

Eric: Totally.

Kate: Okay. I have a question from Julie Hierck [assumed spelling]. I have a question geared towards high school and college teachers interested in doing place-based learning. Are there specific places in New York City where educators might bring students to observe the interplay between nature and development and any readings they might pair with that trip?

Eric: Well, I guess at what level, that's actually everywhere in New York City from my perspective. But, of course, there's some places which are a little more apparent. You know, I think like Jamaica Bay is a really classic example of this, right. You know, you have communities that were flooded during Hurricane Sandy, there's things that are happening to try and keep that from happening again, although we could argue about how effective that is. But at the same time, you can walk out like on the beach on the rockaways and actually see in real time the physical processes that actually build beaches. You can see the sand building up against the breakwaters and you can see dunes trying to form. You know, you can actually see that happening, and then you can talk about what does it mean. Like, you can go to like somebody's house that's on the edge, or things like, you know, Broad Channel, or for that matter, for City Island, you know, communities like this that are right on the edge of the water and, you know, think about like what should we do. It's really, really tough. Like, if you remember that, you know, like the sea level has come up, you know, 100 meters from where it was during the glacier times, 100 meters, and we're arguing about a meter now. And, there was a time back in the cretaceous period where the sea level was 300 meters above where it is now [multiple speakers].

Ian: Let me just add that, you know, we're five boroughs of great, giant parks and what we're seeing now is there's a change in flora and fauna, especially with birds and plant species due to climate change, and so that's something that you can do by yourself or reach out to the Parks Department. I mean, we have these huge swaths of land that show

what's also happening on that level, which [inaudible] migratory level.

Eric: Yeah. So, yeah, that's right. That's right. So, you know, I guess, Julie, I think to answer the question would be, you know, if you were a teacher, you could just start with where your school is or where your students live and assign them to do research about what was there before and what they think there will be afterwards. In one of my - I teach at NYU sometimes and I assigned my students once to think, you know, this idea of seven generations, you know, the [inaudible], people used to talk about this, that you should plan with seven generations in mind. And, once this [inaudible] explained to me that that seven generations isn't seven generations from now. It's actually three generations back and your generation and three generations forward. So, if you're making a decision, you need to think about well, what were my great grandparents linking and what were my grandparents thinking and what were my parents thinking, because, of course, that creates the context for your decision making, and then how is the decision I make today going to affect my kids and my grandkids and my great grandkids? And, of course, if you think about it in like a human lifespan, we actually, you know, many of us, you know, like I have a picture of my great grandfather holding me when I was a little, tiny baby, even though I don't remember him. And, there's a possibility I could know my great grandkid, you know, [inaudible] do it pretty soon and has some kids of his own, you know, like, I mean, you can actually imagine that span of generations. And so, I asked my students at NYU to write about that for themselves, like, what was the relationship with your great grandparent to the environment and then your grandparents and then your parents and then you, and then think about that for the next three generations. What are you giving to your kids and to your grandkids and to your great grandkids? And, that required them to do a lot of hard thinking about history, about the environment, and about a future of the planet where we live.

Kate: Another question from Lauren [assumed spelling], bringing it back to maps. In studying the maps of New York City, do you ever use maps of other areas, perhaps of the same era, to gain a better understanding of what you're looking at, kind of a comparative literature of maps.

Eric: I haven't so much, but, of course, there's other people that do that kind of thing, although I remember when I was first working on the British Headquarters map, I was so astonished that I could actually, you know, georeference it in the computer and get it to be, you know, eventually within about 100 meters of the modern location, you know, which is like half a block, you know, quite close. And so, I did some research at the time and read about the - and, Ian probably knows a lot more about this, but the sort of history of scientific map making in the 17th Century, or sorry, in the 18th Century, like these county maps in England that were being made and also some things in Germany in the low countries, where instead of it being more impressionistic, they were actually, you know, taking, you know, making actual measurements in the field, using plane tables and so forth, and

actually were building the technology that allowed them to make, you know, geographically accurate maps.

Ian: Yeah, and there's a long history of that in the U.S. and we have a lot of great resources to do that kind of comparative analysis, both in paper maps, but also between georeferenced maps or maps that have been - old maps that have been put onto current Google Maps, like we do with MapWarper, which is something that we have, and also a difference between, for example, if you look at, especially New England, you look at a British or a French survey of an area versus a colonial American or post-revolutionary American survey, there's a vast difference in skill and artistry and everything, so it is something that we do that's kind of comparative analysis.

Eric: Right. Right. Yeah. Yeah. I do have a little bit of just sort of some very beginning projects in other parts of the world, like in Shanghai, also in Jerusalem just to, you know, where there's an entirely different set of map resources. Although, we will not be surprised that there are maps that are relevant to those areas in the collections of the New York Public Library as well.

Kate: I have an interesting question perhaps for Ian. Did the map makers have to travel with armed escorts ever? Was there a possibility of scrimmages or any danger to the choreographers going out there, the surveyors?

Ian: This is a great lead in from Eric's last answer to the previous question. So, modern surveying in terms of Europe and America begins in France and then with the ordnance survey in what is now Great Britain United Kingdom. And, that was done as, you know, for taxation basically, and it's taking over areas and redistributing land. And so, they're extremely unpopular. And, there's definitely been deaths. There's definitely been everything you can think of, being hit with vegetables when you're trying to survey for the grid in early 19th Century. And, I mentioned the Montressor plan, which is an earlier attempt at what the Ratzer plan does. Montressor had to survey Manhattan at night because it was after - it was still an area when there was very high anti-British sentiment. And, even in the United States and in the post-Jefferson United States when the surveyors go out west and start to triangulate the township system. They're met there even by, you know, people who are residents of the United States with threats and with bodily injury and death. So, yes, they often were dispatched armed guards, hired guns, mercenaries and they often did carry some sort of armament themselves. Also, the equipment they had was very expensive, so there also was an investment by whomever had sent them out into the field to do the survey. So, multiple groups of interest to protect surveyors.

Eric: Yeah. Lots of power, right.

Ian: Yeah.

Eric: Yeah. If you know the landscape. And, moreover, like any map can't contain everything about the landscape, right. You have to make choices about who owns what. I mean, think what a powerful statement that is to say this person owns this piece of property here and not that piece of property over there.

Ian: Yeah. Surveyors as agents of government are highly suspect throughout cultures.

Eric: Yeah. There's a great map by Andrew Skinner and George Taylor that's in the Library of the Bronx and it's actually quite detailed in the western part of the Bronx where the British were in control, but in the eastern part of the Bronx, it just kind of completely falls apart. This is like 1780-1781 and it's because the Bronx was sort of this no man's land and neutral ground and it was really dangerous. It was dangerous for everybody. You know, there were settlers, people living in the Bronx that were on the British side, some that were on the American side, and they were constantly subject to reprisals and things, and so, they made the mapping very, very difficult and dangerous.

Kate: I have a question about will there be a website, which I linked to in the chat, what is - can you go into like what the goal is, what its future is, who you hope to reach with it, types of audiences and how maybe to promote it to educators perhaps and how to use it in the classroom.

Eric: Sure, sure. Yeah. Thanks, Kate. The first thing to say is it needs a lot of work. We built it originally for Mannahatta ten years ago and then we did a little bit more work about five years ago to keep it from falling apart. Actually, you know, just to the side, I just want to say like, you know, one of the things I've come to appreciate through my experience with Mannahatta and Welikia is how valuable libraries are, because when I read book and then you guys put it in the library, I know that you're going to take care of it forever, but I'm not so sure who's going to take care of my website forever. So, that's just one thing. And, they do fall apart, because the technology changes, even though the pieces of software there, you know, the technology changes and then things stop working. So, anyway, the point of the map is first to get people access to the information we're given and then a really detailed ecological detail. So, you can click on a block in Manhattan and eventually, all the blocks of the city and get a list of all the plants and animals that we modeled as being living in that block. What's the probability that they lived in that block? And, in some blocks, it's hundreds of species, hundreds of species. And, you can go to that block today and you can count the number of species and sometimes it's a couple of street trees and a cat and a dog and a lot of people, right. I mean, I think that's just one of these things that's just adjusting to position. So, that's one of the goals. There are some education materials associated with it. If you go to the download section, we have some grant funding - this is more than a decade ago, and

we developed a curriculum. We wrote the curriculum mostly into fourth grade because that's when in New York City we studied geography and history and so forth. Although, we found that people have used the curriculum in lower grades, second grade, first grade, and also in high school and college level, but, you know, obviously, with the teachers adding in. The Museum of the City of New York runs a series of teacher training programs that use some of our materials and some of their materials to help bring the story to life. Like, one of the things that's wonderful about this work is it really is this sort of synthesis of history, geography, ecology, and in a sense urban planning and, you know, architecture and design. So, I think for teachers, it's a really rich set of resources that can go a lot of ways.

Kate: Yeah, I mean, it's really - it's a site that I have found easy to get lost in [inaudible] looking for references and the sources you use. It's a great resource as a librarian helping these other resources with [multiple speakers].

Eric: [Inaudible] yeah, yeah. Well, you know, as a researcher myself, that's something you really appreciate is when researchers give you enough breadcrumbs that you can figure out how they figured out whatever they figured out, you know, but you can go back and look at the stuff and not spend a lot of time just fluffing around trying to figure it out.

Kate: I have two questions related to one of which specifically related to the map that's on the screen now, and I'm assuming if you could zoom in on it, it would kind of provide this information, but the hills on the lower end of Manhattan, were those steep or were those kind of easy to walk, kind of?

Eric: Yeah, I mean, I guess this is a relative thing, but I don't know if you can see these little light brown contours.

Kate: Yeah.

Eric: These are 10 foot contours. So, these hills in lower Manhattan were maybe 40 feet, but they definitely had kind of a set of bluffs that sort of fell down along the edge. There was this sort of stream here. This is the stream that went right up Broad Street. You know, Broad Street is broader in lower Manhattan, because it was originally a little tidal creek. It was in the salt marsh that the Dutch, you know, excavated to make a canal that you could go up, and that's why Broad Street is broader than the other streets there. So, one of these other hills - I don't know if you can see this. It says [inaudible] Hill, which is kind of where the Stock Exchange is here today. It was steep enough that kids used to sled down that hill. And, actually, there's a Dutch ordinance from like the 1650s or something requiring them to like avoid people, like, basically admonishing them from running into people walking to work, you know, as they're sledding in lower Manhattan, so [multiple speakers], you know - yeah, yeah. One of the entomologies, which has actually fallen out of favor a little bit, for

Mannahatta, it's the Island of Many Hills. There was a paper in 2012 or 2013 that suggested the name Mannahatta is more likely meaning something like the place where we used to collect wood to bring strong bows from lie a stand of hickory trees that would have been down right here in very lower Manhattan kind of where the fort was and the customs house is. So, but when I talk about hills, you know, the tallest hill in New York City is Todt Hill in Staten Island. It's 410 feet high, which, you know, so we're not talking about the Rocky Mountains here. Although I will say in Todt Hill's defense, that that's the highest point on the Atlantic coastal plain between Maine and Georgia. So, there you go. Yeah.

Ian: So, [multiple speakers] I think we have a question about the leveling of Manhattan, but before we get to that, there are points in the [inaudible] where you can see some remanence of kind of glacial slab and what used to be before the leveling, right, like in Washington Heights.

Eric: Oh, yeah. Yeah, yeah, yeah. Yeah, yeah, yeah. Yeah, or even in, you know, in Central Park, if, you know, a lot of the big rock out crops in Central Park like Umpire Rock, you can actually see glacial scratches on it, you know. There's a couple places in the city where there are glacial potholes. There's one in the New York Botanical Garden Forest where you can see where the water like swirled around and kind of bored a hole in to the rock. There's another one in Inwood Hill Park that's like that. So, yeah, yeah. I mean, that's the amazing thing about the history of New York City is that there's, you know, there's a history of sort of we tell it, which is the Dutch and English history, the history of kind of euro-American culture, but there's must deeper, longer history that's lying here all over the place. You know, typically, it's the geologists that tell it, but I think it has just as much for us to learn from as the human history that we normally tell.

Kate: Yeah. There's also time scales at work there depending on how you look. Our last question is from Melanie [assumed spelling]. It's two parts. Did the leveling of the hills of the island for the development of the city happen slowly over time or was there a specific time where that happened, where the major leveling happened? And, the second part is more broad, would you consider this study of the ecology of the area prior to European occupation a part of the practice of decolonizing American history [multiple speakers]?

Eric: Yeah, those are two good and very different questions. So, the leveling for Manhattan is mostly a 19th Century phenomena, as the city sort of moved north. I don't know if you can see this, this little hill here. This is Richmond Hill, which is where there was a famous house that Aaron Burr owned for a while. And, apparently, when - I forget the name of it. I don't know, Ian, if you remember the name of this building, but apparently when they wanted to level the hill, they would actually jack up the house and then cut out the hill underneath it and then lower the house down so that they can bring the house down to grade and remove the hill, but keep the structure. So, yeah, these sandhills, yeah. So, it's amazing like how

much work was done in the 19th Century to level Manhattan and this was before bulldozers and things. This is all people with picks and shovels and horses and so forth, mules. And, then the second question is yeah, you know, I never thought about - I never thought of it in that frame, the decolonization frame, but I think this is totally a contribution to decolonization, to enriching our sense of the history of this landscape. And, you know, I really see myself now as part of this kind of settler culture that came to this land. And, I'm so interested in not just the Lenape people, but the people who came before the Lenape people. And, of course, for me as an ecologist, it's not even about people. It's also about our colonization of the waters, of the land, of the birds and the bees and the, you know. We are - human beings are so focused on ourselves that we just sometimes forget that all these other things are living in this world with us and they, in my view, have just as much right to live here as we do.

Ian: I think that's great. I think one other thing is that speaking about the, you know, these - looking at these maps, like especially the first map that we showed that showed the plains of Harlem kind of there, that also speaks to, you know, what was going on pre-contact with technology and the interaction between Native peoples and the environment, and that can all be kind of drawn out from these things as well, which is a great story.

Eric: Right. Right. Yeah, I mean, can you imagine if your New York City existence didn't have anything to do with buildings and such and the subway, but had everything to do with walking through the forest every day to go to work, you know, where your work is like hunting and gathering. And, that's the way people lived for, you know, for the Lenape for a thousand years before the Dutch got here. That, you know, I was once giving a talk at the Brooklyn Historical Society, I was on a panel, and we were talking about Gowanus and one of the other panelists said something about the traditional use of Gowanus as an industrial landscape, right, and how we have to remember them. I said, well, you know, you're [inaudible] a 40-50 year segment of history. What about the salt marshes that were here for tens of thousands of years? Isn't that the traditional use of Gowanus as a salt marsh?

Kate: Is there a reply to that? Was there --

Eric: He kind of looked at me and then he went on to talk about the industrial history of Gowanus, because that was his thing, you know, I mean.

Kate: I know.

Eric: How are you going to respond, right?

Kate: So, this has been really great and I'm sorry for those people who did have some extra questions about Native American populations in New York region at that time, but we can

hopefully address those in the subsequent blog post that will be published. So, stay tuned for that. This session was recorded and will be made live with a blog post and with links to the resources we discussed here and related resources. That will be sent to everyone who registered today, whether or not they could attend, and we'll also publish it in our newsletter where you can also find other previous episodes and other events as well. I'm just going to put something in the chat here about how to stay in touch with us and it's up on the screen as well. You can follow us on Twitter and the best source of current information for subscribing is nypl.org/researchmatters, which will allow you to sign up for our monthly newsletter. So, thank you, Eric and Ian, for a great conversation and thank you everyone for attending and participating. Have a great day.

Eric: Thanks so much [multiple speakers].

Ian: Thank you all so much. Thanks, Kate. Thanks, Eric.