

How Did Precious Lapis Lazuli ...n_ Alison Beach Has Some Ideas

📅 Thu, Oct 26, 2023 1:12PM ⌚ 24:22

SUMMARY KEYWORDS

historians, teeth, women, lapis lazuli, manuscripts, medieval, book, calculus, community, dental, monastery, scribes, year, germany, evidence, skeletal remains, material, archeological, archaeology, middle ages

SPEAKERS

Janet Box-Steffensmeier, Allison Beach, David Staley, Eva Dale, Alison Beach

- E** Eva Dale 00:00
From the heart of the Ohio State University on the Oval, this is Voices of Excellence from the College of Arts and Sciences, with your host, David Staley. Voices focuses on the innovative work being done by faculty and staff in the College of Arts and Sciences at The Ohio State University. From departments as wide ranging as art, astronomy, chemistry and biochemistry, physics, emergent materials, mathematics, and languages, among many others, the college always has something great happening. Join us to find out what's new now.
- D** David Staley 00:32
Alison Beach is an Associate Professor of Medieval History at The Ohio State University College of the Arts and Sciences, where she is a Faculty Affiliate in the Center for the Study of Religion and the Center for Medieval and Renaissance Studies. Welcome to Voices, Dr. Beach.
- A** Alison Beach 00:47
Thank you, thank you for having me.
- D** David Staley 00:49
So you'll forgive me if I remarked that you've been all over the news lately, which is an unusual occurrence for a medievalist.
- A** Alison Beach 00:54

A very, very unusual occurrence.

D David Staley 00:57

So this is based around an archeological find, lapis lazuli. It's an extremely rare pigment that was found in the tartar of a tooth, on a human that was believed to be about 1,000 years old. That's the, that's the general context. What was the archeological find, and how did you get involved in this?

A Alison Beach 01:15

It's a double archeological find because the original excavation was done quite a long time ago, and the skeletal remains that became the focus of this study on the lapis lazuli in the tooth were actually part of skeletal remains that were used at the University of Mainz for many, many years.

D David Staley 01:34

In Germany.

A Alison Beach 01:35

In Germany, yep, as a kind of study tool. So, they were excavated from a community near Paderborn in Germany called Dalheim, which is a not very well known monastic community. And the excavation took place many, many years ago, the skeletons were being used to study and then they were done with them. And what happened was the team, it was a team that was in Zurich at the time, got word that these skeletons were going to be handled correctly and cremated and put back into the ground, and they actually rented a van and they drove and they took the skeletal remains off the hands of the people in Mainz, and started to use them for the kind of work that Tina Warner, who is the PI on the study, now she was in Zurich at the time, they were using them to look at teeth.

D David Staley 02:23

Teeth?

A Alison Beach 02:24

Teeth, yep.

D David Staley 02:25

For what purpose?

A

Alison Beach 02:26

Well, Tina's expertise has been at least partially on dental calculus. So the -

D

David Staley 02:30

Dental calculus?

A

Alison Beach 02:31

Dental calculus, the stuff that the dentist scrapes so diligently off your teeth when you go to have your teeth cleaned. People in the Middle Ages obviously didn't have that kind of cleaning service for their teeth, and when food and bacteria and pollen and lapis lazuli are stuck to that sticky stuff, that becomes calcified and becomes dental calculus, it traps those things into a kind of a matrix. And what the people I think quite brilliantly in Yana, the team is now in Yana and in York, do is they break down that matrix, and they can tell you all kinds of things about what people ate. For example, when did dairy products become part of the human diet? These are the kinds of things they were expecting to see, so maybe what people were eating, what kind of pollen stuck to the gunk in their teeth before it calcified, so they weren't expecting to find anything blue.

D

David Staley 03:27

So, I interviewed a bioarchaeologist a couple episodes back and they were talking about the way that they can examine skeletal remains and answer the kinds of questions you were talking about - what are people eating, what do we know about their diet, and these sorts of things. And so that's how these skeletons were being used, for that sort of purpose?

A

Alison Beach 03:43

Well, they were... and I think a lot of bioarchaeologists who work with teeth look at things like the striations in the teeth, that can be indications of, say, childhood malnutrition or long term sort of health things that are put into the teeth by diet, health, environmental things. The nice thing about dental calculus as a bioarchaeological excavation, like a little mini excavation, is that the dental calculus entraps things that otherwise are lost when somebody's body decays in the ground. These are things that would not have been visible in the bones or in the physical structure of the tooth itself, this is stuff that's on top of the teeth, but that just tells us, it's an amazing window on the lived lives of people for whom we have no other records.

D

David Staley 04:31

So this is 1,000 year-old skeleton, a woman, and they found lapis lazuli. So tell us first of all, aside from what I just said, what is lapis lazuli and why is this such a big deal?

A Alison Beach 04:41

Lapis lazuli is an extremely precious stone. If you think about the, sort of the most brilliant blue you can conjure, that's what lapis lazuli looks like when it's turned into paint, and it stays that color in the Middle Ages. The thing that makes it special, other than the fact that it's extremely valuable, think gold-

D David Staley 04:59

Oh, that valuable, okay.

A Alison Beach 05:01

Even maybe more in some places than gold, because it's only mined in this window, and we have a pretty narrow window for B-78, this female skeleton that we're working with, between the late 10th century, early 12th century. So to get that pigment in her mouth, to get that color in her mouth, that stone has to have travelled - now get this, this is the exciting part, I think one of the exciting parts - it's only mined in one place in Afghanistan at this time. Only one.

D David Staley 05:27

Oh, wow.

A Alison Beach 05:28

Yeah. You can find gold and other places, lapis lazuli in this period is only mined in Afghanistan. So imagine how that has to get to this rather remote, poorly documented, probably poor, religious community in Germany. It has to come, we know from Afghanistan, probably through Byzantium, up through Italy, essentially along the Silk Road. So one of the things that got economic historians excited about the discovery is this is proof of supply chain, whether it got in her teeth because she's book painting, which is our argument, or maybe through medical use, that was one theory we came up with. The fact is, it's lapis lazuli, that's 100% certain. And what it tells us is that's available during this pretty precise window in the Middle Ages. Not unprecedented, we know it's used in manuscripts at the time and in the area, but it's another really clear indication that things are travelling along the Silk Road. There's a supply chain, there's a supply route that's bringing this very precious material from Afghanistan to this relatively remote part of Germany. So that's exciting in and of itself, but that it's in her mouth -

D David Staley 06:37

Well, that was my next question, how does it end up in her mouth?

A

Alison Beach 06:39

Well, we had a lot of... they contacted me, now I came into this project because the people who were already involved are extremely smart, and had good humanistic training. And this is the best sales pitch I can give for giving up this notion of STEM versus the humanities, this is an example of when it worked just right. So the folks in Yana and Tina Warner, our PI, was trained partially in History at Harvard. She has a historian's sensibilities, and when she saw the blue, Anita Radini, our wonderful colleague who actually saw these little blue bits popping out of that dental calculus as they were breaking it down, she was in a huge, important part of the process. When Tina Warner saw that this was lapis lazuli, her historian's radar went up and she said, there's meaning, there's significance here, and we need a historian. And I think that happened just right. I think they actually, like, Googled female scribes, Germany, and I popped up on the Internet, and they emailed me - they claimed I had already emailed them three times before they could reply, because I was so excited, because I could recognize right away, this was something extraordinary, after I got over the ew, gross factor that they were emailing me about some dead woman's dental calculus.

D

David Staley 08:00

So what excited you so much, what's the meaning and significance of it?

A

Alison Beach 08:02

Because I spent my whole career, literally my whole career, looking for evidence and documenting the production of books by women in the Middle Ages. So this has been, this was the subject of my dissertation at Columbia, I've worked on it since, I'm just coming back to it now. And I knew that there was a chance when they contacted me, said this is lapis lazuli, it was all confirmed through scientific means, that this is exactly what it is - it was going to either be medieval medicine, I have nice connections to the medieval medicine community in the Middle... from studying the Middle Ages, but I thought it was much more likely that this was related to the production of books.

D

David Staley 08:42

You'll have to make that connection.

A

Alison Beach 08:43

Alright. So, what they found in the teeth isn't like chunks of stone, it's actually very, very tiny particles of blue that are refined from the stuff that's mined in Afghanistan. What you do when you make blue paint is you take that stone, you grind it and you grind it, and you take the other materials out until you're left with just the blue and maybe one or two other substances that are left in there. Then you mix that blue powder with egg, egg yolk generally, and you create paint. Imagine, like, doing that with gold, okay? So this is very, very valuable, so the painter isn't going to be just slashing blue paint all over the page, they're actually... he or she is going to be taking a brush - this is our theory anyway, and there are artists' manuals that describe

this process - you take the brush, and you put it in your mouth to make a fine point. So your saliva points the brush, and then you dip it in the paint and you make your color onto the animal skin, onto the parchment. And then you repeat the process, filling in gradually as you go those sections that need this beautiful glorious lapis lazuli blue look.

D

David Staley 08:45

How is this tied to books? And so some of that paint got on the plaque of her teeth?

A

Alison Beach 09:54

Before plaque becomes dental calculus that you would have scraped off, it's sticky. It's sticky - I know it's not table talk, though a lot of people have listened to me talk about this over meals lately. The, the process is that the pigment would have been introduced into her oral cavity by repeated pointing of a brush that had some paint left on it. And as Anita Radini, the colleague who actually discovered the lapis in the teeth said, there's a lot of it. This isn't like one or two little flecks of blue, there was a lot over time, it takes a long time for plaque with anything stuck in it to become dental calculus, it's actually kind of, I think it calcifies, I think that's the correct term. So it takes time, this isn't something she did once or twice, this is a repeated thing.

D

David Staley 10:40

So why does that matter, that this woman was using paint with lapis lazuli and putting it in her mouth? Why is this such an important find?

A

Alison Beach 10:48

Well, it's an incremental find in the sense that we knew - we, medieval historians - are aware that women produced some of the most beautiful books that survived from the Middle Ages, but we don't have a lot of sort of smoking guns to say this one did it. So the fact that this woman has so much lapis powder in her dental calculus suggests that she was entrusted with the best possible quality, the highest value materials for book painting. And we have documentary evidence, you know, this isn't just archaeology alone, this is archaeology and science backed by texts. And one of the texts that we can point to, and we do in the Science Advances article, is a letter from a male cleric, head of the workshop, probably of a men's community, saying to a group of women who are right near B-78's community, so maybe, I think it's like 40 miles from Dalheim, a community called Lippoldsberg. And this man's name is Cindold and Cindold says to an unnamed woman, she's only listed as normal in letters with the initial N., we've sent you pigment, leather for the book cover parchment, and we'd like you to produce this beautiful liturgical manuscript. He gives her instructions, and then she writes back a little while later and apologizes for not being finished. But you know, the weather wasn't good, and they had other things to do. The point being that this woman is being sought out as an expert, somebody who is really, really good at illuminating manuscripts, at painting manuscripts. And so B-78 appears to be a woman like that, and we just don't have a lot of evidence for that. And it's really the first and only evidence so far that we have of a person

who's got this activity really inscribed on their body. I met someone when I was visiting Cambridge a couple of weeks ago and she said, its body as archive. And I loved that, she's been so erased from the textual record, from any other source that we have to look for her identity and her activities and her contributions in her body, and I thought that was really an interesting way to look at it.

D David Staley 13:00

Body as archive. As a medieval historian, do you typically use archaeological or physical evidence like this or material culture? I sort of associate historians and looking at texts.

A Alison Beach 13:13

We tend to, and I think the general, I would call it a kind of a material turn that medieval historians are taking right now. I got involved in material culture, kind of accidentally, through a student who took one of my courses in medieval history at OSU, who encouraged me to take part in an archeological dig in Ireland that's become an annual study abroad course that we run at OSU. And I moved there, away from my beloved manuscripts into archeological trenches, which, I think it's gonna be my eighth year there this year, and it's really taught me the value of text and objects in combination. And I learned to talk to anthropologists and archaeologists. Somebody told me it's unusual for an historian to know how to talk to archaeologists, but you can't work with them on a site without understanding that they're interpreting too. You know, they dig something they think, does it look this way, does it go that way? We're all interpreting, and we get a lot farther with the interpretations if we speak to each other. Not saying text is more important than artifact, but looking together to see what story, what explanations we can come up with together. And that's been the greatest joy of my teaching career at OSU, is that I came upon this great archeological excavation, it really changed the way I teach and changed the way I do my own research. So it's been enriching, I think, all around.

D David Staley 14:39

Tell us a little bit more about the study abroad to Ireland.

A Alison Beach 14:43

It's the best. It's a class every year, we take between, say, 16 and 20 students to an active dig in County Meath in Ireland, and we've worked for years very closely with the field school there.

D David Staley 14:56

A field school is...?

A Alison Beach 14:57

A field school is a sort of a training centers set up around either one archeological dig, or maybe they'll move to different places in different years. This one is centered around a 13th century Dominican monastery, a Dominican priory. And each year, the Ohio State students go essentially from the ground, in good years, we get to start where there's grass, and then we go down through history, sometimes 600 years of history, we'll cut down through with our trowels. And the students learn about medieval history and they also learn about public archaeology, because this is a public archaeology project, they meet the people from the town, and they learn the skills of an archaeologist. So they learn how you take levels, if you find something exciting, you need to know where you found it, and they learn all of those things. The nice thing about our site is it's pretty well destroyed, which sounds bad, but you can't break it. So the students can... it's already broken. I tell them, you can't break the monastery, it's already broken. So they are very carefully instructed by our wonderful field school supervisors, but they also don't feel so panic-stricken, that they're going to make some mistake that destroys evidence. So it's a really nice combination of history and archaeology, and I think this is the eighth year that we've done it this year.

D

David Staley 16:13

And to be clear, these are undergraduates.

A

Alison Beach 16:15

These are undergraduates. This past year, I had a student who was studying pharmacy, I've had people doing actuarial science, I've had mathematicians, and a lot of archaeology, anthropology majors and a lot of historians. We've made a bunch of medieval historians out of people, I guess that's a good thing.

D

David Staley 16:34

It is a good thing.

A

Alison Beach 16:36

But people go to Ireland, they experience some of the culture, they live in with families, we do homestays now. So our students really get to know some of the people in the town. At the same time, they're able to interpret some of what we're doing at the site to the folks they're staying with, which is part of the mission of the project as public archaeology.

J

Janet Box-Steffensmeier 16:57

I'm Janet Box-Steffensmeier, Interim Executive Dean and Vice Provost for The Ohio State University College of Arts and Sciences. Did you know that 23 of our programs are nationally ranked as top 25 programs, with more than ten of them in the top ten? That's why we say the College of Arts and Sciences is the intellectual and academic core of The Ohio State University. Learn more about the college at artsandsciences.osu.edu.

D

David Staley 17:22

You had suggested that the archaeologists reached out to you because you work on this problem of female scribes. And I draw attention to your first book women - and I think you were talking about this, *Women as Scribes: Book Production and Monastic Reform in Twelfth-Century Bavaria*, I assume that was the connection there. Tell us a little bit about this book in this research.

A

Alison Beach 17:41

The book is the book version of my dissertation. So I, as a graduate student at Columbia, I was asked by somebody in book conservation if women produced books in the Middle Ages. And I said, no, no monks did that. And I, and I went home and I thought, that doesn't feel right to me, that seems odd. No one was really working on this topic at all, nobody. And I went to my wonderful doctoral advisor, and I said, Pop do you think - Professor Summerville at the time - do you, did women copy books? And he said, no, I don't think so. And then I, he and I decided it would make sense for me to think a little more about that, and I wrote a paper on female scribes in the early Middle Ages. And that became the basis for a dissertation project on female scribes in Germany, and that's how I ended up studying medieval Germany is, that's where the evidence was. So the book is really about three cases, and I find evidence for female scribal activity in three particular communities, and I document that in the book.

D

David Staley 18:43

So help me think this through. Why is that assumption held so long, that women wouldn't have been scribes? Why have women... I mean, obviously, they were, this is what your research has demonstrated, why have they been invisible? What explains that? For the most part, the books that were copied in the monasteries of medieval Europe were copied anonymously. So these are, the vast majority of manuscripts have no names attached to them. So in that absence of names, imagination has created a kind of monk scribe. And this was one of the really interesting things that happened when the paper in *Science Advances* was released, there was a kind of - This was the paper that described the-

A

Allison Beach 19:22

The lapis lazuli paper. We were all very surprised and happy at the media response and the public interest in the story was astonishing. And one of the things that got a bit, maybe more than a bit, exaggerated by the headlines related to this story was oh, women did something! Medieval women did something, oh, exciting, we didn't know this! Well, we did know this. We, medieval historians, know women did things and many of us are aware of how often we know women did copy books, but because of that push for anonymity, which may have been especially strong for women, that kind of extra push that women should be humble, it's a very resilient image of the monk as a scribe. And I can't really, I can't really say why that is, but some of the excitement in the press was, tooth changes history, you know, which was obviously too enthusiastic. But there was a kind of a two fold response, it was a public response, wow, we didn't know women did this, and then the response within the field was more well, Alison Beach

has been working on this for years or other people, we already knew this. But I still have conversations with colleagues in my field when they're holding a manuscript, and they don't quite know where to place it. I have to fight to get them to think maybe, in this context, in this community, you need to imagine a woman as the producer, so I'm still having that conversation. So I can't tell you why that image is so resilient, it's a combination of a priori assumptions about women's lack of involvement in intellectual pursuits, which is wrong, but it's very, very resilient. And without a lot of female signatures, it's hard to prove. It's negative evidence that we're arguing from, which is why this nun B-78 is so exciting. It's there, it's in her body, she did this. People got excited about it, because it's just a cool sort of multidisciplinary detective story, but it's also really important, hands on evidence of female participation in book production. And even though we know women did that, we don't have a whole lot of evidence that's so concrete.

D

David Staley 21:37

You recently published another book, *The Trauma of Monastic Reform*. So what's the trauma that you're referring to here?

A

Allison Beach 21:44

Okay, so the trauma is a cultural trauma. And I don't mean to claim that, and I don't claim in the book, that monastic reform... so what I mean by monastic reform is a team of people from another community show up at a monastery and they say, we're going to change the way you do things here. And when I try to describe this to people in non-medieval... so imagine if somebody showed up at your department and said, sorry, your patterns of administration are going out the window, we know how to do it better. And by the way, the chair is no longer chair, we have this new person, and you're going to do it our way. The argument that I make is that that kind of uninvited change to the culture of the monastery has a lasting impact on what cultural trauma, historians call the cultural tissue of the monastery. There are deep seeded ways that a community organizes itself, unspoken hierarchies, ways of doing things. In the Middle Ages, that was often produced through the public worship of the community called the liturgy. And a lot of times when a monastery was reformed, the liturgy was changed, new books were sent, new experts were sent to tell people how to do it. So my book is about, it's really a case study about the reform of one particular community, and the evidence that is encoded in a single manuscript about the lived experience of that reform.

D

David Staley 23:11


What's next for your research?


A


Allison Beach 23:12

Oh, gosh. Right now I'm working on my third monograph, and I just gave a paper called "Remnants of Monastic Community" or something along those lines. And what I'm trying to do in my next book is to bring together a lot of these insights from material culture and combine them and use them as a window on the lives of medieval religious women in Germany, and try

to say something about their role, not just as sort of victims of male ideas about how religion should be organized, but actually, as models and as sort of living examples of the kinds of piety that were valued in the 11th, the late 11th and 12th century, not just in Germany, actually, but more generally in Western Europe. So that's what I'm working on now.

 David Staley 24:03
Allison Beach. Thank you.

 Allison Beach 24:05
Thank you.

 Eva Dale 24:05
Voices from the Arts and Sciences is produced and recorded at The Ohio State University College of Arts and Sciences Technology Services Studio. Sound engineering by Paul Kotheimer, produced by Doug Dangler. I'm Eva Dale.