

## Connecting the Bones

[E exarc.net/podcast/connecting-bones](https://exarc.net/podcast/connecting-bones)



### Publishing Date

2022-04-01

### Guests

Jillian Garvey (AU) and Sean Desjardins (NL)

### Introduction

It's the first Friday of the month! And that means it's time to listen in to the latest episode of Finally Friday, where this month we will be talking with archaeologists specialised in human-animal relationships in the past, and indigenous archaeology. Have you always wanted to know how people become zooarchaeologists? What it's like studying ancient animals in remote locations like the Australian outback or the Arctic tundra? How people in the past hunted walrus and wallabies? Then this is the episode for you! **Dr Jillian Garvey** is a zooarchaeologist from La Trobe University in Melbourne, Australia. **Dr Sean Desjardins** is also a zooarchaeologist, working at the University of Groningen in the Netherlands, however his research is based in Nunavut, Arctic Canada.

### Transcript

It's the first Friday of the month, which means that it's time for the next episode of #FinallyFriday. Bringing you insights and discussions from around the world focussing on experimental archaeology, ancient technology, archaeological open-air museums and interpretation.

**Matilda:** Hello and welcome to #FinallyFriday. My name is Matilda Siebrecht and today I am joined by two specialists from our EXARC community and abroad, focusing on zooarchaeology and Indigenous collaboration.

Dr. Jillian Garvey is a zooarchaeologist from La Trobe University in Melbourne, Australia. Her research focuses on faunal assemblages from the late Pleistocene and early Ice Age periods of Southern mainland Australia and Tasmania, where her studies include experimental analysis of butchery practices and nutritional quality. She is also interested in looking at the future of animal management in Australia by considering the benefits observed from past and traditional Aboriginal hunting practices.

Dr. Sean Desjardins is also a zooarchaeologist working at the university of Groningen in the Netherlands. However, his research is based in Nunavut, Arctic Canada. His work investigates the relationship between humans and animals, both in terms of subsistence and hunting practices, but also in terms of spiritual worldviews. His current project looks at the effect of climate change and colonialism on Inuit life and traditions.

So welcome to both of you. As you are both, of course, working with Indigenous cultures and on Indigenous land, perhaps you can first mention which land you do currently work on, maybe Jillian first?

**Jillian:** So I live and work on the lands of the Wurundjeri Woi-wurrung people of the Kulin nation in Victoria, but I work with many Indigenous communities, including the palawa community so, Tasmanian Aboriginal people in lutruwita, which is the Aboriginal name for Tasmania. I worked with Ningtait and the First People of the Millewa Mallee up in northwest Victoria. And I also currently work with Dja Dja Wurrung and the Yung Balugclan also from the Kulin nation from central Victoria.

**Matilda:** Thank you. And Sean?

**Sean:** Most of my work takes place in Inuit Nunangat, which is the traditional territories of Inuit in what is now Canada, but I've also worked in Southwestern Alaska with Yup'ik communities and in Kalaallit Nunaat (Greenland) with Inuit communities there. And I'm currently based in the Netherlands.

**Matilda:** Okay, thank you very much. So I have a quick question to start you both off. So Jillian, you arrived here from a more kind of zoology, biology position, whereas Sean, you were always based in archaeology. How do you think those two starting points affect your current research or your path to the present day?

**Jillian:** I started life or my academic or research life as a zoologist, so always been fascinated by animals, especially Australian native fauna and our animals are quite weird to the rest of the world, predominantly strange marsupials and some monotremes. And I went to university to be a park ranger or a vet or a marine biologist. And once I was at university found out that they weren't easy career trajectories to take. And in my second year of university took archaeology because it seemed like a good alternative to doing more chemistry and other subjects that I didn't particularly want to do. And discovered archaeology and especially Aboriginal archaeology, which is something that I've kind of always been interested in and brought up going to visit important sites in Australia like Lake Mungo and other places and learning about Indigenous culture and rock art. And then in my second year of taking archaeology, did a subject called 'The Archaeology of Animals' at La Trobe, and we were the first university in Australia to even introduce a subject that focused on animals and zooarchaeology. And just fell in love with it and thought that this is something that I could do, that I could combine my passion and interest in animals and archaeology. And so from there, I transferred into a double degree to do art science and did as much archaeology and as much zoology as I possibly could. And that's just kind of continued on if you like. I've been really interested in doing traditional zooarchaeological analysis. So that colonial idea of doing assemblage

analyses and the kind of typical things that we think of in archaeology, but I've also become really, really interested in trying to establish important baseline data, so bringing in my zoology background to do nutritional and economic studies of our fauna in Australia to build up a better understanding of how people used animals in the past and what can animals tell us about Aboriginal behaviour and how they use the landscape through time. So that's how I kind of ended up in this field. A very kind of strange place... didn't mean to do it. Didn't mean to start off there, but this is how I've ended up and now I've been doing it for almost 20 years.

**Matilda:** Sean, you started off in archaeology, but not necessarily zooarchaeology, correct? Or was it always from zooarchaeology?

**Sean:** It was always zooarchaeology. I didn't know what I wanted to do when I was in university and I discovered archaeology through coursework. So I didn't grow up, you know, hoping to be an archaeologist. I knew I wanted to go to the Arctic one day and work there. So it was the geography and the landscape and the culture that kind of pulled me in. Archaeology was a way of getting there. Zooarchaeology was simply a logical place to go because with the research..., because animals are such a fundamental part of Inuit culture and Inuit lifeways. So it worked out that the research focus ended up being animals and human-animal relationships over time. But it was never the goal from the start to be an archaeologist or a zooarchaeologist.

**Matilda:** And do you feel that, cause for example, Jillian, you were mentioning how you, indeed, you brought in all your zooarchaeological knowledge and your sort of biological knowledge. Do you think that you would have approached it differently coming from an archaeology perspective? I'm just very curious always when you have such interdisciplinary approaches - and a subject like zooarchaeology is very interdisciplinary - whether different perspectives are brought, but what are the sort of advantages or disadvantages of those perspectives if that makes sense. You know what I'm trying to say, Jillian?

**Jillian:** Yeah, when I meet zooarchaeologists, one of my first questions will always be, do you come from zoology or do you come from archaeology, because that will often govern how people approach it. So, I think it's very much an interdisciplinary field, but like many fields of archaeology, the more understanding you have of a broad range of knowledge, the better that you can interpret the data that you have. So in the end, as zooarchaeologists, usually we are working with animal artefacts to better interpret human behaviour, because that's ultimately as archaeologists what we're doing, they're a proxy. So the more that you can understand about the animals themselves, like how they lived, their ecology, their physiology, their behaviour, the better you can understand how humans interacted with them in the past, how they might've utilized them, moved them across the landscape and so on. So for me, for zooarchaeology to work, you have to have a good grounding in all those different areas. Sean, you come from a different part of the world, I don't know if people in your part of the world have a zoology and an archaeology background typically?

**Sean:** I think the majority of folks have an archaeology background who are working in Arctic North America. One thing that I have found about Arctic archaeologists is that animals are so fundamental to long-term cultural traditions here. In many parts of the Arctic only around 60 years ago, nearly a hundred percent of the diet consisted of animal products, the clothing, the artefacts. Every archaeologist, even the generalists, end up becoming zooarchaeologists by default, even people who focus on material culture, artefacts, need to know something about the raw materials, the bone, the antler, the ivory. You cannot ignore the great abundance and the great preservation of the animal products that you find at these archaeological sites. They're so fundamental to the archaeology that everybody ends up getting some kind of a significant education in zooarchaeological identification and, you know, the number of species available in the environment

here... - it's a hugely productive environment in the Arctic - but the number of species overall that people are acquiring is relatively low. It's six or seven kind of core species that are sustaining people over hundreds of years, depending on the various environments. So, I think that even people who would not necessarily call themselves zooarchaeologists, who work in the Arctic, have probably more practical experience with zooarchaeology than other archaeologists in different parts of the world.

**Jillian:** So in Australia, we are a continent or archaeological, I guess, [sphere] of lithics. Everybody has a basic understanding of stone and stone recording, but not animals at all because, given the arid open environment, semi-arid landscape in which we live, animals don't preserve very well. Probably shell middens are more abundant, but in terms of where you find bone it's caves, rock shelters, middens, hearths, mounds, but you don't find a lot. And so people don't have, and don't need that basic understanding of animals. And so it hasn't been part of what's taught at universities. Very few universities have zooarchaeology included as a fundamental, it might be a lecture. We don't have many specialized or formal zooarchaeologists in Australia. Even now, there's probably a handful of people that I would say are actually qualified zooarchaeologists. And it's not even part of how sites are registered in a lot of places. So it's very, very different, I think, to other parts of the world.

**Sean:** No, I was just going to say that it is interesting because the great abundance of fauna material that we have in the Arctic and the preservation opens so many interesting kind of research corridors for us. And it also creates sometimes a logistical issue, I mean, excavating a house feature for example, a Thule Inuit house feature or a large midden will often result in several hundred pounds of animal bone that is exceptionally well-preserved. We have had animal bones with soft tissue that had preserved over several hundred years. So we're in these active layers above the permafrost, so we have excellent preservation. It opens up all kinds of interesting avenues for research into aDNA, stable isotopes, in addition to the standard kind zooarchaeological analysis that I and others were trained in. It becomes a question also of how one goes about excavating, if you are excavating. But also we just have a great number of bones on the surface and integrated into the architecture of houses that you can see without doing any excavation.

**Jillian:** Our environment is very different. And when you talk about few hundred years, in Australia a lot of the archaeological material that I'm referring to can be tens of thousands of years. So we could be talking about material that is 40-50,000 years old. So we're talking a difference of preservation, but a difference of scale as well.

**Sean:** Difference in scale is something that is often glossed over, but is an important one. We're dealing in the Arctic with a cultural history that extends back, for Thule Inuit, a couple of thousand years. So much, much more recent than what you're dealing with in Australia, for sure.

**Sean:** Yeah, and I think that plays a big role in how we approach it. But when you talk about, with where you work, and even though there's very rich resources, but people are only targeting half a dozen species. We find the same in a lot of the sites that we work on. So I have done a lot of work in Southwest Tasmania, which in present day Australia is a little island on the south of the mainland Australia. On that island we have done a lot of work and La Trobe university and Australian National university and other people over 40 years have done a lot of work in the Southwest part of that state, which has an archaeological signature that spans 30,000 years. So we're talking from basically up until the Holocene right back to about 42,000 years calibrated. And out of some of these cave sites, we have analyzed up to almost a million pieces of bone, from a number of cave and rock shelters. And despite the richness of that place, people are focusing on one or two particular types of prey animals, a medium-size Bennett's wallaby and a wombat, which, I don't

know if you know marsupial fauna, these guys are only 12 to 15 kilos, they're quite small packages of meat. People are selectively butchering them, processing their carcasses in one particular way or another and only bringing certain bones, so the long leg bones, say of these wallabies, back to the cave and processing them, splitting open their bone marrow and other things in ways that we see Inuits and people up in the Arctic processing their animals. And so a lot of the early interpretations at these sites in Tasmania were that people were processing these animals in a way that we could see from places in Europe and up in the Arctic to combat and to get through the last Ice Age. So, there were similarities in how people are processing animals at different high latitudes, if you like, when they're subjected to real climatic stress. So I'm always really fascinated by the Arctic Inuits and how people are processing their animals. Because we see, though we've got different fauna - and we obviously have a much older archaeological record - the way in which people approach processing these animals is really similar, even though they are so different, if you like, Sean. I don't know if you know much about Australian archaeology or how people process animals here, but there's a lot of similarities between very, very distant places.

**Sean:** No, absolutely. That's a theme in zooarchaeological research and zooarchaeological studies, are these very interesting cross-cultural comparisons. You talk about environmental stress. One of the key features of my research, one of the most interesting things that's come out of all of it, it's a kind of process over the past few years. And the pandemic ironically has kind of forced me to take a slow science approach and focus more intensely on some of these questions of environmental adaptation. We have something very interesting going on in the Fox basin region where I work, which is a polynya system that is incredibly productive and a particularly good habitat for walrus. So, for several hundred years, if not around a thousand years, people were intensely hunting walrus, which were very plentiful in the region and this was allowing them to kind of stave off a degree of food insecurity that was probably occurring in many other parts of the Arctic. So a focused attention on one particular animal species is also something, a strategic focus on one animal species, taking advantage of a unique landscape, an icescape, is something that we have encountered in the Arctic as well.

**Jillian:** Wow, I was just thinking, trying to hunt a walrus, how do people hunt? Do they choose the female or the juvenile walrus?

**Sean:** Well, there's not a whole lot of sex selection that goes into the hunting. So most of the walrus are... they're hauled out. So all marine mammals, for those who don't know, need to what we call haul out, which is hoist their bodies onto some kind of stable, dry place. It can be rocky, it can be a beach, it can be an ice flow. And in this part of the Arctic there are ice flows, so the animals are targeted when they're hauled out on the ice flows and they're shot with rifles. Sometimes they're then harpooned to avoid they're being lost, then they're being hauled out, usually with a line in a winch onto an ice flow and then they're butchered there. One interesting question that I often get asked has to do with the differences between pre-modern and contemporary hunting, because this is a hunting practice that continues to this day. A few hundred walrus are still regularly, sustainably, hunted by Inuit in this particular region. So we have a fascinating case where we have a long history that's preserved in the archaeology. We have a recent historic period before settlement and communities in the 1960s that's preserved in people's memories and oral histories, but we also have a modern hunting tradition that is still really active and vibrant and is culturally defining for a lot of Inuit. So I not only look at the archaeology, but I also accompany hunters when they're doing their work so that I can look at how they're processing the animals. And people often ask: what's the difference? I think that the average observer would probably say - if you were able to observe both the pre-modern and the modern hunts side-by-side - that the modern hunts look, sound, smell, feel different in all kinds of ways, but a lot of those differences have to do with the technology, the changes in technology, motor powered boats instead

of sails, rifles instead of lances, for example, rifles instead of bows and arrows in the case of terrestrial hunting. But that's technology and technology changes. It's not static in any culture. If you look at the way the hunts are modelled, the kinds of animals they're going after, where they're hunting them, what they do with the remains, how they process them, a lot of that has not changed significantly over the past several hundred years.

**Jillian:** In Australia there's quite a lot of processing with some of our prey animals for their bone marrow and other things and part of that, we argue, is that Australian native animals, so marsupials, are extremely lean, they don't have a lot of fat available on their carcasses and so people in highly stressed environments, like Southwest Tasmania during the Ice Age or the Last Glacial Maximum 18,000 years ago, needed to compensate their diets with things such as the fat out of the marrow. People getting into the marrow of walrus bones and if they are, how do they break into those bones?

**Sean:** Pinnipeds don't have big marrow cavities.

**Jillian:** That's why I ask the question cause I've tried to break into seal bones and haven't had much success, which is why I asked about the walrus bones...

**Sean:** Really, walrus bones or especially seal bones, pinnipeds bones, are pretty dense, dense cortical bone. The processing for marrow we find with the terrestrial animals. So every time you find caribou remains you'll often find these spiral fractures for breaking open for marrow extraction. I'm not finding a lot of food insecure contexts which I think a lot of settler people and non-Inuit would probably find surprising because they think of the Arctic as a quote unquote marginal environment, but there's a huge amount of ecological productivity and there's no shortage of nutritious material and a lot of fat on an animal like a walrus. They're not particularly lean...or seals.

**Jillian:** Yeah, it's interesting you say that, because there's been arguments made in Australia about why people process some of our animals in the way that they do. And one of the reasons that I got so interested in doing butchery and economic utility and nutritional studies on some of our native fauna was inspired by the work of Lewis Binford and his work on caribou and reindeer and so on, because we were trying to apply his kind of analogies to the way in which we were seeing the Australian record. And of course we were talking about ungulates, so hoofed, placental mammals, and does that apply to our own marsupial fauna? And so some of the patterns that we see does kind of apply to that idea that people are processing the long bones to get the fat. But the interesting thing is we don't think that people were highly stressed in a lot of these environments and processing every part of the animal, because we see with these small wallabies that are 12 to 15 kilos, they're not bringing the whole carcass back to some of these caves and this kind of pattern spans 30,000 years in Southwest Tasmania and Ice Age Tasmania. They're bringing back predominantly the Bennett's wallaby or the rednecked wallaby, but they're only bringing back the lower half of the animal. And they're going for the areas that have the most meat, but also going for the tibia, so the shinbone and the femur, the thigh bone and processing them for their marrow, but they're not going into every single foot bone. They're not bringing back the entire carcass and processing the marrow out of every bit, which is what you'd expect if people were climatically stressed. So there's this differential processing and transportation of these carcasses over 30,000 years over the LGM, the Last Glacial Maximum, doesn't seem to change. And we now have data from teeth annualized studies. So looking at the skeletal chronology, when these wallabies were being killed and hunted and processed, and in some of these caves they're being processed in the summer and in some of these caves they have been processed in the winter. So it's really not what we'd expect from people that are stressed by their climatic conditions.

**Sean:** I was just about to ask about the seasonality and what kind of resolution you have there.

**Jillian:** Well, we're really lucky. So we worked with Anne Pike-Tay from Vassar university, who died a couple of years ago, and she came and did some work in Australia. And she looked at the Bennett's wallabies that we have in Tasmania. And she found..., we're really lucky, I should just backtrack, that the Bennett's wallaby in Tasmania, are seasonal breeders. So we have really marked differences between summer and winter and for this animal in Tasmania, they are seasonal breeders and she looked at a modern population and she was able to see that they were laying down different growth rings at different times of the year, and able to find that signature of winter versus summer. And so she was able to do that baseline modern study and then apply it to the archaeological record from four different sites that we have in Southwest Tasmania, which showed that people were using sites at lower altitude - so when I say that in Australia, I'm talking 30 and 70 meters compared to about 400 meters, so not like the Alps that we have in Europe or the high altitudes that obviously you have up north, but there was a difference - and that the sites that were higher up were being used in winter and the sites lower down being used in summer. And it was counter-intuitive because we thought people were only in those places in the warm up times. So the argument is that we don't think people were stressed. We think this is forward planning, periodic use of these places over 30,000 years.

**Sean:** Well, just to clarify, I do not work in an area of particular high altitude. As Matilda has been with me in the field she can attest we're at the sea level basically. We're in an area that's experiencing isostatic post glacial rebound and so it's relatively flat and in the zooarchaeology, we're finding big seasonal differences in terms of the way people are hunting and how they're processing materials, which makes a lot of sense when you think about the fact that the differences in the land-, sea-, icescapes from one season to the next in the Arctic are so dramatic, it affects how you're able to move around the landscape, what you're able to transport easily. So it's very clear to us what kind of context we're dealing with, whether it's a warm or cold weather zooarchaeological context, in most cases, if there's enough faunal material there. So I'm always interested in these questions of seasonality. Winter walrus hunting for example is, even today, a world apart in terms of how it's practiced and what's done with the carcass, from summer walrus hunting, as just one example. And the same goes for all kinds of marine mammals that are hunted and processed.

**Jillian:** I think that the seasonal resolution that we have in Australia, because we are talking so many thousands of years ago, it's hard. Like, we have kind of a warmer season and a colder season. So we can't pinpoint actual years. We can't pinpoint... were people there in one season or going back over multiple seasons to build up that signature? We can only see patterns. But I will say for Australian context, it's really exciting because this is the first time that we've been able to show through animal remains, zooarchaeological record, seasonal occupation or seasonal behaviour of hunting and processing of these animals. And this is from an area I should also point out that nobody has lived in probably for the last 10,000 years, because after the Holocene the rainforest came back in this part of Tasmania. And so it was thought until some of these cave sites were rediscovered in the early 1980s, we didn't even know that Aboriginal people were living in this part of the landscape. So it has changed our way of thinking about how people used this landscape, but it's opened an understanding to how in tune Aboriginal people were and they obviously are. And I always say to people, it's a fantastic example of how the zooarchaeology and the animal remains can tell you about something about people's behavior. Because if we didn't have the animal remains, we would not be able to discuss or talk about some of these hypotheses and ways of being on the landscape and being 'on Country', as we would say in Australia. So it's really only through the animals that we have this insight into how palawa people in lutruwita were functioning and living on that landscape and living 'with Country'.

**Matilda:** Can I just cut in here? Cause I'm also curious and..., you just alluded to this Jillian and Sean, you mentioned earlier as well the idea that for example, in the Arctic people are still engaging in the same hunting practices that they have been basically for thousands of years, just changed in terms of technology. But so in Australia then Jillian, I mean, because, also one of the nice reasons that you're both guests today is that you both are zooarchaeologist, but you also do engage with local Indigenous communities in your regions. Is it still a big part of Australian Aboriginal culture, the hunting culture, or is it something that can be used as a..., not an analog cause also, obviously there's lots of issues with ethnographic analogy, but is it something that is able to be used as a resource or has it changed too much since the past, because it's such a long time difference that you're looking at?

**Jillian:** It obviously has changed in Australia because of invasion and colonization that happened 250 years ago in Australia. But I think one of the really important things that archaeology can do is that it's a way of finding out tangible.... it's a tangible connection to the past. So, many of the communities that I work with have strong oral history and have a strong connection to Country. They have their stories, they are in tune to their landscape, to their animals, to their skies, to their waterways and for Australian Aboriginal people - and I don't ever want to talk on behalf of First Nations Australians - but they are so in tune to the environment that for them, it's all and one, they are no higher up than the animals. The animals are part of their spiritual being. The animals are their ancestors. And I'm sure Sean will probably say the same thing with the communities he works with. So I see in Australia that the archaeology is a powerful tool that First Nations Australians can use to try and understand what their old people were doing on Country and how their old people and the animals and the plants and everything interacted in the past, now and into the future.

**Matilda:** Sean, do you have something to add?

**Sean:** Well, my role as a researcher I think has changed significantly from when I started, I see myself now that Inuit lifeways and connection to the landscape, just something Jillian mentioned, are so central to a holistic understanding of the past that they should start any conversation about the research. So what I do now is essentially start with what interests the local community..., what interests Inuit about the past and that's where the research questions now start and I've come to see myself as a facilitator. Jillian mentioned that zooarchaeology can be a tool that can be used by the communities, so my hope is that through these sort of Western scientific methods that it somehow can facilitate a deeper understanding of the past that Inuit are so interested in and engaged with. So if that can help in some fundamental way, that's what I'm here to do. But there is such a vibrant, living connection to the past and to those traditional lifeways that engagement, full engagement with the community in a really meaningful way is essential in the Arctic.

**Matilda:** Do you think that, because obviously you both work in regions, as Jillian mentioned, that have been colonized by European cultures. And because of that, I imagine a lot of the history and a lot of the culture was lost through that colonization of the Indigenous communities, I mean. Do you think that archaeology nowadays is becoming more decolonized? I mean, Sean, you were just mentioning an excellent way of approaching it from a less colonial perspective, hopefully. Jillian, do you see that happening in Australia as well? Is it something that's ongoing still?

**Jillian:** I strongly believe that one of the things we need to do in Australia - and I don't know what it's like in the rest of the world - is work out how we are going to decolonize zooarchaeology. Because at present, we come at it from a very western, utilitarian colonial aspect, where we talk about animals in terms of subsistence, what were people eating? How are they using the landscape? Which are great questions. But we're also at the point where we've got to move beyond that and work out, okay, we understand their subsistence, but like Sean has alluded to, these



animals are part of people's beings. Everything is one and the same. First Nations culture does not approach animals in the way in which we would in a western society when we go into a supermarket and we select something off a shelf. When they kill an animal, they know what they're taking. They only take what they have to take. They think about conservation. They think about the long term trajectory of those animals. What are their behaviours going to do? Why are they taking that animal? What's going to happen? Not just to the meat, but to the bone, to the pelt or to the feathers. All of those things are going to be something that means something to people and the way in which they view animals is a very, very different view. And as Sean said, it's holistic, everything is one and the same. They don't use animals like we do for food. And so I think the way in which we approach zooarchaeology and all realms of archaeology and anything that we study has to change because a lot of the world does not view the world like we do. And though the foundations of archaeology is great in a western viewpoint, but if we are going to make meaningful interpretations of the archaeological past, we have to take on that holistic viewpoint. And we have to understand how First Nations peoples view animals, their stories, their totems, all of those things, and how they play into how it might look in the archaeological record. And a lot of that we are not going to get from traditional means of interpreting the past. So digging up and analyzing assemblages isn't going to work because you're not going to get that information from that collection of bone or shell. So that's something I'm still trying to work out how... I might work out in Australia because we often don't even have the bone and shell to start off with. But I think it's something that zooarchaeologists as a collective group, that we need to have more discussions about. And then working with people like Sean, who is working with groups up north, the Northern part of the world, I think is a great starting point.

**Sean:** I think that things are changing and I think that they're generally moving in a better direction, in terms of decolonizing the field. We're still, as Jillian mentioned, trying to figure out the best way to go about this, in consultation with Indigenous communities. I was not instructed by my supervisors, my academic supervisors, on how to engage in a meaningful way with local communities. That was simply not part of the - I hate the word training - but it wasn't part of my academic instruction. And I had to feel my way through that whole process. And it's a long process to work within a community and build a degree of trust over time and to center those Indigenous perspectives in the research, because there is a long, ugly history of research being fundamentally exploitative. I think one of the big problems is one of capacity. We have these colonial structures that tell us what an expert is. An expert in the past, for example, is an archaeologist who has a PhD, perhaps. Even within Nunavut, the kind of self-governing territory within Inuit Nunangat, there are these colonial structures in place that are restrictive and I think need to be fundamentally reexamined. In order to hold an archaeological permit, for example, and research one's own past, if one happens to be Inuit, you have to have at least a master's degree and have two field seasons in the north. I think that that's an unfortunate barrier for experts who would otherwise be ideally suited to investigate their pasts.

**Matilda:** Thank you very much for that very interesting discussion. I think that's a nice point to start wrapping things up. That was a really nice ending point that you were both making about the sort of future and how we should continue, but I also want to ask what your personal plans are for the future in terms of your research or other projects, and also how you think listeners, so from our EXARC community and other listeners, can help to make a difference in regards to those points that you just discussed today. So, Jillian, perhaps you want to go first?

**Jillian:** That's a big question! I guess my kind of area is delving more into the zooarchaeology of Australia. It's not an easy thing to do. One of the things I've become really interested in in the last few years is working alongside First Nations communities to try and document how they see animals today, how they talk about animals, the language names that they used for animals, how they relate to the constellations in the sky, cause that's a really important part. What they want to tell

us too, which obviously is at the forefront of any communication with any First Nations community. What do they see as appropriate? Because we have things in Australia that are men's business or women's business and so on. How and why we can work together, what kind of questions they're interested in. For me fundamentally, I'm interested in any way in which animals are used in Australia. So whether it's for food, byproducts - I hate that word - but for ornamentation, for decoration, ceremony, artwork, probably the more interesting ways, because in the end animals for First Nations people, it isn't about food. Food is really a secondary product, which maybe that's how we have to change our fundamental approach. We don't think of animals as eating and then you use the leftovers. Animals when they're sacrificed by First Nations people, they've got a real purpose. Like people don't kill animals without a purpose. They know what they're doing. If First Nations Australians go up to a cluster of emu eggs, they don't take all the eggs. They take one or two, they leave the majority. They know what they're doing. They're the first farmers, conservationists, marine biologists, all of that. And I think probably that's the thing I need to take away is that for zooarchaeology to work into the future, we have to understand that if you work with First Nations communities, that they actually understand more about what's going on with the animals than the archaeologists ever will.

**Sean:** And to follow up on that with dispensing with the idea of outside expertise. As a settler archaeologist, I don't fundamentally know more about this environment than the people with a deep connection to it who've grown up there. That is something the field needs to examine, I think, a little more closely. Jillian mentioned the idea of different world views. This is also something we need to fundamentally think about, not just in Indigenous archaeological contexts, but I think across the field. So, one thing that I would encourage everybody listening to do, is to go seek out the literature on Indigenous-focused approaches to archaeology, Indigenous methodologies for research in the past and different ways of knowing, different ontological systems, different world views. I think even if you're working in an area where there's not currently an Indigenous population or an Indigenous legacy, that understanding and knowing these approaches to the research, I'm sure will influence and positively affect your work. In terms of what I'm doing next, I'm continuing the research, right now, into how people over the past few hundred years used the landscape, utilized the animals and how that was affected by the shift in climate during the Little Ice Age and ultimately into the 19th and 20th centuries, the colonial shift into permanent settled communities. So that work will continue. And again, it's going to be governed by what communities I'm working with feel they want to know more about. And I find that their interests are generally the ones that generate the most interesting questions.

**Matilda:** Well, thank you very much to both Jillian and Sean for joining us today and sharing your experience and your expertise. I know that I definitely learned a lot, I'm sure our listeners did as well. And thank you to everyone else for listening to this episode of #FinallyFriday by EXARC. If you would like to become more involved with EXARC why not become a member? Alternatively, you can make small PayPal donations through the website to help support EXARC in its endeavours, such as this podcast.

Join us next month for another episode of #FinallyFriday and learn more all about the world of experimental archaeology, ancient technology, archaeological open-air museums and interpretation. Don't forget to follow the show through [exarc.net](http://exarc.net) and our associated social media channels. See you soon!