

Tanning, Tools, and Talking

E exarc.net/podcast/tanning-tools-and-talking



Recording Date

2020-05-29

Guests

Theresa Emmerich Kamper (UK) and Ian Dennis (UK)

Introduction

This episode of **The EXARC Show** features Finally Friday guests Theresa Emmerich Kamper and Ian Dennis for “Tanning, Tools, and Talking”. Our guests this month bring a wealth of skills to the workshop, and have spent years teaching those skills. Host Matilda Siebrecht talks our guests through the value that hands-on expert knowledge brings to experimental archaeology. Tune in for further chat about the joy of accidental discoveries, challenges to the ideas of "women's work" and "men's work", and the lifelong benefits of letting kids explore the world with their hands.

Transcript

Matilda: Hello and welcome to #FinallyFriday! This chat session is run by EXARC, the society for archaeological open-air museums, experimental archaeology, ancient technology, and interpretation. My name is Matilda Siebrecht and today I am joined by two EXARC members who focus on public outreach, prehistoric technologies, and specialist knowledge in experimental archaeology.

Ian Dennis is a field archaeologist, archaeological illustrator and experimental archaeologist based at Cardiff University in Wales. His research focuses on the use of experimental archaeology to explore craft, manufacturing techniques, from the Mesolithic, Neolithic, Bronze Age and Norse Britain. This research is based in multiple technologies, from flint to ceramics, but is currently focussing on antler combs. Ian also demonstrates prehistoric technologies at public events and festivals.

Theresa Kamper is a materials analyst and experimental archaeologist specializing in leather and tanning technologies in a range of time periods. Her research focuses on the microscopic analysis of tanning technologies and skin morphology, as well as producing accurate replicas of archaeological

leather artefacts. Theresa also provides a variety of different workshops for the public as well as demonstrations at museums around the world.

So welcome to both of you, Ian and Theresa. I do have one question to start you off with. So Ian you have a relatively wide range of experience in terms of the technologies you investigate, so flint, antler bone, ceramics. Theresa, you're very specialized in one particular technology, that of leather working, so for both of you: what do you think of the pros and the cons of these different approaches, so having a broader range of technologies versus specialization in one technology?

Theresa: Personally I guess I feel like the ability to focus all of my energy and time on studying one subject in a very in-depth way gives me time to chase down all of the little details on the subject, that, perhaps, if I had a wider focus I might not have time to do. However, I have to be really careful, I feel, to take a step back once in a while, and just make sure you're not missing the forest for the trees, so to speak. You want to really keep your subject firmly contextualized, just one activity amongst many that were being done as part of daily life, in the periods that we're looking at. Then one other con that I think, when you get very specialized in one specific thing, is really specialist use of terminology, and if you're talking to another leather specialist you're going to use a whole suite of words, perhaps, are not going to be the most effective way to communicate with a more general audience when you're in these open-air museum settings, and you're speaking with the general public, you have to be really aware of that, that you're not just throwing out words that make no sense to anybody but you. What do you think Ian?

Ian: Kind of like what you do, but I take the view that I like to be like a Jack-of-all-trades. It was something that my granddad said to me when I was younger, and it is how I've learned all my various skills across...I do, whether it be bone working, ceramics, carving, metal working and stuff like that yeah. So, unlike...not similar to what you do, I like to focus on lots of various skills, materials and uses within archaeology and craft work. You can focus on each one, if you're, excuse the phrase, you're a little OCD like myself, you get drawn into them if you're gritty of what you do anyway. So it's like attention deficit I get sometimes, you can concentrate really hard on it, for a long period, and you want to move on and do something else, and something else. And then you do these aspects of what you're looking at in-depth, yeah, but then you come back again to something that you started, antler combs or the bone working or the flint knapping. I'll come back, revisit and then go through it all again. I think it's just something that you need, building up those skill sets gives you a little bit of, I like the versatility of what I can do, and how I can input into various aspects within archaeology, experimental archaeology, experiential you-name-it, you put into it. I do sort of agree a lot with Theresa and I do agree about the terminology. Archaeology is very good at that and it does alienate people outside if you sit there and use your terminology and special words for everything, and I think that's very important and I'm glad you brought that up because doing outreach and what we're doing engaging with the public, if you start to use very specialized words, they start to feel patronized and you pick up on that pretty quickly. You do have to slip into layman's terms as we call it.

Theresa: Yeah absolutely, the ability to just communicate in such a way that everybody in the audience is drawn into the discussion and feels like they really understand what you're talking about. You can use specialty words, but just stop and explain what they mean. No one is going to feel like you're treating them like they're stupid if you explain a specialist word. If you're out there and gloss right over it, you lose people's attention very quickly.

Ian: I agree on that one, most definitely. Reading people is part of our game. Open-air museums, and re-enactors and anyone who engages with that. You do tend to read your audience and you meet groups of people, families, or people that you want to chat to. And the more experienced you get, you can quickly turn into how they want you to talk to them and stuff like that, and it then becomes a very friendly, open, funny chat most of the time, it's great fun.

Theresa: Absolutely. One of the best parts, I think, about doing these demonstrations and talks in these museum settings is that they're very informal, it's not like getting up on a podium and giving a presentation at a conference. You really do have one-on-one interaction with a lot of the people in the group and we're conveying information and that is possibly more effective.

Ian: Being informal, and keeping it friendly is key. You don't want to set yourself up on a pedestal or give something like you do at a conference. It's not that highbrow in a sense. You try to convey information and enjoy whatever you're at, all these festivals or wherever you're at in the open days, they're all fun. It's fun isn't it, you know, once they see that you're enthusiastic they'll feed off your enthusiasm. That's also something that I've also noted that's quite fun.

Theresa: Absolutely, I completely agree. You get back the energy you put out.

Matilda: So you mentioned the fact that you do these sort of more informal things as well as the formal sort of academic conferences. So you both combine academic research with more practical experience. How does this combination of viewpoints, the very almost scientific academic research side of things versus the more informal kind of practical experience of the technology, how does this help you in your research? Do you feel one is more important? Or one is more necessary?

Theresa: Not sure that one is more important than the other and I think putting them in some sort of hierarchy like that is actually very detrimental to our overall goal. They work in synergy, you need both. I would absolutely say that my real world experience, my practical experience with my specialty area, that experience allows me to ask more targeted questions, as I can discount things I know from my personal experience don't work or don't work very well and focus instead on the things which do. Those things that work well are the things that were more likely to have been used by early peoples. They spent most of their lives producing and using these technologies and in some climates when it comes to fur and leather is, you know, really being good at this, the difference between life and death. So I really feel like the real world, the practical experience feeds into your academic research and the academic research then creates information that feeds back into communities of craft practice that work with these sorts of technology. Sometimes it's very difficult for these communities to get information on the latest finds, archaeological finds, because it's tied up in journals that they simply don't have access to.

Ian: You do need to be on a balance, what you do for academia and for what you do with your practical skills. Having the practical skills, especially when you're doing sort of experimental archaeology and it's working with artefacts and writing reports on artefacts like a flint report or an antler report etc. which I do, having the skill sets of understanding how they're made, done the experiments and worked out the sequences of construction or materials used etc. etc. is key to what you do. A lot of academia or reports and papers before on artefacts, as we were discussing, is sometimes lacking how it's made, and just assumes that you know it and assumes that that is the way without any other investigation and we see that massively now, and I find that understanding the material, doing the experimental, doing the experiential, adds massively to your academic input and the research that you can do, and also involve others with it as well.

Theresa: Absolutely, could not agree more.

Matilda: Would you say then that it is always necessary to have technological specialists involved in experimental archaeology and do you think this is done enough in current experimental research?

Theresa: There's a tricky question. I would say personally that that sort of depends on the experiment. However, ones that have a serious focus on technology, if you don't have someone who is very good at reproducing and using – those are separate things, it often gets a little bit lost in the

shuffle, that you do also need to be able to use a tool effectively as well as produce it accurately. And if you don't have someone who has those skill sets don't think your experiment is probably as robust as it could be. Ian, how do you feel about that?

Ian: I agree, completely. We do need the specialists and engaging with the specialists we keep, as you say, sometimes you've got a certain level of skills that you can do with your experiment. If you do have a specialist on hand or you know, or you can bring in, you can discuss your ideas, why you think it is and how to use certain tools etc. to discuss, which is very important. And they may be able to put you on the right line, show you, or even do some of the work for you and you can accredit them. So, you're involving them within the research and not only will they add the input of showing you what to do, they know that they're being published in your work and what you learn and for further outputs as well. So, I do bring in outsiders as well, yeah. They are essential, I think.

Theresa: Absolutely, absolutely. I think it's essential, in the sense that early peoples were using these things on a daily basis. They were really competent. You really want an experiment that reflects that level of competence that you would have been seeing in these past time periods. Then getting craft specialists on board is incredibly important and I love that you made the point about accrediting them, they're involved in the research so should get that recognition. It goes with a little bit of publicity for them in the long run. For a lot of people, these craftspeople, actually make a living doing what they do. And a little bit of notoriety, a paper, doesn't hurt anybody at all, and it's fair.

Ian: And I think this plays well with re-enactors and re-enacting societies as well, who, I think we haven't used as much. I think Europe's far more ahead of Britain with the use of re-enactors and how they're involved and a much larger community as well. But Britain is beginning to move on quite quick and it is very popular now. I found in the early stages, ten, twelve years ago, to engage with re-enactors to look at what they're using, at what they're making and there's some very skilled people out there, and they're completely dedicated to what they do. Using them and involving them and even offering them access to come and look in the university at the real artefacts they never get a chance to look at, that they can take scale photos and they can hold the objects, gives them a much better input to their subject that they want to live and show to the public.

Theresa: Absolutely, yeah, so again, it's just that cyclical setup, that symbiotic relationship between academia and these communities' craft practice. It's only fair that they get something for what they give back. If they're giving us their hard earned knowledge and information it's wonderful to be able to find ways to, in essence, to repay that.

Ian: Agree.

Matilda: So, related to this, both of you are quite technologically specialized, even though obviously Ian, you're in a broad range but you still know how to do woodworking, comb working, antler working, and Theresa obviously you are extremely adept at tanning yourself, you run workshops, you teach people how to do it. How experienced were you in your technological focus before you started academic research? Do you think that it's possible for people to not be specialized in the technology but just work with a technologist if that makes sense? Or do you think it's important to have that experience yourself?

Ian: I think you do need some experience with the tools and the material that you want to work on or do research on or do experiments with. It's the experiential side that will give you that experience that allows you then to take you forward to do some experimental work. I think this is important. Once you've got to a certain level and a good grounding in the tool usage of the subject or the craft that you're looking at, having a specialist alongside you or working with somebody who knows it, will only help you. It's just admitting that you're not as good as you what you think you are in the short term. So, there's always somebody better than you out there and just accept it. So if you can find

these people and feed off and then learn, and use them and enhance your skills which helps your experiment with their involvement I think that's key. I know it's a bit sharp and to the point but - do you agree Theresa?

Theresa: I do, absolutely. Yes, I think that as long as the researcher getting some level of experience will mean that then you have a much more productive discussion with that expert that you do bring on board, or with that specialist, so that in and of itself helps. And then secondarily, having some experience with the tools or the technology that you're wanting to do an experiment on, will give you a better understanding of the variables that you're going to run into. And I think that can really help you focus your hypothesis, the question you're actually trying to ask, as well as design your methodology. Sort of that scientific level of experimentation that's really important that your methodology is really dialled in. And having a good understanding of the potential variables and problems that you're going to run into in the course of the experiment. They do help with that. And, Matilda, you did ask about what level of experience we had before we came into academia. And I think we both came in with a certain level of experience. For myself, I started tanning when I was eleven actually and was not successful until I was thirteen. My parents did put up with a lot of interesting experiential archaeology, as we'll put it, in the backyard. And then I consistently tanned skins all the way until I came back to university when I was 29. I did have a very solid thesis in my specialty field already. However, the academic pursuit of it really opened up a lot of avenues within it that I had not tried. I had no experience for a long time, I had to learn that in order to do the PhD. I had done some vegetable tanning but it wasn't my main focus. I ended up learning a number of different variations of the fat tans that I had never experimented or experienced before, so it did push me to refine my craft and expand it at the same time. I'm sure, Ian, you found some of those same sorts of issues while you made your way through the academic sphere.

Ian: Yes, like you I started young. It was to do with the family, with my granddad, my uncle, tool maker, a woodworker, carpenter, carver. So I was taught very young how to use tools, various tools on various materials, often in an everyday life situation I suppose. Going the way through I was shown how to hunt and shoot and bits and pieces, but it was all just part of everyday life to me. And moving on as you get older, I was into sort of building and restoring motorcycles and Land Rovers, so you get that hands-on with technology, mechanics and everything. And using those skills within academia was, like you said, I can now apply them. When I first came to university and you go through it, and you're doing your post-graduate stuff etc. and you're moving on, all of a sudden all these skill sets and things that you have learned when we were younger, I can now start to apply stuff that I didn't even know existed. All of a sudden it was like, wow, I found a discipline now where I can really put what I've learned from the past and gained, to the test! You know as you say you do find areas where it's like, I've got a shortfall there. So I don't know about you, but I would go out, read about it, find people that have done it, and just try it. And one of things I always say, you can't do everything perfect to start with. You've got to break things, cut yourself with flint, it's got to go wrong for you to advance and increase your knowledge of what you're doing and what you're about.

Theresa: I completely agree with that, completely. Anything that I ran into as I went through that I thought, oh I've never heard of grain on fat tan. I'd been doing this for years and I'd never run into this but archaeologically it exists. So I was doing it, so then you go about saying, all right, well, let's figure out how that was done. And then usually you know I start looking, you start hunting ethnographically. Does anybody else do this already? You don't have to reinvent the wheel. Sort of that line of research opens up one more thing, you're finding things, like a skin that's barely vegetable tanned, but technically it is vegetable, and even though the inside isn't all the way done, as in some northern climates around the world, and you go from there and find the things that are technically a fat tan but actually they've never been worked soft so they've got the oxidation but they don't have the same fibre structure. And then you're sitting around and trying to figure out, ok, can you produce that? It's a never ending process and it really does push you forward and forward.

Ian: Knowing your materials and understanding them and trying to think a way round things. I've got an example like you had when I'd been working antler and, obviously I look at all aspects, not just the combs, that you can make from them like bits of bracelets that I've come across in the fourth, fifth, right through the seventh century AD. I was just in my office on a Friday afternoon, and I'd been reading a record of how these were done and they say nobody has actually attained it or done it or reached it yet. Or how to make these bangles or, if you want, wrist bands out of antler. So I was sitting there, it was a Friday afternoon, and I got a piece of antler, whittle it down to the size that they say, it's a long strip, and just steamed it over the kettle and stuck in a coffee mug. And because it's antler, it's so hygroscopic. Soaking it in milk or water for hours it just doesn't do anything, but in steam it's amazing, because it just turns into this really pliable sort of, it's like a nail, it's like when your nails go soft in the tub. As I put it in my coffee cup and I took it out after 15 minutes, perfect form, went home, popped into rivets and then decorated it.

Theresa: Brilliant.

Ian: And that came just by random, I was just bored, on a Friday afternoon before I went home. And I'd been reading, that was it. Yeah, so, you do come across problems and it is sometimes the most simple ways you just overlook. I believed we soaked it in milk for a week and we did this like, but why?

Theresa: You know when you look back in history and prehistory it's this kind of creativity comes from, you know, accidental sources all the time. Curiosity feeds all kinds of crazy solutions and innovations. We laugh about things that we find out this way now, but heck, that's where 90% of our technology came from.

Ian: Yeah, it is. Will that hurt me if I do that, yes, ah, I knew that

Matilda: I'm gonna cut in here with the final question of the day. Thank you so much for the interesting discussion so far. The final question before we open this up for our listeners. What are your plans for the future or is there anything exciting going on now? And also how can the EXARC community help to make a difference in regards to the points that you discussed today do you think?

Theresa: Oh well, let's see, exciting things that are upcoming. I guess the obvious one here is, that yes, I have a book. It is the culmination of my PhD, that's now being published. It's at Sidestone Press and it's worth saying here that this is not a 'how to' manual on tanning. It is a book that has to do with how do we identify tannage technologies, so leather that still exists, so extant archaeological finds that are leather-based. So don't get too excited that this is going to be the end-all book on how you tan skins, it's not set up for that. It does, however, have one chapter that gives you some pretty good run-throughs of most of the tannage technology. It has a little bit of something for everyone. In addition to that yes, I've just got a website put up now, which is always great:

<https://www.theresaemmerich.com/>  exactly that exciting, but there you are. Just kind of running through what I offer as far as museum analysis, open-air demonstrations, and practical hands-on courses. I came across EXARC when I was part of the OpenArch project via the University of Exeter and it just provides some fantastic networking opportunities, anytime I need to get hold of a museum I just contact EXARC and I am put in contact with the people there that I need to be put in contact with. In addition to that, the wonderful conferences they put on, are just a fantastic platform for getting research, especially very targeted research, out to a group of interested individuals, which is something that's more difficult to do perhaps in our field since it is a bit niche. That's basically what I've been using EXARC for and I think it's a fantastic organisation and I certainly plan to continue as a member for as long as possible.

As far as EXARC members can take away from some of the points we talked about today I think

really just focussing on getting good information, making sure that that information is factual, that it's backed up by good research, and communicating that effectively in these sort of situations if you're one of those people that this is something that you do. You know you go out and talk about the past to the general public, making sure that you explain to them the most accurate knowledge to the best of your ability, the best of your ability to do that kind of research. That's important.

Ian: For what we've got coming up I suppose exciting, I've been developing some experimental and some experiential modules within undergraduate and postgraduate taught schemes. I'm quite excited about that but actually going down the official line. I've been writing up a lot of stuff. I've got some of the antler comb work that I've published with Neil Sharples and I'm editing that to publish on EXARC with some of the research, and tools that I've come across for people to look at for making antler combs. And also I'm working and making the tools that you use, so that's a few bits and pieces coming through on that side. But one of our main focuses at the moment, and it's not experimental or experiential but it's just archaeology and excavations within Germany that I'm doing on some Iron Age stuff, there I'm actually finding new forms and types of pottery, it's very interesting, and I spoke to a few potters, and they don't really know how it's made, with this what we call a saggy slip. So I'm already working on another experiment with a student to start looking at this type of pot. It's really weird, it's called the routware. So I spoke to a load of potters or many potters, in Germany and mainly in Cardiff as well, and they don't really know how they've done this. It's as if the pottery's melted and then set. It's really quite, and these vessels they're really large, they're up to 50 cm wide and 50 cm high. They're not small vessels. And so, yeah, I'm moving on to another experiment using my students and bringing them on.

As for the final part I agree mainly with what Theresa said that the community is to carry on doing what they're doing. Every year EXARC just grows stronger and more robust with people coming in with really good experiments, with good testing and as you can see the skill sets, skill bases of people involved in EXARC and also the range of people that are now coming in to EXARC. I think the community is expanding and is getting stronger and I think it's gonna go really well. I think more and more people listen to these and I'm plugging my students to join as well. So yeah and once they do get to know about EXARC, great, and I think the community is only going to get stronger and stronger as this goes on.

Matilda: In case there's anyone who's listening today and has any ideas about the saggy slip, please do contact us.

Ian: I can, if they want, I can send them photographs and information on the pottery and where it's from and the period. Yeah it's one of these vessels that seems to be quite recurring and we don't know really how it's made or what it's really used for. Anyhow, for any help I would be grateful. Gratefully accepted and acknowledged.

Theresa: I think that's exactly what this kind of thing is so wonderful for, is getting that kind of help, I think that's great!

Ian: Yeah, you plugged your book and I'm going to plug: How can I make this pot?!

Theresa: Absolutely, perfect, sounds wonderful!

Matilda: So that's basically it for the pre-recorded session, I hope that everyone enjoyed that and we will now be having a live Q&A session for people who have been listening in to the discussion so far.

As we already have a couple of questions. One question from David Woodcraft for both of you, although maybe especially for Ian, do you ever experience situations, where you wanted to craft one thing or replicate one thing and it led to several other projects, for example because you first had to

make a specialised tool that involved using a different material or something like that?

Ian: Yes, absolutely, I have to agree with that. It's so true, you start something, you start to make a tool, as you said, to do stuff, and you end up having a whole Pandora's box, of other skill sets or other materials or other tools that you need, or you think you might need so you get distracted, and sometimes it's a good distraction, but also not so good because it takes you away from what you're primary doing. In the end you realise if you don't do that, you can't actually do what you're trying to experiment with, or how you're trying to make a tool, or something from the material using the tool. So, yeah, that's the fun of it. That's the part of it. That's the bit which is also opening up your skill sets all the time, and if you don't come across that, then maybe you're stuck in sort of a blind alley, but looking to the side and being distracted, to me is a natural progression to expanding your skill sets.

Theresa: Absolutely, I couldn't agree more. I think as I've come forward in my understanding of my technology of the skin working, one of the things you find is that as you walk that technology backwards through time, instead of the fairly modern tools that I use just to produce skins you know, nothing to do with the experimental work but more to do with your craft, and going backward in time and needing to produce tools that are now made of out of bone, made out of stone, made out of wood, these really do extend into little side-lines looking at use-wear on bone tools, looking at use-wear on stone tools and what tools were used to produce the tools that you now need for tanning. And it can become an expansive field quite quickly.

Matilda: A never-ending rabbit hole basically. Worse than YouTube some might say. We have actually quite an interesting question here from Diana Ayapova. I think she mentioned in her meet and greet that she's quite new to the field of experimental archaeology and she has a very simple question but probably quite a complex answer: How do you find a hypothesis to be tested through experimental archaeology?

Theresa: Well, coming up with your hypothesis, coming up with your question, if I understand the question correctly you're asking: how does one actually come up with a question?

Matilda: Exactly, for us experimental archaeologists it's quite second nature but for those who are just starting, what sort of advice would you offer?

Theresa: Oftentimes, for myself anyway, you go back to the archaeological record and you find, for example, a tool there is three or four different proposed uses for, and your question can be as simple as: which use is going to be the best supported one? You would then remake that tool using period-appropriate technologies so that all of your manufacturing marks, striations and things, would match the archaeological record. You use three or four of these tools on, you know, each tool on a different medium, say skin, bone, wood whatever it is, and then you take those tools and you analyse them just by visual analysis, or microscopic analysis and then you would compare things like those use-wear striations back to the archaeological original. Whichever one matches best is the one most likely to be your answer.

Ian: I do agree, reading was one of the first things that got me hooked into looking at experimental or experiential archaeology as well, and not only just the reading, fortunately as I said I was an illustrator so I had hands-on to various amounts of artefacts of different types and materials, and it was by observations from the illustration that led me to the library to look up academic research and resources that had been written about and objects and then you start to follow on. If you read it and analyse it, you'll spot little gaps that you can see where you can start to ask questions and put new information forward and bring it to the forefront.

Matilda: Yeah, perfect. So I think also Diana and any other starting experimental archaeologists who are listening today: definitely get in touch with us at EXARC, we can put you in contact with anyone who can help you just give you a bit of a head start. We have a lot of expertise here for you

here to use.

Our next question is from Julia, so this is for both of you: what are the most frustrating crafting generalisations or simplifications, underestimations that you see commonly given about your different specialist craft areas? Are these generalisations purveyed more by public perceptions or actually by academics without the same sort of practical experimental experience that you identify as such an important part of these material studies?

Theresa: This is a good question, yes, that's fun. There are two notable ones that I get all the time. One is chewing skins, it is something that is absolutely embedded in the brain of the general public, and you see it repeated as well in academic papers. It's not to say that someone could not chew a hide soft, whether when you're talking about groups you need 30 to 40 skins per year, just for three or four people, it's an incredibly inefficient number one, way to soften a skin, and two, it's just physiologically impossible. You would have no teeth by the time you are twenty. It's a ridiculous concept. And then the second one is the fact that early peoples ran around wearing rawhide. Rawhide is a really specialist product, it's hard, it has not been worked soft in any way, shape or form, and where it's a very useful utilitarian product, incredibly useful, it's not a clothing product, except for perhaps shoes and you can get away with hats and things like that out of it. It doesn't withstand any sort of environmental issues very well. If you're really getting wet and dry, wet and dry. And that's another one, you don't get from the general public so much but you do read it in academic discourse quite a lot, and it harkens back to just some terminology confusion between commercial terminology for what counts as leather and what doesn't. So it's things like this that pop up over and over that you feel like you do spend a lot of time sort of banging your head against a wall to change the general perception. You have to put forward a more accurate understanding of the past.

Ian: Yes, I agree. I do run into, say, more reading in academia rather than general working with the public, where you get examples of: oh, and this craftsperson just knocks it out and does that. There's no real thought behind how some of these objects and skills from the past and right through, are applied. I don't know if they just don't understand processes of how these skills take years and years to develop, it's not something you go: oh, pff, learned that overnight, no problem. So you have to allow for more people learning what the skills are within the subject other than just some time to say for example: "ah, you just draw objects. No!" There are examples of right through - it doesn't need to be just experimental and experiential - but right through other areas, where generalisations are made. I do think I get more from reading in academia than I do from the general public. The general public seem to be more inquisitive and they really get down to asking a lot of good, interesting questions and they really seem interested in what we're doing as well.

Matilda: Actually related to that, there's this excellent question from Louise Mumford: when working with the public, you always get something back, either really useful insights from craftspeople who happen to turn up, or else incredible stories from the past that is sparked by your work. She mentions, Theresa, the story about St Fagans about the World War II rabbit skin rug?. That is something that you might remember? And she asks then: what are the most useful technological insights that you've had this way, or what are your favourite stories that have been inspired by people seeing you work when working with the public?

Theresa: I don't actually remember the rabbit skin rug unfortunately, that sounds fantastic. Hm, I have to question her about that again afterward. Probably it would be the time that somebody explained to me that one of her great-grandmothers used to brain tan, fat tan, so a North-American variation on fat tanning, and she would lay the white brain-tanned skins out in the sun. This would have been in the desert South-West so hot bright sun, and she said that her grandmother felt that she did not have to smoke these skins afterward and they had a more, better increased ability to be wetted and then often, without a heavy re-softening period being involved. After hearing this,

between that information and my chemistry background, I was able to go oh, oh my goodness, UV will actually help with the oxidation of oils I'm wondering if: could UV be a factor in producing a white fat-tanning, unsmoked fat tan that has improved rewetting qualities and yes, the answer is yes, it can. It was pretty fantastic.

Matilda: Yeah, that sounds great. Do you have any nice stories, Ian?

Ian: When you're meeting, or when you're working with people, whether it be outreach, or in archaeology or even just generally meeting people as you do stuff in the countryside a lot when I was younger and during archaeology, is that you meet various people with some fantastic old skills and they sort of come to you and say: "Oh, you know, if you hold this tool this way, you'll find that it does this." And sometimes, it's just so obvious and you just can't see it the wood for the trees and rotating a certain tool, I think it was – I can't remember – it was a certain chisel I was using, I could actually create a smoother effect and a quicker finish on a piece of bone or antler than using what we would see as conventional, and it's little skills and little, like what Theresa was saying, you know, things you don't think about, they're coming from a different direction and you ask them. I got one that is not related, but I remember when I first learned to skin a pheasant and it was, cause it had been a road kill, one of the guys at the archaeological site who were farm workers, "oh, you don't want to be doing that", he says, "you want to skin it", and I'd never come across skinning a pheasant, I'd never thought about it before, because obviously usually just cook it with it on. Oh my god, it was brilliant. And this was some 25 years ago, 30 years ago, when I first learned that skill so yeah, it's one of my funniest. It was quite good. These are all essential skills and little traits that people need to pass on. And I think that working with people that come around to see us what we do and also there is, as I said, the re-enactors, when we can work with those as well because they'll put a lot of tools to the ultimate test and take them from one end of the scale to the other, so I really do think that it is impressive how we can learn different skills.

Matilda: That also relates to what you both were saying earlier as well about the need to incorporate that specialist knowledge and also what you were saying about there's actually more about generalisations and simplifications made by academics without practical experience than there are from public people, so yeah definitely an interesting aspect of it.

Caroline has a question: for both of you, so again: you have a lot of interaction with the general public. Have you noticed any surprising ways that men versus women behave in your workshops or teaching sessions or demonstrations? How about for example younger people versus older people or any sort of demographic variation?

Ian: I've noticed, I do a lot, I've done some outreach work, we had projects, and I was working with some colleagues from Cardiff, and it was there, doing that project, that I did come across working with older members of the public in a sort of and it was probably a very male-orientated environment to start with, they were really quite dismissive of the antler working that we were doing, whether we were creating rings or some fine pendants or some, how to make combs. They saw it as girls work and ladies jewellery. They didn't really see it for what it was: the use of a material that has now run out of fashion but is coming back in and is very durable and very sustainable. But they quickly changed after we worked them for a couple of months. They realised, and it changed. And the outreach side when you're with the general public I'd been working with Jacqui and others out in there I don't seem to notice much difference in demographic. I think once you're at these big festivals or meetings that you're at, one seems to get engaged because I think everyone feeds off of each other so I haven't really noticed it much in the outreach. Maybe Theresa's seen something different.

Theresa: With the skin working there does seem to be a perception to some degree that this is men's work. And when you do get into the industrialised time periods with leather working, it does

change into a guild craft, and it was fairly male-dominated. But prior to that, everybody knew how to tan skin, and it could have very well been women's work. We can't really say that about deep history, yes, one gender did this and another gender did that. It's not a question we can very easily answer. You have women coming to courses thinking that it's going to be incredibly hard work and that they're barely going to be physically capable to do it. I think it is a nice realization when they get there that, yes, they can, it's really no problem. Yes it's hard work, but they're certainly capable of it. I've had a ten year old brain tan a deer skin and turn out a beautiful end product. Part of taking a course is that you learn tips and tricks that make it not just brute force but an actual art and craft. And then the demographic between age groups, my experience has always been with children, actually you know, adults come in and, say I'm doing a deer processing demonstration, and most of the time it's a roadkill so they're not always the most visually appealing thing on the face of the planet, like sticking out at weird angles and what not, but adults' first response is, "that's cool but ew.", and kids go "ew" but at the same time they're saying "ew" but they've already got their hands inside of it. So it's just the social response that they've been taught, they don't really feel it. They want to get their hands in there and know what you're demonstrating and I think that's really fantastic. I'm not really a huge kid person but it is quite fun at those kinds of demonstrations to have them just pop up and help, it's fun.

Matilda: Thanks, I have another question slightly related from Roeland. Do you notice the public and the questions in one area of the world - both of you have worked in different regions - are different from one another? So, would maybe people in Germany be interested in one thing but people in the US would be more interested in another thing?

Theresa: Yes, there is a difference there in my experience. In places where fur is something that's already used consistently within the society, I don't have the same ethics discussions about the use of primary animal products. Most of the things that I do do require the animal to die in order to provide them. So when I'm in a lot of the European countries that is a discussion that I have and I have quite frequently. As long as it stays a discussion I am more than happy to have that talk. I think that's really fascinating, however, in spaces where hunting is very normal and a part of the things that people do as a day-to-day life skill that question seems important I guess to people, but it's just not the first question on their mind.

Ian: I've worked a lot in Germany, doing archaeology and bits of outreach, which we're now involving as part of our excavations and people in Germany do have a slightly different view when we're showing them bits and pieces we're doing or tools or with animals. They have a different way of, yeah you hunt a boar, you hunt a deer, it's fine, you can go and shoot them. It's fine, the shooting pitches are everywhere across the country side. It seems to be a very social thing but at home in Britain it's a little bit different. Obviously deer hunting is quite revered and costs a lot, you can't just pop out and go and shoot stuff, so they do have a different outlook on the ethical side and the animal side. With the tools and the techniques that we use, I find it generally the same. You can use a tool in a certain way and that seems to be quite universal. There may be some tweaks, there may be some amendments to the tool, and it has different forms. Generally we're all on the same side on that. Certain tools do certain things and you do things in certain ways. So I find that quite levelling, it's quite good to know that.

Matilda: Now we've been to the discussion about ethical use of materials, because obviously Ian you were saying you use antler quite a lot, that can be naturally shed, so it doesn't involve killing anything but with bone you would assume that an animal does have to die and obviously using the leather as well, like you said Theresa, that does have to happen. Especially in modern society, veganism, vegetarianism is such a big thing. Is that a problem, is that an issue when you're doing your public outreach? How does that affect your discussions with the public?

Theresa: I wouldn't say it's a problem, but it is a discussion that is often something over the course of the summer I think I have the ethics discussion probably about a hundred times a week and it's one of those things that I can say that, you know, with all of my animals, all of the skins, all of the parts that I'm using, they come from places with sustainable harvesting strategies, from healthy populations, in places where hunting and trapping seasons are very well controlled, and have an emphasis on humane methods, so long as we can keep it as a discussion and you don't have someone who is really vehemently there to start an argument, and it can be very productive and it is an important discussion in my opinion, at least, to have.

Ian: Obviously Theresa, you run into more heavy discussions because obviously the killing or the skinning of the animal. What I find when we're working outside with deer antler, you'd be surprised how many people assume that we've had that animal killed or it's been shot and you do have to spend quite a large proportion of each day chatting to people about how antler is shed and how it is shed once a year, and the renewable resource that it is, and you don't need to kill these animals. Yes, sometimes they are, because people need to eat or they're going to need skins and the bones, which I've has shown and Theresa has shown, you can use the bones for all sorts. We try not to waste anything from that animal when we have it, use it and re-process it. So, ethical debates are quite interesting but I haven't really had anything what I would say was angry or in-your-face. Everyone was really quite open to listen to what people say and what their views are. And a lot of people go away quite enlightened not knowing about antler and the way it sheds and we don't harm Bambi in these woods so that's quite nice.

Matilda: Ok, well, thank you for that. Then we have a question from Rosario about bone use, so she says: she finds that it takes about six months of curing bones in their skin for best use, but she can't find any articles for this. When she scrapes hides then she finds that scraping keeps the scraping bones well-supple and well-oiled. She was wondering if either of you can recommend any studies that have been done or any tips on preparing bones from butchering the animal to the point of being able to use them, in terms of keeping them sort of usable, if that makes sense.

Theresa: Maybe Ian, you can suggest some papers on this. I'm not actually aware of any studies off the top of my head that relate to this.

Ian: I was just trying to think myself off the top of my head what studies are out there to show for, for bone preparation. All the time when I am working with bone, you split a sheat, a tarsal or a sheat bone to get and make an awl from it. I don't really prepare a lot, especially with antler. Antler needs very little preparation; you can use it straight from when it's been shed, and you cut it up and start working it. I also found like, with bone handles I've used or made of deer, again, once you've sort of cured them and de-fleshed them, remove the marrow from the inside, I can use them quickly. I don't know much of what you say of the six-month preparation. It would be really interesting to see how the bone is affected, and the finishes that you can get and the workability of it as well, but off the top of my head, no I can't think of anything that I could say. I've read stuff from MacGregor, on antler preparation and stuff like that but not specifically bone.

Theresa: Actually, I've not read almost anything on bone and for myself and my bone tools, because when I do bone tool use, usually it's very expedient. I need to tan a skin, therefore, I'm making my tool right there. I use almost exclusively fresh bone. If I am going to be processing my bone, I tend to scrape off the membrane layer, on the outside of the bone, and I just simmer it very lightly for perhaps 15 minutes and I cut it apart and use it. The only thing I have run into is that over time, yes bone does age and it loses its organic component. When you lose that organic component, you're left with only the mineral parts and they do not hold up. So using bone when it's too old obviously you end up with just powder. All of my skin-working tools as she mentioned, they are greased all the time simply by using them on a skin and I'm careful - I definitely wash my tools but I

don't wash them with anything particularly severe, trying to stay away from dish soap and that kind of things as I don't want to strip the oils out of them completely. You can take a little bit out from greasy creatures if you're going to be using pig or sheep or something like that and are very, very greasy and they're pretty unpleasant to work with unless you strip a little bit of that grease out. As a general rule, I'm mostly using things in the cervid family so moose, elk in Europe, deer and occasionally, I've made things like awls and needles from smaller animals like fox and bird bones of course make fantastic needles as well.

Matilda: I think also if anyone has, I'm sure we could try and find a nice bibliography for you, Rosario. If you want to get in touch with EXARC or with Ian or Theresa. If they come up with any ideas, we will also post it here.

Theresa: Absolutely, sure.

Matilda: So, we do have one more question and then I also have some questions to finish off for today. This is a question from Ligeri. So you both practice various crafts, both for academic and public outreach purposes. Have you ever been interested in the market of early crafts? Have you personally created and sold objects? Is this a lucrative business to get into, or are people interested in traditional handmade crafts or reproductions?

Ian: That's quite a good question. Yeah, because obviously I've been asked to make antler combs for people; they see the combs, they like the combs and you do make them and you do get paid with a bit of cash here or in favours or exchange, if you see what I mean – trade in the old ways. What you do run into is obviously you've got a job and to do it as a full-time job, and the work that's actually involved in making something by hand, I don't think people these days want to pay for it. You can say that "I've made this item and it took me four days" What would you charge for that? If you charge the proper hourly rate for that skilled person, it would just become non-affordable, unless you can find some way of mass production. But then you are losing that individual element that somebody's crafted it for you with a unique touch and I know I'm very bespoke if you see what I mean. I do get torn and I do get commissions on combs if people do get in touch and I usually say to them "okay that's fine, but you'll get it when I get some time", and people have waited six months and then I've decided, I've got time now and I'll knock it out. So, I think if you're gonna seriously going into a trade or manufacturing or as a company or just do it as an individual craftsperson, it's going to take a lot of work and you have to create a lot of block blanks and the things that you require to make it affordable in the day and age that we live in. Not to say that it's not a fantastic thing to do, and it might be a side-line while you do something else at the same time, but I would find it difficult to actually make a living out of it for making antler objects or bone objects or stone. There would have to be something else involved as well.

Theresa: Absolutely couldn't agree more. I do have a background in selling brain tan skins when I still lived in the US. I'm sure you can tell by my accent at this point that I'm not British originally. Then I produced replicas for museums but those are very specialist pieces where they are willing to pay for the time and effort that goes into producing something in the way that it would have been produced pre-historically. The only thing I do as a side-line that is of a commercial nature, is I do custom clothing using all traditional technologies. However, obviously when I produce that I am using metal needles, I'm using scissors and I'm using metal tools to actually tan the skins. If someone very specifically requests something and is willing to pay for the extra time involved in doing it in the period-appropriate way, it's really not financially viable for most people to purchase something like that and those people are very few and far between – I've run into two in my life. That's not something I would go into from that end as a living though.

Matilda: I also have my own experience with this because I had a small business for a while, talking

about selling antler rings and bone jewellery and all sorts of things and you may hear that I said I had a business because it wasn't exactly that viable. It was great fun, it was amazing but like Ian was saying being able to price your pieces to cover the actual amount of work that went in was very difficult. If I could add in my little bit there, I would say make sure that you don't undersell yourself if you're doing that kind of stuff.

We have time for one more question from Sajjad for Theresa. When you accidentally pierced a skin during preparation, how do you prevent the damage getting larger?

Theresa: A couples of things: holes are different. With a bullet hole, the entrance wound, because when the bullet goes in it is hot, so the edges of that hole on the entry side are actually cauterized. It will not tear out unless you actually run your tool over it when you're de-fleshing or de-graining, depending on the type of tanning you're doing. So, don't worry about those unless it's an aesthetic issue. Exit wounds don't have the same deal and they tend to be bigger, so whilst you're cleaning the skin so while you're it de-fleshing it over a beam or in a frame, if you put a hole in the skin, what you need to do is not drag your tool over it again. It is as simple as that. Don't make it larger by applying force to it. After you're done with the cleaning and have begun with the dressing, it's just a simple matter of sewing it up before you go to the softening stage. For a vegetable tan, I tend to sew up the holes before they go into the vegetable tan solution, bark tanning if you're more familiar with that term, and then again, be careful with vegetable tan when you're softening. It has a much higher tendency to tear than your fat tans do. Fat tans, if you just sew the hole up, and then are careful around it when you're pulling it over a table or over a staking post during the softening process, you'll be just fine – it won't enlarge any further. There is one little extra caveat on that: do not use leather needles to sew up the holes in your skin – by a leather needle I mean the triangular cross-section ones that have the sharp edges on them. It actually cuts the fibres of the skin and each hole that you make with that needle whilst you're sewing the skin up will, in itself, get bigger and bigger. You really want to use, you can have a pointy needle, that's no problem, but you want one that's round in cross-section, not a wedge

Matilda: So, I hope that helped, Sajjad. Thank you for that Theresa. I'm really sorry but I'm afraid we're out of time, so, thank you very much to Ian and Theresa for joining us today, sharing your experience and your expertise. I think that we all learned a lot – a lot of different tips and advice given so thank you very much for joining us today.

Ian: Thank you very much for inviting me on.

Theresa: Absolutely. Thanks for having me.

Matilda: 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, we have quite a lot of questions asking for advice and opinions today and you're very welcome to become a member. Alternatively, if you just want to help us out in our vision then you can make a small Paypal donation through the website to help support EXARC in its endeavours.