

## Walk on the Wild Side

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Guests

Markus Klek (DE) and Doug Meyer (US)

Introduction

**Why do people wear shoes?** What kind of materials can you make shoes out of? How can we recreate shoes from the past? On this month's episode we are joined by two specialists in ancient footwear to think about all these questions and more... Markus Klek is an independent researcher focussing on indigenous and prehistoric skin processing technologies, as well as related work in bone, antler and ivory tools. Doug Meyer has explored ancient technologies for more than 30 years after finding inspiration at a primitive technology demonstration at a summer college.

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.

**Phoebe:** Hello and welcome to #FinallyFriday. My name is Phoebe Baker, and today I'm joined by two specialists from our EXARC community focussing on footwear in the past. Markus Klek is an independent researcher focussing on indigenous and prehistoric skin processing technologies, as well as related work in bone, antler and ivory tools. He has published three books on leather and leather-related technologies and has run a successful business, Paläotechnik, since 1996. Paläotechnik offers a range of research, replicas and educational courses related to prehistoric leather and skin processing. Markus has recreated a range of Paleolithic and contemporary leather-based clothing and shoes.

Doug Meyer has explored ancient technologies for more than 30 years after finding inspiration at a primitive technology demonstration at a summer college. Doug has since explored many aspects of early cultures, including flint knapping, archery and blowgun technology and has considerable experience in brain tanning and leather work. He also has experience creating replicas and in teaching his skills to others. In producing his reconstructions of ancient clothes, Doug takes care to consider the variety of different techniques and skills seen across the globe. So welcome and thank you both very much for joining me. I've got a question to start you off. Why do you think people wear shoes?

**Doug:** I think people wore shoes in the past differently than what they wear them now. Now some people wear 'em for status symbols. Like if you got a \$200 pair of shoes, you're saying, I can afford these shoes, I'm special. Somebody might wear shoes, like high-heeled shoes and say, this makes me look better. Or a different thing like that. And then there's all these functional shoes, like you have different shoes for hiking and different shoes for running and different shoes for being out in the rain or being out in the snow. So there's all kinds of things today that people use shoes for that they didn't do in the past. I think in the past they were only concerned with the functionality of shoes. Like if your feet are cold and you wear shoes to keep your feet warm, or if the ground's hot, you wear shoes to keep your feet from getting burned.

**Markus:** Yeah, of course I agree with Doug, but also if you look at ethnology, for example North American Indians, they also had really fancy shoes. Think about all the moccasins, of course this is the historical period, with all the bead work. These are not shoes for everyday use, but they were used for festivities. And also if you look at the archaeological record, for example, in Sunghir, a place in Russia from the Paleolithic and they supposedly were wearing really fancy clothing because we have a lot of finds of beads made from ivory. So I think, of course, they were concerned with protecting the feet. But there might have been also some shoes where it's all about being fancy and maybe status also.

**Phoebe:** So it's kind of primarily functional. And then we can go off into more of these fancy shoes and things like this. It's really cool that you mentioned the Sunghir burials, how far back that might go. When do we actually first start seeing shoes in the archaeological record?

**Markus:** Areni, I think it's called Areni-1 shoe. It's from a cave in Armenia, that's supposedly the oldest actual find we have of leather shoes. I think this is over 5,000 years old. It's pretty much the style that keeps showing up until the present. It's typically a shoe of basically just one piece, wrapped around the foot and tied together, so a pretty straightforward style that you can see later on. Shows up in Europe, shows up in the States with Native Americans.

**Doug:** Yeah, I think that's the oldest one and then the next oldest one that we think about is the Ötzi shoes. But they were definitely specialised shoes for snow travel.

**Markus:** There's another find also from Switzerland, from the Schnidejoch, that's another mountain pass. But it's not a complete shoe like the shoes from Ötzi. It's a side piece. But reconstruction also points to this just one-piece shoe wrapped around the foot in a really simple way. The Ötzi shoe is already really like a complex construction of many pieces.

**Doug:** And then in North America you've also got... they're sandals, they're basic shoes. Like in the Southwest Desert, they're woven out of Yucca. You find hundreds of those, they're all over, because the preservation's real good. And then in Kentucky you have, they call 'em the Mammoth Cave slippers, but they're a woven moccasin from Mammoth Cave. They're pretty early too, definitely Woodland period in America. That's close to 5,000 years.

**Markus:** So I think the earliest is from the Neolithic. And before that there's nothing made out of leather that survived.

**Doug:** Yeah. There's nothing that survives. But in Africa they did find footprints, where they walked across like mud or whatever. They weren't wearing shoes at that point. That's why I think they went barefoot more and wore shoes just for special occasions, initially.

**Markus:** I don't know about The States, but in Europe, if you go back just a few decades, before the second World War, people would walk around barefoot, regularly. I talked to some old people and they said, yes, as children, we walked barefoot except for Sunday, because that's when you got the fancy Sunday shoes. For us, shoes are like a regular thing to wear, like pants and shirts and everything. But the further back in time you go, shoes weren't probably used that much because also they wear out very fast, I think.

**Phoebe:** I wanted to ask, actually, you mentioned Doug, when we chatted before, about how quickly some of the shoes that you have worn have worn out. I was wondering if you could talk a little bit more about that.

**Doug:** Sure. A lot of times when you find shoes in the archeological record, they're worn out in the heel and the ball of the foot, that's where the most wear is on a shoe. I did an experiment up in Canada and I had to wear primitive clothes for 11 days. I wore the shoes every day, when they got wet drying 'em out and trying to take as good a care as I could with them. In 11 days, I already had a hole worn in the ball of the foot. It was a small hole, but it was already starting to wear out. So that's saying that every two weeks you're making a new pair of shoes if you're wearing 'em continually. That's why I don't think they were wearing 'em continually. They only wore 'em when they needed them, because it was a lot of effort to make a pair of shoes.

**Markus:** Yes, I agree. That's why I also think that the everyday shoe must have been really simple. Just a piece of leather, like for example in the Eastern Woodland, where they have this centre-seam, simple type of mocassin. It's just one piece wrapped around the foot. And then there's a seam at the heel and one up at the centre over the foot. And that's pretty much like the oldest one we have too. The Areni-1 is the same design and also the one from Schnidejoch. Also somewhere in Ireland they used to wear this type of shoe, it's called the Pampotee there. They wore them even until some decades ago, where it's just a piece of even untanned hide. It's not even a tanned animal skin. You make it fast, it wears out fast, and then you make another pair. But of course when it's cold, you need something more fancy. Then if you go back to the Paleolithic, to the Ice Age, you probably would need something similar to what Inuit people still use today or what they used historically.

**Phoebe:** Some ethnographic examples of Inuit shoes, they're really quite complicated, really beautifully complicated. I guess because they have to fulfil such an important functional aspect.

**Markus:** The most fancy leather work or the most complex or intricate leather work, I think is among the Inuit people for clothing and also for shoes. I really admire the work that they do there.

**Phoebe:** Yeah, me too. So kind of leading on to this, you both have a lot of experience in leather working and making archaeological replicas of clothing. How important do you think it is to actually make and wear these shoes to understand how they were used in the past? You've already spoken a little bit about it, Doug, about how you've realised how quickly these shoes wear through, but I wondered if there's any other points you'd like to bring up in relation to that.

**Doug:** I think it's really important because when you're actually wearing the shoes, you can interpret the wear patterns that were shown in the past. When we find them, we find, like I said, the heels and the ball of the foot worn out. When you can reproduce that wear pattern, then you know your shoes are close to what they were in the past. Making shoes like that, it's very important because it's not just cutting a pattern out. In leather it stretches a certain way, so you have to orient your pattern to a certain place on the hide. You can't like just 'oh, it's gonna fit here, that'll be a perfect place to do it'. Because then when it starts to stretch funny, it's gonna not wear right. There's a lot involved. I think any piece of clothing that's designed for your hands, your feet, or your head is more custom than just pants or a shirt.

**Markus:** I agree that it's really important to wear them and not just make shoes for display. You are missing something if you don't actually wear them and wear them also for a long time. Like Doug says, he wears them for an extended period of time. And then you really get an idea of what these shoes need to be able to do and if the process of creating them made sense or if you have to adjust in terms of material, in terms of construction. And that's why you also need to use animal skins that have been prepared in a way that you could compare to the past, to the Stone Age. We don't really know what processes they used, but we kind of have an idea and that's what we think, has been done. We need to use leather, furs and animal skins that were prepared in that way. Because if you use commercially available skins, you will get totally different results, that's basically of not much use... But it's being done a lot, most of the reproductions and things that you see in museums are made from commercially tanned skins, at least in Europe. It's just very slow for them to understand that animal skin is not animal skin, but that there's a difference in quality.

**Doug:** And the whole process.... When you're making a primitive shoe like a pair of moccasins you gotta be able to tan the hides correctly. You gotta be able to do bone work, to make the bone needles and the awls to sew 'em. You have to know how to sew with sinew and intestines and stuff like that. You have to be able to cut the pattern out with a stone flake. There's a whole bunch in making a pattern so that the shoe fits your foot. There's so much going on in such a simple thing as a shoe. There's so many technologies involved.

**Markus:** People nowadays are aware that the shoe is important because we wear them probably a lot more than we used to in the past. So I have the feeling that the emphasis on shoes nowadays might even be bigger than it was back then. For example, when you spend time outside in a Stone Age setting, like in a Stone Age immersion, the first thing is, okay, how do I keep myself warm? What do you wear for warmth, is the question. The second at the same time is like, okay, what shoes do you have? What's your footwear? I have only seen very few people that walk around barefoot for an extended period of time on any terrain or in any climate. Most people, they want shoes, they need shoes. So there's a strong emphasis on footwear.

**Doug:** But are we looking at that differently? Because I'm 56 years old and I've worn shoes my entire life. So we're biased because of that.

**Markus:** That of course makes it hard to understand the past because we are biased with regards to shoes, with regards to, basically, anything. That makes everything a little difficult for us nowadays to understand the past, because we're always biased with our modern approaches.

**Doug:** Yes, I totally agree.

**Phoebe:** Yeah. they're really interesting points to bring up, actually. I've read quite a lot of studies recently about how footwear affects how your feet form and I think as you've said, Doug, having worn shoes our whole lives, often they have affected how our feet have formed. In that respect,

even if we wear these shoes we might not necessarily get the same impression of how they were worn in the past because our feet are different.

**Doug:** I did a real long period in my life where I was reenacting the American Revolution and the French and Indian War and the shoes they have there, they don't have a left or right. So you just put one on your left foot and that forms to your foot and one to your right foot. So then there's no arches because there's no left and right, so they can't put an arch in. So that wears differently. And then they have these nails on the bottom and when you walk on slippery floors, you about kill yourself. Because the floors back then were waxed and stuff like that. I've had some great experiences wearing shoes like that. You know, that's like 1750 to 1790. Even then they didn't have a left or a right shoe. It was just a shoe. I don't know exactly when they'd started..., you'd have to be really rich to get a custom-built shoe for your left and a custom-built shoe for your right, even in the 17 hundreds.

**Markus:** Yeah. I think it's also because the primitive shoes are mostly without a proper sole. It's just a piece of leather, there's no arches. There is nothing to support your foot. It's basically just an addition to your foot, another piece of hide. You have your own skin and then you add some extra skin. But the primitive shoes, if we think about the finds that we have, the few, and then the comparison with native North America, for example, with the moccasins, it's mostly soft soles. Of course, you also have some hard soles in the southwest and on the Plains. But, of course you would wear them differently and you would also walk differently than we do nowadays.

**Doug:** It's funny you bring up the hard sole shoes in The Plains. I made a pair of those for a museum, a replica. I wanted to wear 'em, so I put 'em on and I slipped. The rawhide sure doesn't work in the southeast where I live, I live in North Carolina. The grass and stuff is not set up, designed for a hard rawhide sole. When you make a pair of shoes, you have to realise the environment that they made 'em in, that they used them in because they won't work in another environment.

**Markus:** Yes, the shoe is completely a reflection of your environment, of your climate, of the animals that are available, cultural influences, too, I suppose, but every shoe belongs in a certain environment where the conditions are to create this shoe. To the skins you have available and also the ground that is there and whatever the climate conditions are. And if you export this to a different location, it won't work or it won't work as well. For example, the Iceman, he had this extra strip underneath his shoes, a strip of leather, for extra traction. I've never made the Iceman shoes but friends of mine did. And they've used these extra strips underneath the sole. Also we've done it with rawhide soles, which really, like Doug said, they're just really slippery. But I'm not a big fan of rawhide soles either. Where I live they don't work very well. But they must have worked. On The Plains they must have worked with the Apaches and in the Southwest. I think another thing with the shoes is, of course, they're supposed to keep you warm. They're supposed to protect you from thorns and sharp stones. And then we have this idea of having dry feet. Nowadays, I think we are biased because we are always trying to keep our feet dry, and I think, mostly their feet were wet. All the mocassin type of shoes, they're not waterproof, they soak up the water. The Inuit, of course, it's a different thing. You don't have the luxury of getting wet feet in that climate. But anywhere like the climate where you live, Doug, and where we are, people would have wet feet. I think that's just a fact. And that's also a reason why they might not even wear shoes, because it's nastier to have wet shoes on than to not have shoes on at all and just have wet feet.

**Doug:** Yeah, I agree with that. Because when I was wearing my shoes every day for 11 days I would put 'em by the fire and dry them and then pull 'em and get 'em back into shape and stuff. So I spent a lot of time doing that where I could have just taken 'em off and just had wet feet part of the

time. Instead of taking 'em off, I just let the shoes get wet.

**Markus:** Yeah. I do that on trips where I'm out for long periods of time and when it gets rainy and it's not freezing temperatures outside, I don't wear shoes, I take the shoes off.

**Phoebe:** Are there any ways to add waterproofing to leather, like using waxes and things like that?

**Markus:** Well, if it's a buckskin type of leather, there is not that much you can do, because then you will alter the quality of the leather. You wouldn't be making a buckskin to begin with if you then soak it in grease. Later on with the Roman times, once you have the vegetable tanned leathers, of course, we all know them from our own shoes. But the buckskin type of leather, it's too open and too porous.

**Doug:** Yeah. The best you can do is just smoke 'em heavily. That'll stop some of it, but that'll wear out really quickly.

**Markus:** But I have made some Inuit-style shoes, where the whole lower part is made out of partially tanned or kind of 'rawhidish' sort of material. You can add wax or grease or a combination on this to improve the water tightness. But that's because the material itself already has a tight structure and it doesn't completely soak full of oils or whatever you add on there. It stays on the surface, goes inside somewhat. But once the grain is off the hide I don't think there's a whole lot you can do. I'm not even aware of anything ethnologically, if we stay with North America, I've never heard of any waterproofing being applied to your regular buckskin moccasin.

**Doug:** No, I've never heard of anything either.

**Phoebe:** How many different types of tanning techniques do we see before vegetable tanning? Is it only brain tanning or are there other techniques that you can use as well?

**Doug:** Well, they're doing brain tanning, which is a fat tanning. You can smoke tanning. Anything that you're doing is basically..., you know, they call it brain tanning but it's actually fats. That's why the egg yolk works. I can't think of anything that isn't some form of fat, before you get into veg tans, bark tans and stuff.

**Markus:** Well, I think the word tanning, what we mean by this is that somehow an animal skin comes prepared in a certain way, so it doesn't rot right away. So we can use it for an extended period of time. The first step would just be drying of the skin, you know, an air-dry. You can use rawhide, like we said for moccasin soles. It's been used historically, I use it for certain construction of shoes. Then of course it's all the treatment with certain fats. Like Doug said, it's not limited to brains. There's all sorts of fats we can apply to skins to make the structure more open, to make them more flexible. Also I think that fairly early on, they must have used vegetable matter too, not the sort of vegetable tanning that we know from the Middle Ages where they tanned for a year or extended periods of time. But like a combination with fats and vegetable tannins. They did some research on the... I don't remember if it was the Schnidejoch or the Iceman clothing... They tried to find out what tannins they used on these hides. Of course this is really complex because the skins have changed over time and they have been soiled with all sorts of things. But to make a long story short, they think smoke might have been in it, fats might have been in it, but also some vegetable matters and also what I remember, some sort of minerals. It's not definitely an alum tanning like we know from later on, but some sort of mineral matter could be in there too. It's really vague for a person that's interested practically, but I know, and I've done some experiments with this, using minerals to transport, to disperse, fats in liquids. That's something that's been done historically and

it works. We don't know about these minerals that have been found in the research. What kind of minerals were this, what were they used for? Our knowledge of the early tanning processes is really limited because we don't have many finds.

**Phoebe:** Yeah. That's really interesting, bringing up the kind of the mineral things. I know that some sites in the Middle Stone Age of Africa, you start to see a lot of ochre usage.

**Markus:** That's right. The whole thing about the ochre, that's something you could really get into and try to figure out. Does ochre have any effect on the skin as a tannin? I would say no but it might have other effects and it might have been used as an agent to do other things. There has been some research, I forgot the name of the guy, but he has researched this fairly in-depth, use in Africa among the Himba, I don't remember.

**Phoebe:** Yeah. I think someone has suggested that perhaps it could be used in tanning as a microbial agent to kill bacteria. Dunno if you've ever heard that?

**Markus:** Yeah, I've read this too. I don't exactly know what they mean by this. I have an old book on tanning with iron oxides. During the earlier 20th century, I think, they've tried this. It's a lot of chemical information, which I can't really use, because I don't understand it. I'm the practical guy. But it's definitely not a tanning agent. It's more like an additional substance that's being used for certain purposes.

**Doug:** Yeah, I'm not sure about that either.

**Markus:** And definitely for staining, that's for sure.

**Doug:** Yeah, definitely staining and colouring.

**Markus:** Yes, because all cultures around the world use red pigments because of its relation to the colour of blood, supposedly. So it's definitely a colouring agent, but what effect it has on the hide... Also, iron oxide is not iron oxide. There's many different types. Sometimes they have additions of other minerals included. So this guy took iron oxide from different finds in Africa, of different locations. And then he could tell this type of iron oxide or of ochre had this effect. That one had that effect and so on.

**Phoebe:** You've spoken a little bit right at the start about shoes made of Yucca, Doug, I was wondering if you could tell us a little bit about the big variety of non-leather shoes that we can see around the world.

**Doug:** Basically, you see inner bark, like a basswood bark, which is lime bark in Europe.

You see shoes made out of that. So you see inner barks, you see outer barks. I've seen birch bark shoes, that's real big in Russia. So they're weaving strips of bark to make shoes. And then there's all kinds of plant matter, like your Yuccas and your Agaves and stuff like that. They're leaves that they're pounding and they've got long fibres in them and they're making sandals out of those. They're real big out West, probably a hundred centimetres, you can get leaves that long. So it's only taking several leaves to make one sandal. So you're not having to use 30 leaves to make a sandal or anything like that. They're picking that material because it's long and stringy and fibrous. There's a lot of plant matter shoes out there, besides hides and furs.

**Phoebe:** How long do these shoes last in comparison to leather shoes?

**Doug:** The Yucca ones..., they're walking on rock in the Southwest. So they're probably wearing out in two or three days. They're probably repairing their shoes and weaving a new pair by the campfire every night working on that. They don't take that long, you're talking about an hour to weave a new pair. They've probably got a spare pair made and they're either trying to repair the one that they're actually using currently or they're starting a third pair. So they've got the pair they're wearing, a spare pair and they're working on a pair. The material is there and it's readily available everywhere out there.

**Markus:** Europe has, of course, with the Neolithic lake dwellers, a lot of textile finds. There's also shoes, like you said, Doug, from inner lime bark. I don't have experience with them, because I'm more specialised on the animal skins. I think that leather is just more durable. It seems like a lot of work to make a pair of textile shoes, as compared to tanning a skin and making a pair of shoes out of that material.

**Doug:** We know in the Southwest they had leather clothes, they had buckskin clothes. But for some reason they found thousands of these Yucca sandals. The Yucca sandals are thicker than the leather, and the rocks get really hot. I think they're using it for protection against the heat. If you had a pair of moccasins on, it would not not be as nice on your feet. Even the sand gets hot out there when you go out West the sand is hot, the rocks are hot. So I think they want that extra thickness that you can't get. Because they don't have moose and elk in that area. They've got pronghorn antelopes and they've got deer. They don't have a lot of animals with thicker hides that they could make moccasins with.

**Markus:** Yes, a good aspect is also the availability. If I think about the Neolithic lake dwellers, it might be that at some point they just simply also made clothing and shoes out of different materials. The big animal herds that we used to have in the Paleolithic, they don't exist to that extent during the Neolithic. So people look to different materials. For example, the Iceman, he was completely clothed in animal skins. There was no textiles except for some knitting and that was a surprise to researchers because beforehand they thought that during the Neolithic we would be expecting more textiles also. But then of course, he was up in the snow. You wouldn't wear your lime bark sandals in the snow, I suppose.

**Phoebe:** Yeah. That's really interesting. What is the biggest difficulty, do you think, that you encounter in researching shoes? I know we've spoken a little bit about the paucity of the archaeological record. Do you come across any other difficulties?

**Doug:** There's very few pairs archaeologically found. So everything is guesswork. There's only the Iceman shoes. You find some in bog burials, so that's Bronze, Iron Age stuff. There's just not that many out there. They all had to have had 'em. There's not two groups in Europe just making shoes. Everybody used shoes, we're just not finding them across the materials that are perishable. They're not showing up in the archeological record.

**Markus:** Yeah, I think that's the biggest problem. For example if you look at North America, it's all very well researched and we have dozens if not hundreds of different styles of footwear among Native Americans. And if you compare this to the archaeological finds in Europe, we don't have anything. That's of course hard if you want to do reproductions, the only thing you can do is reproduce the Iceman shoe.

**Doug:** But there's a reason why that's like that though, because Europe was more advanced and when the white man came over the Indians were still living in the Stone Age technology, and they could get examples, they could collect them. That's why there's better research. If it was the other

way around, like if America had been able to build ships and come over to Europe before, while they were still in the Stone Age technology, they would've captured more clothes and shoes. They basically came upon a modern anthropologist's dream of hitting a culture that had never seen past the Stone Age technology. So they could sit there and they could observe that. There was contact for a long time with Stone Age people, for several hundred years and they could collect all these shoes and that's why there's so many examples.

**Markus:** For me sometimes it's hard to get the materials I would like to have, for sewing, especially if I do more like Inuit style shoes. And also, even though there's a lot of information out now on construction of these shoes, I feel really limited in my abilities because I have to learn everything by myself. We are not in this culture where we have the elders teach us how it's been done for hundreds or thousands of years. At least I don't have this over here. The European Stone Age, of course, is dead. There's nobody out there to help me. Or you have to go to native cultures like in the States or also in Asia or Northern Europe, to the Sami. And then find people that still carry on these traditions and hopefully be able to learn from them. But that is a big time and money investment. Also you have to see if these people are willing to teach you these things. You can't just walk up and say 'hello, please, show me your secrets'. I have the feeling that there's so much knowledge out there and I just know a little bit, which is kind of sad but that's just how it is.

**Doug:** Yeah, there's only so much time.

**Markus:** There's only so much time, yes.

**Phoebe:** Yeah, I've come across some of those problems as well because I am hoping to do some research into footwear as well and have done some research into footwear. I definitely feel those feelings of not quite having the skills that I want to have to be able to make these kind of things and also not having the access to the materials because of time, money, and my own skill level. So that's a really nice point to bring up.

**Markus:** And I think that never ends even though you do all this work. How long have I been doing this, for 25 years or something? Of course, you know a lot, but the more you learn as they say, the more you realise what you don't know and that there's still a lot more to go. But that also keeps it exciting and interesting because you can spend a few more lifetimes and still feel like you don't really have a whole lot of experience.

**Phoebe:** So before I ask our final question, I'll ask a penultimate question, I guess, ending on a more happier note: what is your favourite or most interesting thing that you've made, result that you've had from studying this kind of thing?

**Doug:** I recently learned how to weave the Mammoth Cave slippers. I've been playing around with it for about 10 years. I got comfortable enough where I felt I could do a class and then I taught a class and it was really nice seeing my students get it, you know, explaining it, then all of a sudden, it was like clicking in all their heads and I could see the understanding in their eyes. That was like a really good thing for me. Because it was a woven shoe. It wasn't something where we just had a pattern. We figured out how to weave it large enough to fit your foot and then we all wove it. It was time consuming, it took about eight hours for 'em to make one shoe. But I could see the understanding and it was really nice, that was really fulfilling.

**Phoebe:** That's a really nice point.

**Markus:** Yeah. I think my thing is a little more egoistic, because the project I have coming up is that I want to spend a week crossing the Black Forest - this is where I live - in my Stone Age winter gear. For this I have prepared some boots and I put a lot of thinking in these boots and sort of all my experience, I feel, that I have up to now. Now I really want to see how they work when I wear them 24 hours basically, for seven days straight, going up and down the mountains in the snow. That's probably shoe-wise my most exciting project so far and see what I can learn from this afterwards. See how they hold up. Can I repair them along the way if necessary?

**Phoebe:** Some really interesting results I'm sure will come out of that too.

**Markus:** Yes. And I will pass this on. I have some talks afterwards, some lectures and stuff. I will also share this with the interested general public and give them an idea of what this is all about, wearing Stone Age gear and especially the footwear too.

**Phoebe:** That sounds really cool. I look forward to hearing more. And that actually leads us really nicely into my final question. What are your plans for the future and how can the EXARC community help to make a difference in regards to all the points that we discussed today?

**Doug:** I'm always making something, I'm wired that way. I'll read something, I'll see something and say 'oh, I'd like to make that'. And that's what I like about EXARC. The publications, the articles and stuff that they write, I get to see all this stuff that I don't see in America. It's all different and it's all new to me. The Native American stuff it's been documented really well. There's hundreds and thousands of books about it and it's pretty easy to make something like that. But then I'll see some article that EXARC had written, and I'll go 'wow!'. And then I start trying to research it and it's not in English or there's all these other difficulties. It's more of a challenge to learn how to make it. That's what I like about EXARC.

**Markus:** Yeah. I think for me also it's the EXARC publications. I like those a lot. I read those a lot and I'm also thankful that they offered a platform to publish there, a peer-reviewed, publishing of research. I've just done that with the Iceman quiver. This is for me also challenging, that when I write articles that I know they're being reviewed by professionals. And if they agree and this is well done, then I can say, okay, this was really worth all the work.

**Phoebe:** Yeah, I agree. I really like that aspect of EXARC as well. So thank you very much, Markus and Doug for joining us today, and thank you for sharing your experience and expertise. I know that I certainly learned a lot and I'm sure that our listeners did too, so thank you. And a big thank you to everyone else for listening in 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 a small PayPal donation through the website to help support EXARC in its endeavors.

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.