combined

**Mark:** [00:00:00] Welcome to the Endless Knot Podcast

**Aven:** where the more we know

**Mark:** the more we want to find out.

**Aven:** Tracing serendipitous connections through our lives

**Mark:** and across disciplines.

**Aven:** Hi, I'm Aven

**Mark:** and I'm Mark.

**Aven:** And today we're talking about ancient Greek bread with Josh Nudell. First, though, a couple of new patrons. We want to say a great big thank you to William Rolston and to BJ, both of whom have become patrons in the last month. We really appreciate your support. Thank you so much.

So yes, today we're going to be talking to Josh Nudell. And this interview was recorded a while back, but I think you're gonna find it quite fascinating. I know we really enjoyed chatting to him about this. Indeed.

**Mark:** Josh finished his doctorate in ancient history from the university of Missouri Columbia in 2017. In August, 2021, he started a position as a professor of history at Truman state [00:01:00] university in Kirksville, Missouri. He works on political culture and identity in classical and early Hellenistic Greece with particular focus on Ionia and the Greeks of Asia minor, as well as on political rhetoric and cultural memory.

But as you'll hear, he's also very interested in the material culture and economics of food in the ancient Mediterranean. We spoke to him last summer, so forgive any out of date references.

**Aven:** And without further ado, let's turn to our interview.

So, hi, Josh! Thanks so much for coming on.

**Mark:** Welcome!

**Josh:** Thank you! Thank you for having me, this is going to be a lot of fun.

**Aven:** All right. So we'll get right into it by asking our basic opening question, which is-- we like to talk about unexpected connections and maybe slightly strange ways that people get to the things they're passionate about. And I know that of the many different things that you work on, one of them is bread, and I would be interested in [00:02:00] hearing how that became bread and baking and how those things became not only things that you're interested in, but things that you do scholarship on.

**Josh:** Yeah! So that's a great question. Now, the thing about bread, the first thing to recognize about bread, it's just that I like bread.

**Aven:** That's my kind of answer!

**Josh:** At some level, it's that simple. So, I grew up baking bread. My father and my uncle actually worked at a bakery. My mom was involved as well and it was actually where, while he was working at this bakery, that my father met my mother. And this was back in the 1970s.

And so they were baking-- you know, when I read-- I read a lot of food history, just for fun. And one of the books I read as food history last year or the year before was this book called Hippie Food, and one of the things that this book talked about was the rise of artisinal bread bakeries. And the reason [00:03:00] why I'm bringing this up is that not only was the bakery that my parents worked at name-dropped in this book in Ann Arbor, Michigan, but also a food co-op in my hometown where I grew up was mentioned in Vermont. And so I was just sort of surrounded by this food stuff and growing up, we baked. My father taught us to bake at a relatively young age, my brothers and myself, and we did pizza roughly once a week. Actually we ate pizza like twice a week, but we baked pizza once a week. And so, I just grew up in this environment where there was a lot of food and I learned how to bake on my own.

I carried this over, so even when I was in college I was baking and then I came to graduate school and baking just sort of took off. And I would say it took off for two reasons. Number one, I'm just very competitive, and since both of my brothers were baking, I was baking [00:04:00] more. And so when they transitioned-- they live in the Bay Area-- they transitioned more and more to doing sourdough breads. I transitioned to doing sourdough breads and I've baked basically exclusively sourdough bread for about five years now. And sort of similarly-- so at the same time as this was happening, it was a matter of, I wanted certain breads that were not really available to me where I was living.

And so I decided 'I will learn how to make these myself'.

**Aven:** Of course!

**Josh:** And so I was a baker. I bake multiple times a week. It's a nice stress ball when you have to knead bagels for 15 minutes, and it's a very stiff dough. Actually, it's such a stiff dough that in the US context, bagel unions resisted automation in a way that other bakery unions did not because it kept burning out the motor and the automated baking machine or kneading machines.

So it was just this thing that [00:05:00] I was interested in, and it was this thing that I did. And I was working on, you know, various academic topics-- Alexander the Great-- I started working on my dissertation, which is about Classical Ionia. And one thing that kept coming up is that there's a lot of stuff about bread in ancient Greece, but there's not actually that much scholarship about bread itself. So when I say that there's a lot about bread and grains and things, there is a huge amount that's been written, a lot of it very good, a lot of it very sophisticated, on the grain trade. Yeah.

**Aven:** Because the grain supply, everybody cares about that, right?

**Josh:** Yeah, absolutely. And this is true of Roman history as well. I actually did a project when I was in college, calculating how many ships it would have taken to feed Rome itself, which ended up being very complicated because I had to figure out what percentage of Roman-- like the city of Rome-- [00:06:00] grain was coming from which province, which was a whole nightmare.

It was a whole big can of worms. So you know, there's a lot on that and it's really, really important. This is the majority of people's diet and bread and grains in particular have a way of providing most of the amino acids that people need. So it's actually a pretty good, healthy thing to eat.

And then Greece is not very fertile, so they need to bring it in; how do you feed Athens? How do you feed this place? How does this intersect with Greek colonization? And these are all big economic questions. These are all big political questions. These are super important things. And then I would get into the social side, like what are people consuming?

And people will say Greek people are eating bread, but then what are they talking about when-- you know, what are the studies into? Well, it's 'they eat [00:07:00] wine, they eat eels, they eat fish'. Do they eat meat? The answer is yes, but it's a little more complicated than a straightforward ' yes--'

**Aven:** --pork chops on the table every night.

**Josh:** Yeah. Right. People are eating far less meat than today. But then we get to the bread stuff and people were like, 'yeah, they eat bread'.

**Aven:** As if that's just all the information you need. Yeah.

**Josh:** Yeah. And so then I'm just sort of messing around, I'm looking through sources. One of my favorites who I was using for some work on various fragments was Athenaeus from the Roman period. And he goes into great length, all of these different breads.

**Aven:** Right.

**Josh:** And it's like, 'Oh, there's a much more interesting and a much more compelling story here that could combine all of these things, combine farming practices and shipping [00:08:00] practices and market regulations and sale, and then production and consumption.

There's a much bigger story here. And we run into limits of evidence. This is much better understood in the Roman period and Roman Italy, where there are very large ovens at places like Pompeii and Ostia but you know, that's still something that can be explored in Greece, I thought, particularly when that's combined with this sort of picture, the thing that we're always told about ancient Greece, which is that every 'polis' is composed of 'oikoi', households, and each of those households is supposed to be self-sufficient.

**Aven:** Right, yes.

**Josh:** But that's not actually the picture that we get. That's not actually true. So my interest in bread and combining my interest in baking with these sort of bigger questions of like, 'okay, so what is life in Greece actually like when it comes to bread'?

**Aven:** it seems to me that this is picking up on a theme that comes up quite a lot [00:09:00] in when we ask this question of people, which is that something in the rest of your life is something where you have expertise. And when you look at the ancient world, you realize that without that expertise, people aren't asking the right questions because they don't know those questions are there to be asked.

So when you look at somebody who's talking about bread, you know, because of your background, that bread is so much not a monolith and so much not an adequate descriptor. It's a food category, yes. But it's-- there is no such thing as 'bread'. And so you ask the questions that somebody who doesn't know those things doesn't think to ask, compares to like, Carolyn asking questions about horses or like various people we've talked to who are just like-- you know, people have looked at this before, but just didn't know enough to ask the questions that led to these really deep and interesting--

**Josh:** I mean, I totally agree with you. I think that that's a huge [00:10:00] component of this. And on the one hand, bread actually is super simple. At its most basic, bread is two ingredients. It's ground up grain and water. And that's it. Yeah, you have to add heat to it. But I mean, it's got two ingredients and then you do some stuff to those ingredients, but it's not really that complicated. But then it has an infinite variety because, you know, we can break down what flours are you doing in ancient Greece? We've got a couple. And they're sort of the ancestors of what we've got today. Most of the time we divide those between two big categories of barley, which grows pretty well in Greece. And then a couple of different strands of grain that don't, these are typically the ones that were imported from usually the Black Sea region or Egypt.

And so these are typically speaking better grains [00:11:00] than you can get there. But then you get issues of storage and transportation and sale and a bunch of things that you run into there. Yeah, cost is a huge component there.

So you've got those and then you've got water. Then you've got salt. Salt is a really important component of baking. And there's recently been some studies on salt like, new sort of reappraisals of salt in ancient Greece, which are fairly important and get into some of these conflicts, say, between Athens and its neighbor Megara over access to the salt.

**Aven:** Right.

**Josh:** But then, now you're up to three ingredients. Well, do you have a yeast of some sort? And they were well aware about leavening. We have a couple of accounts of tossing day old bread, which is possibly the actual bread or possibly just the leftover dough into today's bread, because that's going to then facilitate the grain.[00:12:00]

Or you can do it from time. You're going to just let the yeast from the grain berry get into it. So, leavening. Okay. So there's that, but then we have a whole range of things that you can add to breads. And that's where things get really interesting, as far as I'm concerned.

**Aven:** And then-- I brought up the heat also because that actually, you know, the whole question of ovens versus pan frying or rock or whatever is-- when you talk about self-sufficiency, I mean, this is something Mark knows from medieval periods, like an oven-- and we know from Rome, an oven is a huge deal. If you need to make your bread in an oven, which you don't have to, but if you bake your bread in an oven, that's a major social and economic issue.

**Josh:** Absolutely. And I'm actually really glad that you said 'if', you know ,' if' you do, because you don't have to. And yes, the Greeks did have sort of a front-loading oven that looks to my eyes a little bit more like a [00:13:00] pizza oven, wood fired oven that we would have today. It was called the 'ipnos' but we also have evidence for things that basically are a tandoor, you know, a big clay pot that has fire inside it, and you're cooking breads on the side. And then as you said, you can just cook it on a hot rock. You know, that works just fine. And so one of---

**Aven:** Cloche baking, basically--

**Josh:** --there's also some suggestion, I'm not quite sure about this. I think it calls for experimental archeology I haven't had time to do, about possibly baking bread actually on spits over an open flame.

**Aven:** Like a bannock!

**Josh:** So you can do these things. How reasonable, how easy is it? And then with these ovens, are you keeping the bread out of the ashes? Are you not keeping it out of the ashes? Are you cooking directly in the ashes? And you know, how long are you cooking it? And actually in Athens, you said the oven would be a big [00:14:00] differentiator.

Well, we actually have evidence from Athens, comes from this Sicilian Archestratus, who wrote a gastronomy who declares to us that this man by the name of Theorion brought a-- he was sort of a celebrity baker, kind of like a Paul Hollywood of his day-- that he introduced an oven to Athens and he taught them how to do it.

And this oven, from the slight evidence that we have seems to suggest that you could bake multiple loaves in it at the same time.

**Aven:** Right, so it's a community oven.

**Josh:** So it's a time thing as well as everything else. Yeah.

**Mark:** That kind of just reminds me of a basic question. Because I know more about, you know, words for bread and Latin and English and so forth, but I actually don't know what the sort of basic words for bread are in Greek.

**Josh:** Yeah. So, you know, it's interesting that you said that Mark, because [00:15:00] in Greek, there are a couple of things going on. First, we have a whole slew of words for bread. I counted them up one time. I counted, I think it was in the sixties, for different types of breads.

**Mark:** Wow.

**Josh:** Not basic words for breads, but like, ' this is the bread that you serve with lard in it', 'this is the one that you bake the same way as that one, but it has olive oil in it'.

And so we have this whole range of different breads that you can-- and one reason I think that this is the case, is that what we're told is that the people who are most fascinated by words for bread are the glossographers. That is the people who are studying language.

And so we have this whole range of things. And again, most of these are plucked from-- but we do have a couple of basic ones. And really there's two basic types of [00:16:00] bread in ancient Greece. There's the 'artos' and there's the 'matzah', 'maza' or 'matza', kind of like the unleavened flatbread that Jews eat during Passover.

**Aven:** Right.

**Josh:** And the difference, sort of, is that 'maza' or 'matzah' is cakes technically, but, you know, sort of low breads, flatbreads and kind of caked up grains that then get baked versus 'artos' that are typically described as loaves.

And so these would be the larger loaves, probably more leavened, possibly with some other materials thrown in. There's the 'aquaticus', which is a Latin term, but for sort of a water bread, which is really just a big plump loaf that is leavened. And then you get a big loaf, partially through the leavening and partially through evaporating water.

And so the whole thing holds together and you get a nice fat loaf. Something similar seems to have existed in Greece [00:17:00] as well. And then these things are then divided into hierarchies depending on what stuff you're adding to them. And how white are they? How good is the grind of the grain?

Because the whiter-- the white bread that we're familiar with today is really taking all the bran out of the grain. That was much harder to do, takes much more elbow grease, among other things. But then the other reason why this becomes-- I think it becomes so important to the ancient Greeks to sort of delineate this, is that bread becomes a marker of civilization.

And we see this as early as the Odyssey where Polyphemus, he doesn't bake bread. He's a shepherd. He clearly knows how to make food, like processed food. He's got cheese, but he doesn't have bread--

**Aven:** --and he doesn't have wine--

**Josh:** --and he doesn't have wine!

**Aven:** Those two [00:18:00] markers. Right.

**Josh:** So these are a thing of civilization. And if you read through Herodotus where he's talking about ethnography, he starts talking and one of the things he points out about all of these different civilizations is 'yeah, they bake bread. They make this sort of bread'. And in fact, in a weird case, he actually describes three tribes in Babylonia who eat fish that are prepared like 'artos'.

Which-- I'm not quite sure what he's getting at there, but they seem to have kneaded them into sort of loaves and then bake them

**Aven:** Like fishcakes or something.

**Josh:** Yeah. Except that he's using 'artos', he's not using 'matzah'.

**Aven:** Yeah.

**Josh:** Yeah. So it's not just a cake--

**Aven:** --and then they, somehow they baked them in an oven, like would 'artos' be-- is that more likely to be baked in an oven, then? The loaves?

**Josh:** I think--

**Aven:** -- that would be the better way of cooking--

**Josh:** --in the imaginary, yes.

**Aven:** [00:19:00] Right, so not always.

**Josh:** So when you hear 'artos', that is the case. But I don't know that that actually necessarily holds up all the time.

**Aven:** Right. Because people are going to do what they can do.

**Josh:** Right, and then, like I said, most of the time, once you're getting into specifics, you're actually not talking about 'artos'. So when you're talking about, you know, the Egyptians, they make 'artos'. But when you start talking about specific things, you get a whole range of terms for it based on the enriching agent, what starches, fats, or sugars? How the grain is ground, how you heat it, what pan you bake it in.

And so we get a whole range of things. You know, the 'kollabos', that's an individual roll made with milk and wheat. The 'turontos artos', which is a cheese loaf for children. The 'obelios' is sort of a penny loaf and sort of on and on and on.

**Aven:** Right, I was going to ask if they were generally standalone words or whether they were generally [00:20:00] compounds, because of course Greek is very happy to just compound-- you can get 85 words out of one, and they do both.

**Josh:** It's both. Some of them are-- you know, the 'turontos artos' is a 'cheese-loaf', but other ones, the 'obelios' seems to have been named after the obol.

**Aven:** Right, after the shape of it.

**Josh:** Right. So it's either the shape or the cost.

**Aven:** Oh, of course.

**Josh:** And so we actually hear that-- well, we hear alternate definitions. Is it baked on a spit? Is it the cost or is it the shape of the loaf? And if it's baked on the spit, there's some suggestion that this is the really cheap stuff, so it could be cost as well, but if it's baked on spit, it could just be stuck in the ashes and then pulled out that way.

**Aven:** Right. Okay. Let's get to some sort of basics, then. Obviously you've just finished telling us that they ate all sorts of different kinds of [00:21:00] breads and cooked them in all sorts of different ways. But if you're going to talk about bread as social class or as status too, because that's key, are there some broad delineations you can make: who ate what kinds of grains? What sorts of foods would be-- you know, the people we think of as Greeks, be more likely to eat compared to the people who actually where the majority of the Greeks, that kind of stuff?

**Josh:** Yeah. So that's, that's a really, really important question. It's one that I've only really started to dig into. And I think here, the first thing to recognize is that there's a significant difference between the imaginary food-scape and the actual food-scape.

**Aven:** Right.

**Josh:** I suspect that the actual food scape is closer than a lot of our sources are presenting.

**Aven:** That most people ate more broadly similar stuff, regardless of class.

**Josh:** Yes. Yeah, you know, unless you're at some sort of [00:22:00] feast and yes, we have accounts of those as well including some from Athenaeus. There are two people, one of them is Linceus of Samos and the other ones-- oh, I'm blanking on the guy's name at the moment, but he's a Macedonian and he's heading out into the world from the Academy and his buddy Linceus says, 'Hey, you should write to me about all the feasts that you go to'. And so we know that there are some pretty ostentatious feasts happening as well, but for-- you know, if you're a generic farmer, you're probably not eating wildly different things.

The biggest difference between most of the people living in Greece and say, anybody who's at least partially affluent is that if you're partially affluent, I bet you're eating more bread. And the difference there is that for the poorest of the poor, you're probably eating porridge rather than bread.

**Aven:** Right. Because again, it comes to the food sources and the grinding.

**Josh:** Yeah. And it's a matter of timing and everything else, yeah. Heat [00:23:00] sources, it's a matter of time and also processing. If you just throw some barley into some water and heat it up a little bit and break it down a little bit, you can just eat it as a porridge.

**Aven:** Yeah. Yeah. And grinding grain, as we know, is a very slow and labor-intensive process. Yeah.

**Josh:** Right, right. It gets much more complicated the more you have to do to it. But that being said, I actually do think a lot of people, even relatively poor people-- now, not the enslaved people working at Laurion, say, but you know, I think even relatively poor people are probably eating bread. And we also have some accounts of people, soldiers, for instance, making their own little cakes and baking them just on the campfire.

And so these are relatively easy things to make. For the most part, then, the vast majority of somebody's diet is grain. And that's true across [00:24:00] the spectrums, except for the richest of the rich.

Right.

And that's simply a matter of-- that's just a calculation of calories. You know, if--- people eat meat, people eat fish, but fish is super expensive and you have to be crazy rich in order to do it.

There's-- Choerilus of Samos was allegedly paid a retainer of four minae a day, so an exorbitant retainer, and he spent the whole thing buying fish, cause he just loved fish that much. But most people aren't like that. Most people are having some meat, something cooked, some cheese, wine as a standard, but then your base food is bread or grains of some sort. And this roughly corresponds to the Greek practice in terms of a diet, you have a [00:25:00] tripartite diet, your 'sitos', which is your grain, ideally wheat-- which I'll get to in a moment-- 'opson', which is cooked food, ideally meat, but also fish. And then wine.

The meat's expensive because it spoils relatively quickly, also because it's just expensive to raise an animal and then slaughter it and not have it the next year.

**Aven:** Yeah. There's a lot of other uses you can put animals too.

**Josh:** Right. And so I think for most people, not everyone, but most people, you're having your meat primarily at festivals, either the state sponsored festivals in Athens, or at a wedding.

**Aven:** --and there's a lot of--I mean, there's, relatively speaking, a fair number of festivals in any given year--

**Josh:** Absolutely, so you're not going to be deprived of your meat. Absolutely. There's a ton of festivals. You're not deprived of your meat for that reason, but you're also not having bacon every morning and then, you know, ham sandwich at lunch and then a steak at dinner, [00:26:00] that's just not happening.

**Aven:** We seem to get a good sense that there seems to have been things like sausages and stuff. So the idea that you might have like, one piece of smoked sausage that you can cut up into your cooked greens or whatever, seems like a doable thing, but that's not the same as eating meat as your food.

**Josh:** Yeah. Yeah, the meat consumption is much higher today than it was then, but yeah, you're right. You can have small amounts as sort of flavoring and things. But then when we break this down, most people, if you get sort of a truth serum and talk to the average Greek person in antiquity, you know, they'd say, 'Oh yeah no, I prefer wheat bread, because that's the good stuff' and probably was better, but it also is true that it's higher calorie. Most of them were probably eating barley for a lot of their meals. And then it's simply a cost issue. Yeah, there's more of it available and so they sort of pooh-pooh it as like, 'that's what you feed the horses', but [00:27:00] you know, people were eating it and people were eating quite a lot of it.

**Aven:** Right.

**Josh:** But then there's also a relatively big difference-- yes, in terms of class, but also in terms of urban versus rural.

**Aven:** Okay. Yep.

**Josh:** And rural people, people who are living on farms, seem to have had a wider range of food in their diet: more access to greens, more access to hunted food, having animals around. Also, if you're living out there on a big estate or if you own an estate, well, you're rich. And that helps too.

Whereas in the city, one of the things that has to be considered, and this is where those studies had always started with-- where are you getting your food? How are you bringing it in? And if you, for instance, read about the American Midwest in around [00:28:00] 1890-1900 in places like Chicago, the cities were disgusting because they were shipping in on rail cars, cattle, and then slaughtering them in the city.

Well, we do have evidence for butchers and like, Flint Dibble's been doing a lot of work on sacrificed animals and things like that. But you know, these animals in the city always pose a problem. They poop everywhere. They have a lot of blood, you have to try and capture that so you can use it somehow, but like, there's a lot of stuff going on.

And then once you have done the slaughtering, you have to dispose of that meat relatively quickly, otherwise it's going to spoil. So what seems to have happened is that--simply the mechanics of a pre-modern, the logistics of a pre-modern economy bringing in food seemed to have [00:29:00] encouraged more grain consumption for people simply living in the city.

**Aven:** Right, because that's a much more manageable product as well as--it doesn't cause waste, yeah.

**Josh:** And then a lot of our evidence for some stuff like this comes from Athens, and we're told that places like Athens and Rhodes had better bread and there are several reasons for this. Economies of scale, I suspect that plays a difference when you're grinding a lot of grain, but also they are hubs in the grain trade. So Rhodes is on the route from Egypt and Athens pretty aggressively controlled the grain trade into the Aegean, so that grain ships coming from the Bosporus had to go to Athens before they could go anywhere else.

And so Athens is [00:30:00] basically first dibs. And as a result, you get newer grain. And so it typically is better grain.

**Aven:** And so that grain coming from the Black Sea is going to be-- you talked a while back about different strains of wheat. Maybe we can explore that a little bit because so barley-- I'm sure barley has changed over the years too but people don't eat a lot of barley now and they don't really have a good sense probably of what barley flour is like-- I mean, I have baked with it and I've used it in a few things, but probably it's a little unfamiliar to a lot of people. But we all think we know wheat, cause we're used to it. But if you don't do bread baking on a fairly detailed scale, you might not have thought very much about flour in the past.

So what--I know the wheat we have now as an extremely different beast than the wheat in the ancient world in some ways. So what were the basic wheats they were using? And what were their properties?

**Josh:** Right. So there seemed to be two, and I [00:31:00] should preface this with like, this is something I'm working towards. I want to recover a lot of this, but I haven't been able to get into the field and really dig into this. And also as an amateur baker, this is also something I'm still learning about.

**Aven:** Yeah, me very much too. This is something I haven't done a lot with.

**Josh:** And so like, here's the thing about modern grains. Most people, when they go 'flour'-- well, they think, 'I'm going to go down to the grocery store and I'm going to get a bag of milled Gold Medal flour, or Pillsbury flour or something'.

Or even if you're like me and-- I typically get King Arthur flour, you know, partly the home state loyalty and partly, I think they put out a very good product-- what you're getting is a fairly homogenous thing from one or two strains of wheat [00:32:00] and you're getting this picture that it's all one thing. But if you start to look around at artisinal granaries, farms and like mills --the one that I've been sourcing a lot of my stuff from is Janie's Mill in Illinois-- what you'll find is that they actually have flours from a half dozen or a dozen different varietals of wheat, and they are all going to have different qualities in terms of texture, how much water they absorb, different milling techniques.

For instance, you can get a whole wheat that is unbolted that still has a lot of the bran in it. Or you can have bolted, which is-- the bolting just takes out the bran. And so it's a much smoother product. You can also get-- Bob's Red Mill, for instance, does spelt, which is an ancient grain that I quite like, it sort of has a nutty flavor.

**Aven:** And they differ in their protein content, which is really important.

**Josh:** Yeah.

**Aven:** Gluten.

**Josh:** Yeah. And they range from, [00:33:00] so on the low end, 8-9% protein up to about 15% protein, which is-- yeah, it's a pretty significant difference. And so they're going to add texture, they're going to add flavor, they're going to change how strong the dough is, because ultimately what bread is, is the-- you know, the kneading creates gluten in the flour-water mixture, the gluten forms and traps air inside of it, and then that puffy thing that has the air trapped inside of it is bread.

**Aven:** --or it's bread as we think of it, because barley really doesn't do that.

**Josh:** Yeah. Barley is its own challenge, and definitely is going to shape what bread looks like in antiquity. So I just mentioned spelt, it's a relatively low protein flour. It does exist, we do know of it. Xenophon talks about it in the Anabasis, he sees--I think it was a field of spelt. But the two [00:34:00] big ones that the Greeks liked to get their hands on, the ones that we're told are the best, are the Egyptian grain, which is the ancestor of modern durum flour, which is what we usually use for pasta and the stuff from the Bosporus is probably the ancestor of like, hard winter wheat, which are like the red wheats that usually are turned into bread flour today.

Ultimately, the difference between a lot of these, beyond flavor and beyond ease of use and protein content-- which is a little hard to recover these days-- is that in Egypt-- is that they are fundamentally different flours, I should say-- in Egypt you have multiple growing seasons and so you get a lot of harvests, which encourages more and more and more mutations in the grain, which ultimately-- what this does is it creates bigger kernels, wheat kernels, and it makes them easier to [00:35:00] pry apart. And these are the big challenges that you're trying to uncover because that's going to make it easier to get at the interior of the grain, the wheat berry, and turn that into flour. The ancestor of the hard winter wheat probably was a higher protein. But even though they talk about these two as being the best, they don't actually seem to distinguish between them.

**Aven:** Hmm.

**Josh:** And so as far as I can tell, and this is something that I am desperately wanting to get further into, is that these are close enough, at least to the naked eye, that they are fundamentally or functionally the same, I should say.

**Aven:** Right. But they're treated as equivalent, whatever their actual differences.

**Josh:** Right.

**Aven:** Hmm, okay. So those are-- but those are reasonably high protein, those are reasonably high gluten, so you're going to get some essentially stone ground-- [00:36:00] well, it's always stone-ground in the ancient world-- anyway, not a lot of steel milling going on-- stone-ground flours. So you're going to get what we would consider a whole wheat flour. Even their whitest flour is probably going to be pretty whole wheat to our eyes.

**Josh:** Yes. I mean the handful that aren't --and Pliny the Elder talks about this at one point-- if you get a wheat that's too white, it's probably not that you actually have a white flour, what you probably have is somebody who took some sort of chalk and dyed it.

**Aven:** --Adulterated it like the 18th and 19th century breads in England that are so famously poor.

**Josh:** Yeah.

**Aven:** Okay, so you got some sort of whole wheat-esque wheat, if you-- leaving aside barley for the moment did-- well actually let me just ask, did they mix barley and wheat? Like, was that a thing?

**Josh:** I have not been able to find any recipes that combined them.

**Aven:** Which is so [00:37:00] interesting to me, because you'd think would be an obvious way of stretching your wheat to make like, an acceptable leavened loaf by--

**Josh:** --this very well could be an instance of a, we just don't have the evidence for it.

**Aven:** Right. People are just not going to talk about it because you don't want to say you have to stretch your wheat and say--

**Josh:** --right. But yeah, I mean, you're absolutely right. I have not found any of the recipes that talked about it. It's either, 'this is a barley loaf or this is a wheat loaf'.

**Aven:** Okay. Well, that's interesting. Even if-- you know, whatever they were doing on the ground, that's a meaningful thing to see in their classification system of what bread was like. Of course, when you're talking about recipes, especially if you're talking about actual written out recipes-- you can talk about that perhaps at some point-- your evidence is pretty limited and very specific to certain classes.

**Josh:** Yeah, and I've not seen any specific recipes. These are just descriptions of different breads with a name. And then here are [00:38:00] the ingredients.

**Aven:** Right, right. And yeah, the salient points about them.

Alright, so you got that. And then for the wheat ones, then, presumably --one imagines-- they were always at least to some degree leavened. I don't know if they were, I mean barley--

**Josh:** -- not always. I think that the idea would have been leavening is better.

**Aven:** Yeah.

**Josh:** You know, it creates that attractive bread. It also makes it sort of easier to digest, usually, it's softer. But yeah, but I don't think that that is necessarily something we can guarantee. Now, there has been some work in Roman culture at Tavola Mediterranea and I'm blanking on her name at the moment, but that's her site , she's done a whole bunch of-- Farrell!

**Aven:** Yes, that's right.

**Josh:** Yeah-- has done a bunch with Roman bakeries where she suggests that the breads were simply leavened by leaving them out overnight.

**Aven:** The dough's out before you--yeah.

**Josh:** And that's probably true. And [00:39:00] some of that probably happened in Greece, we just don't have the evidence for it. And like, we really don't have the extreme evidence for large scale bakeries.

You know, in Rome we get these big bakeries. In Greece we really don't, which was one of the things that originally got me really fascinated by this. We're always told, 'well, self-sufficiency self-sufficiency self-sufficiency' but then if you look at the archeological record and places like Olympus, they don't always have a hearth, they don't always have an oven. So if they're self-sufficient--

**Aven:** How are they cooking their food?

**Josh:** How are they doing it? Maybe they're just doing it with a little portable thing. That's true, maybe they're doing it outside. Maybe they're doing it communally, all of that is possible, but some houses, some residential places did and some residential places didn't. [00:40:00] And so what I started doing was looking around for evidence of who's actually baking this, who was actually doing this work. And what I found was actually really interesting. So on the one hand, we find that in these big 'self-sufficient'-- quote unquote 'self-sufficient' houses, unsurprisingly it's enslaved people. We find out again from Athenaeus quoting Archestratus that you should have a Phoenician or a Lydian enslaved person doing this baking for you.

It's like, okay, so not just an enslaved person, but a very particular enslaved person to do this. And the particular speaker in Athenaeus goes on to say, 'well it's because he doesn't know that the best person comes from Cappadocia'.

**Aven:** Right. So there may be some rhetorical stuff going on here about like, showing expertise and, and yeah.

**Josh:** Yeah, and that's the domestic [00:41:00] side. But then we also hear about Theorion, who is specifically a baker.

**Aven:** Right.

**Josh:** So, yeah. And in Xenophon's Oikonomikos, we have an account of somebody who is running-- who is basically making a killing by being a baker, by owning a shop where enslaved people were doing this baking.

Okay, so citizen men own these things and they are the ones who are doing this baking and getting rich from this. That's a starting point, but then I started looking further because it's never quite that simple. It's never the first thing you find. So I started looking further and I went to a thing in comedy, particularly Aristophanes, there are some issues here.

And what you find in Aristophanes is this really interesting [00:42:00] cross-section of professions. And one of the professions that he finds is the baker, except that he doesn't-- usually in these cases-- he does not usually use the masculine.

**Aven:** Hmm.

**Josh:** It's usually a woman. And so we find, for instance, in The Frogs where they're having the poetry contest down in the underworld to figure out 'what are they doing about Alcibiades' and, you know, one of the poets declares, 'it isn't proper for men of poetry to be abused like bread wives', which is what I've been using for female bakers here, because ultimately they're sort of this stock type. It was a rude stock-type that's rather like the fish wife. The first time I ever talked about this in front of people, I compared it to a scene in Anthony Bourdain's No Reservations where he went to Portugal and he's just got B-roll of these two [00:43:00] fish wives who are just the filthiest jokers. They're just talking and talking about their husband and genitals and whatever. And it ends up being sort of like that. In Aristophanes' Wasps, two men who are on the jurors sort of reminisce about the time that they went wandering, stealing from a baker, 'we removed her tray or mortar, split it apart and boiled our pimpernel'.

And like, 'okay, what?' And then also in The Wasps, there's a female litigant--well, if we're going by the most tightest definition of it all, women wouldn't bring in court cases-- but there's a female litigant. And she goes 'that there is the man who lay waste to me, striking me with this torch, knocking 10 'oboi' off the tray, and four more besides'. Okay, so she's selling, she's selling bread and she's bringing a court case against somebody.

[00:44:00] And then in Lysistrata's army in Lysistrata, we have the 'garlic tavern bakery keepers' where-- right. And so we can start pulling this apart and going 'wait, we have all these women who are doing this work and they seem to have the equipment to actually do the baking on top of simply selling it'. They're bringing the case to the magistrate--

**Aven:** --which also means they're not enslaved people--

**Josh:** Right!

**Aven:** Yeah, or even foreigners, necessarily.

**Josh:** Yeah, and it's funny that you should mention foreigners because then if you-- if we pull back even further, so we're like, 'okay, well, there are definitely some citizen men who were operating these things, but we also have female bread bakers and bread sellers who are interacting with the magistrates and with the men'-- you know, we always get this picture, we're always told about the Athenian women who are supposed to cover up and never go outside and on and on and on. And it's like, that was not true. Then we have this [00:45:00] whole picture of them in business. But then, this one thing that I'm most fascinated by, it's probably my favorite inscription from ancient Greece, is an honorary inscription from Athens in 401 after the fall of the Thirty Tyrants. And it is giving honors, probably tax honors, to these foreigners who fought alongside the revolution to restore the democracy.

**Aven:** Okay.

**Josh:** And on this list, we get a couple of bakers. One of them probably is my favorite, is this guy named Abdes, which-- that 'A-b-d-e-s'. Hmm, that doesn't sound like a Greek name.

**Aven:** Yes. It's definitely not.

**Josh:** Yeah, that sounds like... oh, I don't know, somebody from Syria-ish, possibly? And then we also have another one, 'Paidikos', which sounds quite a bit like an enslaved person's name that had been given to them, was also [00:46:00] listed as an 'artopoios'. So we get these people who are operating in the Piraeus, probably not in Athens proper, but in this port where they can operate their bakeries and they're selling bread. We get these women bakers and then, you know, we do have a couple of accounts of potentially citizen men owning these businesses. But, you know, once we start looking for it, bread is everywhere. It also shows up in metaphors. But it's everywhere. The people who are doing the bread selling are everywhere and there are much more interesting cross section of the Athenian society than just going 'oh yeah. Well, some rich men owned some bakeries and got rich on it'.

**Aven:** Right. And definitely it's not that each household is making their own bread every morning for their own family, but like, that some people are of course, but most people probably aren't. That's just--

**Josh:** --yeah, yeah, absolutely.

**Aven:** Okay, I have two things I want to [00:47:00] ask about and you can decide which way you want to go. One is, I want to ask, I want to pick up on the metaphors about bread a bit, and talk a little bit about the importance of bread in that imaginary rather than real world and ask you to talk a little bit about that. And then the other piece that I want to talk about a little bit more is how much attempts at making ancient bread have you done? What have you done or are you doing, or would you like to do, in terms of that kind of experimental archeological approach to, to bread making?

So you pick what you like to start with.

**Josh:** I can answer both of those. The answer to the second one is fairly straight forward: I want to do as much as I can. I have not done very much. You know, it's one of those instances that my brothers who, like I said, also bake have been taunting me and going 'I expected more by now'

**Aven:** --right, so you have a strong incentive is what you're saying--

**Josh:** It's more been an issue of time and money. I know this is not [00:48:00] an academic employment podcast, but the fact is that being contingent has made things very, very difficult to get this project really going.

And I fully intend to do a bunch of reconstructions, some of it will be taking those different types of bread and just experimenting, being like, 'all right, I know what I'm doing when it comes to baking modern bread, let's just see what I can do'. It might not be perfect, but I'm going to, you know, keep it as close as I can.

I would love to work with specialty bakeries, for instance, in Ann Arbor or King Arthur Flour in Norwich, Vermont or wherever to do some reconstructions, work with Janie's Mills even, to see if we can do some reconstructions of specific types of saddle mills for grinding the grain, for trying to figure out as close as we can what types of wheat they were using, to make ovens, to see what I can do. [00:49:00] Because I think that that hands-on component would be really necessary. But at the moment, that's not been possible yet. So that's all in the future.

**Mark:** A question about that then, would you then, would you want to rely on wild yeast. As you said, they would just leave their loaf out overnight, in terms of leavening--

**Josh:** I would experiment with it a couple of different ways. For leavening, I use a sourdough starter for all of my home bakes. I would not use that for this. What I would do is the-- the closest thing I've known of that was a particular source that mentioned throwing leftovers from yesterday's bread, into today's bread to leaven it.

And so I would do that a couple of different ways. You know, once I had 'ancient' breads quote unquote, I would try throwing actual baked bread, probably break a baked cake of some sort in to see what happened. I would throw-- I would save some of the dough and throw that in. I would leave it out overnight, however that [00:50:00] works. I would absolutely do all of that. I would not use a sourdough starter simply because I don't have any evidence that they actually kept sourdough starters--

**Aven:** --starters. Yeah. Cause that is a more complicated thing. An actual--making a starter. Yeah.

**Josh:** And to be perfectly frank, it's more wasteful.

**Aven:** Oh yeah. It's-- when I've done sourdough, I've gone through batches of sourdough bread and I a hundred percent refuse to do it the way that any of the books tell me to do it because I will not throw out starters. So I just don't do that. And fine, I make perfectly decent--

**Josh:** --yeah, we should talk. Like, I don't throw out any of my starters--

**Aven:** --and I don't use it for anything else either. I basically feed it for a bit, make a bread with it, stick the rest of the fridge until I'm ready for it. And it works fine.

**Josh:** Yeah, if you can refresh it straight from the fridge though, which is what I actually do. I've been using the same starter for five or six years now.

**Aven:** I've got one in the fridge right now [00:51:00] that I haven't touched in six months, four months, maybe five months.

**Josh:** You're probably going to need to replace that one.

**Aven:** Yeah, probably, but we'll see. Cause I did one that I went from, I think from June of last year to, I started again in October or something and I pulled it out. I was like, 'there's no way this is going to work', but I poured out that black liquid and I stirred it up and it was fine.

**Josh:** I baked roughly twice a week when I'm going, 'well, I bake four or five times a week', but during the semester, it's probably about twice a week.

**Aven:** Then you aren't going to be wasting starter--

**Josh:** --and I don't waste anything of it. I just refresh about once a week. So like, I wouldn't be doing anything like that. I think we also have at least one account of leavening using wine must.

**Aven:** Right, cause that's definitely something that comes up in the Roman sources, is wine must and other things that make it sound like they are using kind of dried yeast ideas.

**Josh:** Yeah. And so I would try stuff like that as well. There's actually a really interesting [00:52:00] baker in France who reconstructed the method that was being used by French bakers behind the lines during World War One, which involved harvesting yeast from raisins. So basically he took raisins, threw it in water, left it for two days, and then used the water to bake bread.

**Aven:** Yeah, because I've seen that in one of the books-- I have seen at that as a suggestion for sourdough starters, like when you first start your sourdough if you're starting from scratch, throw a couple of raisins in, and it'll perk it right up.

**Josh:** It's super easy and gets the yeast. So I would try all of these things and yeah, a lot of our sources for this stuff are coming from the Roman era, but they are-- many of them also do look back to ancient Greece and talk about Greek methods versus other methods. And there does seem to be long-term persistence because-- let's be serious here-- what I'm doing to bake bread has a couple of different technologies that make it easier for me, [00:53:00] but it's not actually really all that different from what people have been doing for thousands of years.

**Aven:** Yeah, the substance hasn't changed that much when you're doing it at home.

**Josh:** Yeah. So that's the experimental side, I would love to do it. Briefly on the metaphors, I've got one in front of me, but they, they start popping up more than you might think, when you start looking for them. And it's this really weird account in Herodotus where, you know, he's talking about tyrants-- and this is the other thing, is that like, the range of people and the range of contexts in which bread show up and the number of people who seem to know about the process or know about the tools is striking. I think that this is not something where you get segregation between genders-- but anyway, in Herodotus, as he's talking about the tyrant Periander, who very infamously committed necrophilia and Herodotus [00:54:00] describes this as Periander throwing his loaves into a cold oven. And so we get bread baking as a metaphor for sex.

**Aven:** For non-progenitive sex, right? Like that's what the metaphor means?

**Josh:** Well, that's the cold oven.

**Aven:** Yeah. That's what I mean.

**Josh:** That's-- presumably if you throw it into a warm oven, then it's just sex. Yeah, and so you can start to find these things in the language. And one of the things that I've discovered, and this was true of the types of bread, and this was certainly true of the civilization stuff, the glossographers and on and on, bread is everywhere in the Greek language. You know, it shows up all over the place.

**Aven:** The metaphor I was thinking of, coming from a literary perspective-- the one that is the most famous perhaps, is the 'eaters of bread' as mortal, as [00:55:00] opposed to, in contrast to the gods, that sort of is the defining factor of humans.

**Josh:** Yeah. And I think that that's certainly related to this sort of commentary about civilization versus the uncivilized. The eaters of bread are a very particular type of mortal because then if the people below eat human things, but they're not settled down, they don't grow their grain. And then the, the gods also don't, but yeah, we get this nice swath right in the middle.

**Mark:** Is there any Greek equivalent to Latin 'companio' that has that sense of, you know--

**Aven:** --someone you break bread with?

**Mark:** Someone you break bread with.

**Josh:** That is a great question. Not that I can come up with off the top of my head, but I'm going to have to look into that.

**Mark:** Because you do see a similar thing in English with--the word 'mate' is etymologically related to [00:56:00] 'meat'. And so it's the same idea of sharing food with someone as--

**Aven:** And 'meat' didn't mean 'meat', either.

**Mark:** No, it used to be a general word for food.

**Josh:** Yeah, which is something that I belatedly learned because one of my pet peeves is older translations that translate 'sitos', or 'grain' as 'meat'. Because, you know, there are these modifications. My least favorite moment of that is in Thomas Hobbes' translation of Thucydides.

He talks about the women who go to Plataea to 'dress the meat for the defenders', which is just, you know, to my mind-- it just like broke my brain because no, these women went there to bake bread.

**Aven:** Yeah, right. Using the phrase, putting the phrase 'dress' in there really is-- to 'dress' the meat, it really does-- like, you can't turn that into, if they even just said 'prepare' the meat, you'd be like, okay, fine. Meat is grain, fine. [00:57:00] But yeah, you don't dress it. Yeah.

**Josh:** But yeah, it shows up all over the place. So yeah, the only things that I can come up with off the top of my head for Greek lean more towards drinking together.

**Aven:** Yeah. I was going say that the wine --

**Josh:** --but it's not eating. It's not bread. But yeah, the drinking together is much more common. And frankly, seems to have been, in terms of social institutions, that the more sort of important thing-- the bread is sort of the fabric of society. And then, you know, how do you sort of engage with your fellow people? Well, you go drink with them.

**Aven:** Though if you look-- I can't think of a word or any of the terminology-- but if you look back to the Homeric stuff, the food there becomes very key, whether it's grain in the drink or the bread. Right? And I've always-- one of the things that interests me about that is the bread that they bake in those very formulaic-- and quite probably [00:58:00] not in any way reflective of actual practice, granted--, but those formulaic-- not the feast, but the scenes where they sit down together, where somebody would welcome them to your tent.

They always talk about grinding the grain, mixing it, baking it, and then serving the rolls, you know, the fresh baked bread. Which definitely means they're not the fresh baked bread the way my brain wants them to be. Cause they're not like, crusty, risen loaves.

Well, yeah, they're not leavening.

No. And they may well be sticking it on a stick and roasting it in the fire. They don't have ovens in there in the camps on the shores of Troy--

**Josh:** --but I mean, it would be super quick because in Jewish custom, when you're making matzah-- fresh matzah for Passover, you have to go from the moment the water hits the grain until the moment it's out there in the oven in 17 minutes. Or the whole process of it has to be completed in 17 minutes.

**Aven:** Is that to make sure there's no leavening whatsoever happening?

**Josh:** Yeah, it's to make sure there's no leavening whatsoever. You know, of course--

**Aven:** I'm sure there's ritual reasons behind the [00:59:00] timing.

**Josh:** Yeah. It's to stop the leavening. I joke sometimes that I should be able to use my sourdough starters, of course you don't want to leave it behind in Egypt.

**Aven:** We don't want to leave it for the Egyptians! That's good starter, thank you very much!

**Josh:** But yeah, it's 17 minutes. And so, yeah, I mean, you can imagine that if you're not going to be leavening, you absolutely could do a-- well, you'd probably want it a little bit ground, but you know, in half an hour you could have a fresh roll to give somebody as a part of a welcome.

**Aven:** Hmm. Well yeah, I mentioned bannock before--

**Josh:** --yeah.

**Aven:** --I mean how I think of bannock is-- I mean, bannock is camp bread, which you yes, you've normally ground the flour already and modern recipes have baking powder in them and things like that. But no way that's what people were using. Bannock is, you literally wrap it around a stick and bake it in the fire and it takes you 10 minutes. It's not hard and it's tasty.

**Josh:** It's super easy, super fast. And so you could absolutely imagine that something [01:00:00] like that in the Homeric poems is simultaneously literary and formulaic and all the rest, but it's also like, not out of the realm of possibility.

**Aven:** Yeah. I mean, it has to have some connection to real life, or it would just be meaningless to its original audience. But I bring that up because, while I can't think of a term that is involved there, that is very clearly you know, an important social bonding thing that's going on at which it seems that you need to have the meat and you need to have the bread and you need to have the wine and all three of those things are there.

**Josh:** And we definitely know that people are dining together and that there are dining groups and things. It's just the ones that sort of bubbled to the top in terms of what words they're using for things seem to be a little bit closer to the drinking together then eating together, even though you're absolutely right. It happened. And you know, I don't want to downplay its importance even if some of the accounts--

**Aven:** --Places to look for it, because that is specifically not just a--like, those aren't family [01:01:00] groups, right? Because obviously most people are just eating as family groups. That's what we see with this symposium pattern is that you eat in your family group, and then you go drink together.

But when you're talking about the sort of formal guest-friendship stuff and all of that, it's a different--.

**Josh:** And rituals and the like. And like, we do know that there are specific breads that are made for specific things. You know, the women, when they go off to women's only festivals, bake special breads for them.

**Aven:** Yeah. Sometimes in the shapes of very interesting things!

**Josh:** Yes. Sometimes no, but sometimes yes.

**Aven:** Those are the ones that make it into the stories.

**Josh:** Yes, of course. But they are very much important things in their commitment to ritual and social gatherings and all the rest. And yeah, bread is just everywhere.

**Aven:** When you think or talk about pet peeves of translation, mine has always been the-- I mean, I could pet peeve a long time, but mine is the corn and maybe it's worth bringing up just because in case anyone else has ever been [01:02:00] baffled by the bizarre prevalence of corn in the ancient world.

But I mean, it's such a North American problem, I know. It's modern North Americans who have a problem here. The rest of the world is perfectly able to see corn as just meaning 'grain'.

**Josh:** It definitely baffled me the first time I came across that in college.

**Aven:** It took me an embarrassingly long time to realize, to finally kind of notice it and think-- no, like in my mind it wasn't just corn. In my mind, it was corn on the cob. I don't know how long it took me to realize that 'Aven, you know that they were not shipping cobs of corn from the Black Sea to Athens--

**Josh:** --that would be a fantastic story though. Would it not? But yeah, no. What Aven is of course referring to, is that corn the way that most North Americans think about it is, is actually maize.

It's a grain that was domesticated in Southern Mexico or Central America, and then became the dominant grain in the [01:03:00] Americas and has since become one of the dominant grains in the entire world, having spread through European colonialism basically, and very Spanish trade routes, but it is also an antiquated term for wheat, an older term specifically for any grain that was shipped around. And so you'll see a lot of translations that talk about, you know, the 'corn trade'.

**Aven:** Yeah the corn supply, the corn supply at Rome, right? Like, you do Roman history and they talk about the corn supply at Rome all the time. And it just, it took me so long to break my brain and go, 'what are they talking about? The corn supply? I don't-- or the corn laws in 19th-century England! Again, same deal. I'm like--

**Mark:** --well, it wasn't laws about corn on the cob--

**Josh:** Well see, what you don't realize is that when they said, you know, bread and circuses and they're handing out corn and the corn dole at the Colloseum, what they're really doing is handing around buckets of popcorn.

**Aven:** Buckets of popcorn and actual circuses. It makes total sense. Yeah.

And [01:04:00] it's not the fault of the early translator. It's it's a completely reasonable word to use because in fact, if you said 'wheat', you would be lying because yes they did--

**Josh:** --because it's not just one thing.

**Aven:** Yeah. Grain is the right word and corn is a perfectly reasonable word. Anyway, your comment about meat made me remember my ongoing bafflement about that.

**Josh:** That is certainly one that shows up all the time.

**Aven:** Well, I think we could probably talk modern baking for quite a while. But I think we've talked for a while and I think this is probably a good place to leave it for now. But--

**Josh:** --fantastic, anytime you want to have me back to talk modern baking. I've been experimenting with pizza recipes, so I'd be happy to talk.

**Aven:** Good. Okay. Well, we'll keep that promise.

Well, in fact, fingers crossed-- for a bunch of different reasons-- that you get the time and resources to put towards experimental baking in the next little while. And if you do manage to do some, then that would [01:05:00] be a fabulous chance to have you back to talk about and see what you're able to do and what you've been able to share. Love the idea of partnering with a mill and the bakery. And then, I don't know how much you've talked with people like Matt Gibbs at-- he was at Manitoba he's now in Edmonton-- who did a lot of stuff with Roman beer and ancient beer.

**Josh:** Yeah, once I get going, he's going to be one of the people I need to talk to.

**Aven:** Yeah, 'cause he partnered with a brewery and I thought it was a really brilliant project and way of doing it because doing things like selling your, you know, recreational-- recreational?-- Recreated loaves, it's a really interesting idea.

**Josh:** Yeah, it's something I would very much love to do. I mean, the sort of trajectory of this project, as far as I'm concerned, hopefully will be a book, a commodity history of bread in ancient Greece that really takes you from farm to table. And the whole nine yards you know, getting into all of these different aspects because it is this foundational, fundamental thing.

[01:06:00] And I mean, I originally got the idea for partnering with people about six, seven years ago, because I read a book on milling in antiquity and he had actually gotten a fellowship, a scholarship from-- I think it was the Millers Association of Scotland or something, you know, to do this research into milling technologies.

And it would just be a delight to work with all of these different ones, especially in this moment where artisanal bakeries are really having a renaissance in the United States, along with other aspects of food culture.

**Aven:** For sure.

**Josh:** And so it would of course be my pleasure if and when this project really gets underway to come back and give an update.

**Aven:** Yeah, that'd be great. Well, in the meantime, where can people find you? And if there's any other things coming up, I know you're working on a book, but I don't want to hold you to a production schedule on that, but if there's anything coming up and where--

**Josh:** Yeah, that book has to be delivered soon. So yeah, as we said at the beginning, I've got [01:07:00] a bunch of different academic interests and I'm working on a variety of projects connected to ancient Ionia. Also some stuff on Alexander for great. You can find me on most social media platforms --that is, not Facebook, but most other ones-- @jpnudell, Nudell being my last name. And then I also keep a blog, the link to that website is available on my Twitter account. And I write regularly, mostly about books I read, but also a whole variety of other things.

At the moment after this particular school year, it's going to be mostly resting and recovery this summer. But hopefully there'll be some new projects coming down the pipeline later.

**Aven:** Great. Well, we'll keep an eye on that. Yeah, I find the information in the book reviews on the blog very interesting as someone who never has time to read books anymore, I rely on other people doing so.

So thank you for that.

**Josh:** Absolutely.

**Mark:** Well, thank you for chatting with us. That was a lot of fun.

**Aven:** And we'll see you on Twitter! [01:08:00]

**Josh:** As always, see you online.

**Aven:** Thanks!

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**Aven:** And if you've enjoyed it, consider leaving us a review on Apple Podcasts or wherever you listen. It helps us a lot. We'll be back soon with more musings about the connections around us. Thanks for listening.

**Mark:** Bye.