

# 5th Anniversary Special! Xylology with Jeff Perry

## Ologies Podcast

### October 4, 2022

Oh hey, it's the apple peels that your roommate was going to compost but you ate them, because roughage, Alie Ward, back with an anniversary episode of *Ologies*. We are officially 283 episodes in, and as of late September... we are 5. We're 5 years old! And I was thinking, 5 is a big year! I should do something, I should make an anniversary clip episode, but then I googled customary anniversary gifts and I realized that 5-year gifts are wood. So, let's do a wood episode, shall we? Let's lumber up and celebrate with a fresh new episode with my favorite sawmill in the world, (I have one).

And thank you to everyone who has supported the show via [Patreon.com/Ologies](https://www.patreon.com/Ologies) where you can join for about \$0.25 an episode and submit questions. Thank you to everyone who makes sure you're subscribed so you get new episodes, and everyone who rates and leaves reviews. I read every single one including this one from Erbearstyles, who just wrote:

*I've been a fan for so long but finally got myself to open this app and write a review. This podcast is one of life's simple pleasures. Thanks internet Dad!*

You're welcome, kiddo.

Okay, so we wanted this episode to go up in September but I'm going to be honest, for the first time in 5 years, last week we did not put up an episode. We've never done that before. I was traveling to see family on the east coast and travel plans got a little wonky and I just could not pull it together. So, you oftentimes say, "Take all the time you need DadWard," and so I took a few days. But, Spooktober episodes shall commence next week. But meanwhile this week, xylology, wood.

So, xylology is a branch of dendrology and it deals with the structure of wood. It comes from a Greek word, *xylon*, which means 'wood cut and ready for use', or firewood, or timber. Or it means planks, or beams. So, xylology; lumber y'all.

I met this ologist in the summer of 2019, it was a dry, dusty July day, right after I moved into a house after living in a studio apartment for a decade, but I needed a kitchen table and Jarrett and I wanted to make some kind of live edge table. And I heard about Angel City Lumber, which sources its wood from downed urban trees. It's in the middle of this industrial district in downtown LA, it's a sawmill and lumber storage facility, it's this big, cavernous retail warehouse just neatly stacked with these thick planks, and stumps, and slabs. Each one is labeled with the type of tree and the neighborhood that it fell or was cut from. So, we ended up buying a live or natural-edged, three-inch thick, Shamel ash slab from Covina, and Jarrett sanded and finished it as our dining room table.

So, I appreciate their mission every day as do a bunch of local furniture builders, and carpenters, and designers, and woodworkers. I emailed the founder, and I asked if he *would* answer a bunch of lumber questions. And I headed there last Saturday afternoon, just after they closed to the public for the day, I was toting my little audio kit.

**Alie:** Wherever is a good place. I just want to sniff everything; it smells so good in here!

We sat in the office, and we talked about everything from sawdust to tree diseases, 2x4s, salvaged lumber, kiln drying, westward expansion, Indigenous forest management, cedar whiff, walnut burls, bog logs, grain patterns, and more. So, get ready to be acquainted with timber with co-founder of Angel City Lumber, xylologist, Jeff Perry.

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**Jeff:** Jeff Perry, he/him.

**Alie:** Got it. Now, I've known you for a couple of years. I came in to get a slab, a table slab, fell in love with this place.

**Jeff:** Right on.

**Alie:** *[laughs]* For our 5th anniversary, for wood I was like, "Ha-ha! This is perfect!"

**Jeff:** I love it. I mean, anyone that wants to talk wood, they have my attention.

**Alie:** Would you call yourself a lumberjack? Who gets to call themselves a lumberjack?

**Jeff:** I think someone who is in a forest of some kind, maybe an urban forest, felling trees is a lumberjack. I don't know if we can classify ourselves as that because we're not felling trees. We're, essentially, hauling trees that have fallen or are being taken down because of a disease or because of development, perish the thought, or whatever reason. But we're not out there with a chainsaw; as much as I think it's romantic, I can't really call our operation lumberjacks.

**Alie:** You're not Paul Bunyaning out there, in a flannel.

**Jeff:** Yeah no, not typically.

**Alie:** And Angel City, that's obviously Los Angeles. When people think of Los Angeles, I feel like they don't think of trees. Are you from here originally?

**Jeff:** I'm not from here originally, I'm from the Boston area. I'm from Reading, Massachusetts, which is north of Boston. I moved here 20 years ago. Actually, next two weeks it'll be 20 years.

**Alie:** Hey!

**Aside:** The customary gift for a 20th anniversary is porcelain dishware, which I did not come prepared with. But in the last two decades, Jeff learned a lot about carpentry, furniture fabrication, and he built an appreciation for different types of wood.

**Jeff:** So, as a maker, kind of self-taught for the most part, not necessarily a great one but a maker. I had a couple kids; I was in business for myself. My son was a year and a half... no, two-and-a-half, and we were on a hike in Altadena with our dog and I saw this tree come down in a storm. I didn't see the tree fall *[Alie laughs]* but I saw it downed already and we were walking by it and, as I tell the story, I thought I was a genius. I thought I was the only one to ever think like this, which was, "I'm going to build a line of furniture from this oak, from this tree." It was a huge codominant live oak that splayed in the storm, and I was like, "This is it."

So, I went to the ranger and asked, "Can I take this tree that has fallen?" And he was like, "No, that's rid- You can't. *[Alie laughs]* It's a county park, you can't do that." He was very nice, and to his credit, he was very patient with me. But I went back a week later, and I saw that the tree had been... To their credit, most of it was still left there to decompose but there were still parts of it in the pathway that were bucked up.

**Aside:** Bucked up, side note, means cutting into logs, just chunking it up.

**Jeff:** And I just had this moment of like, I literally at that time had just paid \$11 a board foot for oak from Illinois for this commission, and I see this oak come down, and it is getting thrown away essentially. It's being mulched. So, then I just went down this rabbit hole of, "What do you mean we just mulch? What d'you mean, what d'you mean, what d'you

mean?” And then I started doing some research and talking to people and found out that a lot of recycling coordinators around the county are like, “Yeah, we mulch it.” And then I was like, “No, this is unacceptable.”

So, then I started figuring out ways to... you know, I would call tree services first and foremost. They love trees, you know, and it just guts them when they have to see a tree come down, and then ship it, and then buck it up into these... you know, this enormous, majestic tree. So, I would call them and say, “Hey look, if I had a truck and I could come by and take a tree that you guys were felling...?” and they were like, “Yeah, when can you be here?”

**Alie:** Really?

**Jeff:** And I was like, “Well, I don’t have a truck yet,” [*Alie laughs*] and they’re like, “Well, all right. Let’s go.” And then I started calling some of the design community because I’d worked with some designers and stuff like that as a maker. I was like, “If we had locally-sourced lumber, would that be something that you’d be interested in?” And they were like, “Yes! We’ve been wanting to have a supply chain like that.” So, I was like, okay.

**Aside:** He found an investor via carpenter and woodworker, Laura Zahn, and that is how the afterlife for downed trees, the heaven that is Angel City Lumber, came to be. But wait, let’s buck up because there is so *mulch* to cover.

**Alie:** When something gets mulched, what happens to it? Is there any kind of argument like, “But we need the mulch!” Or does that mulch go into a landfill with dirty diapers and banana peels?

**Jeff:** Oh man, this is such a good question on so many levels. Also, I’m going to try and keep it brief. [*Alie chuckles*] So, mulch in and of itself is great, it does a lot of great things; it retains moisture, it suppresses weeds. The only thing is that... There’s a couple things. When a tree dies, first of all, we have I think, culturally, an aversion to death, period. So, I’m going to put a pin in that. [*Alie laughs*] But what happens is, we panic, and it’s a nuisance, and it’s a liability, and it’s CYA, and we’ve got to get rid of this tree that has fallen.

**Aside:** I thought CYA was a municipal term, but I looked it up afterward and I think he just meant, “Cover your ass.”

**Jeff:** So, the kneejerk reaction is “Get it out, cut it up, mulch it, get it away.” So, things like twigs, leaves, some element of branches and limbs... sure, mulch, great. We can use every morsel of a tree. When you have a 4-inch diameter, 85-year-old American elm, please don’t mulch the trunk or the larger branches. To me, it’s a little sacrilege... it’s not a little sacrilege, it just is indicative of the disconnect we have, culturally, as humans with trees, at least in the West. So, mulch. [*“Let’s talk about it!”*]

What happens now is, every municipality I know, in this area, is required to not throw away trees. They’re not allowed to dispose in a landfill, nor do they want to, these are all good people. So, they’re like, “Great.” They used to be able to bury trees, like bucked up logs, they used to excavate and bury them, and they would decompose. But obviously with carbon emitting and methane, therefore, it’s just like, “No.” So, they put a stop to that.

So, they mulch; they mulch everything. Mulch, mulch, mulch, mulch, mulch. But now, mulch, it doesn’t go in the landfill. Typically, it gets utilized back into the community, either on the sides of freeways, or public tree wells, or they also have free mulch stroops for

people in the community. I don't know if you've ever been to Griffith Park, at the composting site they have a free mulch pile.

**Alie:** Oh! I didn't know that.

**Jeff:** So, you're gardening and you're like, "Hey, I need mulch."

**Alie:** Oh, good to know. I think I purchased mulch recently... *[mumbles]* Why the hell did I do that? Who knew?

**Jeff:** Yeah, so free mulch, free mulch.

**Alie:** But in general, because wood and lumber is something that is so needed and it's such a precious resource, that if we have something that is potentially lumber, better to use the thing that's got to get removed anyway than go fell a healthy tree, right?

**Jeff:** Agreed. When people come here, I love to see their face when they go to the log deck and they see the logs come in. Especially when it was their tree that was standing there a day or two before and they come by the log deck and it's like, "*[gasps]* Oh my god, look at all these trees." They are saying, "Look at these trees," right?

**Alie:** Yeah.

**Jeff:** Then they see the process of the logs coming from the log deck over to the milling area; then they see it from the milling area go into the kilns; then from the kilns go to millworks; and then from millworks go to either the retail shop or to a project. And it paints... Obviously everyone knows wood comes from trees, but they don't think about it. They think wood shows up on a flatbed. And as I often say, no one looks at the chicken nugget and thinks of a chicken. *[Alie laughs]* So, the disconnect is so real and it's really cool to see people awake to it here.

So, I bring that up because we don't think of our trees as living beings, typically. There's very little honor involved in the efficiency of mulching, in my opinion. So again, it's not to say that mulching is bad, mulching is great. But if it's a byproduct to a larger thing, then I think it's a lot more viable.

**Aside:** Which is why Angel City has a very hyperlocal model. Part of their mission statement says that the only way to shift an untenable way of harvesting commercial lumber is that every local community produces its own, from its own local forest, which can be street trees that have been felled due to development, or disease, or from storm damage. But what about the lumber that we are used to? This stack of 2x4s that we pick up on maybe an ambitious Saturday morning from the box store.

**Jeff:** So, commercial lumber is typically, for the most part, especially for construction grade lumber, there are forests, designated forests now in Western culture that are succession planted. So, they are planted, essentially, usually for 15 or 20 years left to grow, and then after the 15 to 20 years they are harvested. Those trees typically, because of demand, and it's the same forests the world over, but because of demand they are planted, harvested, succession planted, meaning once that harvest is gone, they're going back and re-seeding. They're turning the soil, they're totally new trees. They're typically, for free-to-grow succession planting, means you're getting rid of all the underbrush, they don't want those trees to compete for any resources, they want them to grow fat and straight and just pump out boards. So, that's kind of where we're at with lumber and that's why we think of boards showing up on a flatbed but not as a tree.

So, then you live in an urban community, or even a rural one, and trees come down, and it's like, "Oh man!" Everyone is so gutted about this tree that was standing that was such a vital part of their life, maybe it was a tree in their front yard, maybe their kids climbed on it, maybe they wept under it during sad times, or whatever it is. There's a tie, right? [*"I love that tree."*] But as soon as the tree comes down, it then becomes a nuisance, not necessarily if it's a tree that you're tied to. But my point is that when *that* tree comes down and it's your tree and you're tied to it, you have a connection to it.

So then, when you're saying, we have a lot of people here that have a tree come down, they're like, "We just want you to make something from it, especially for me. Please make me something of my tree." But there's a deep connection to that tree. So, if people were connected to all trees like they are connected to that particular tree, then I think we would be in a much different headspace and heart space than we currently are. And not just trees, but it would be for food; it's the same thing, farm to table, or ethically sourcing meat, right? It's all different things. When you have an animal that you've grown and have a relationship with, it's a whole different ballgame.

Daniel Schmachtenberger did this really cool talk, essentially on how the plow was kind of the beginning of... The agriculture revolution was like, "Okay, now we have a plow that we need to have ox run to make sure that we're having enough grain planted for our civilization." But before that, there was an animism; everything had a spirit, everything was a soul. That switch from, "Okay, but I really need you to make this crop." So, let's go start yoking the ox, start whipping the ox, start binding the horns of the ox; it changes the relationship. And I think that where we're at now currently is like a holdover from that kind of mentality of, "Yeah, it's a tree, we need some boards. Let's go, let's go, let's go, let's go."

So anyway, I think our whole thing is reconnecting to an animism, if you will, that is trying to really take a look at the trees in our community in the urban forest. You walk by them all the time, you drive by them all the time, you get shade, you get your kids under them in the LA summer so that they protect your kids. Get acquainted with a tree! You know? Talk to a tree, be with a tree, touch a tree, think about a tree, look in the canopy. And then when the process of garnering a gift such as wood from that tree, you think about it differently. I think that's the big shift that needs to happen with lumber.

**Alie:** Did you read *The Giving Tree* as a child and sob your face off? [*both laugh*] Because that was like... I was ready to walk into the ocean in fourth grade, I was like... [*fake sob*] But it's not far off!

**Jeff:** It's not. That's why it's a killer, because we know it's right on the money.

**Aside:** Just a side note. So, this children's book was initially rejected by a bunch of publishers until it finally was released in 1964. And it features the relationship between a boy and an apple tree. As a kid, he climbs the branches, and then later sells its apples, cuts limbs to build a house and a boat! (Does he need a boat?) And finally reduces this apple tree to a stump. Reading it, for me, feels like your grandpa spent his last seven dollars on your birthday present and at the same moment you got kicked in the stomach by a donkey. This book hurts me so much. Trees, I'm so sorry.

So, what happens to neighborhood trees that have come down anyway? Maybe taken in their prime by condo development, or a neighbor's fence, or a weevil?

**Alie:** Did you find it was difficult to get your hands on these trees that were going to be mulched? Or did you find more and more, there were people who were saying, “Well, I have to take down this sycamore, part of it fell. So, can you come take it?”

**Jeff:** Yeah, so believe it or not, it was relatively easy to find people that were willing to give us tree logs. It was relatively hard to get them to understand, “Hey, we need it a certain length, we need it a certain diameter. We’d end up with a lot of brush, or small diameter, or tiny, short lengths and we’re like, [*sarcastic tone*] “Oh awesome, thank you so much,” I don’t know how to make wood from this. But for the most part, people were super jazzed about giving tree logs to us.

As far as the process went, Charles DeRosa, my partner at the time, he researched and found this method of parbuckling, which is essentially pulling up next to a log with a trailer and on steel ramps and a winch, rolling a log up onto a trailer deck. So, that’s how we did it for the first few years. Now, cranes are involved, which is a lot easier, most of the time. But anyway, the sourcing for the size we were starting out, was actually relatively easy, luckily.

**Alie:** I didn’t know until I came here that you can’t just take a big log and cut it into big pancakes and say, “We’re good to go here.” There’s drying that has to happen, you’ve got to store it for a while. How does something go from a timber [*crash of a tree falling*] crash to a table?

**Jeff:** Boy, that’s a great question. How much time we got on this interview? [*Alie laughs*] I’ll make this the most abridged version possible. But once you have a viable saw log, as they call them, if you’re going to commoditize it, a tree that has produced a section of itself, you put it on a mill, typically on its side. There are typically three cuts, kind of like if you were to think of it like a butcher. So, there are plain-sawn boards, there are rift-sawn boards, and there are quarter-sawn boards.

So essentially, if you’re looking at the end of a board, you’re looking at the end grain. So, the end grain of the board is going to basically show the growth rings of the tree. So, as you’re looking at it... terrible example, terrible example. [*Alie laughs*] As you’re looking at it... this is better, excuse me, hold on.

**Alie:** Good thing you’ve got wood samples around.

**Jeff:** Turns out, this is one thing I’ve got around here is wood. [*Alie laughs*] Okay.

**Aside:** He grabbed some finished, perfectly angular planks and the first one was plain-sawn.

**Jeff:** You can see the growth rings traveling. This is Aleppo pine, it’s a lot easier to see the growth rings on conifers, typically. So, these are traveling with the edge, you can see they’re almost lateral on the edge.

**Alie:** Yeah, they’re almost like a horizontal stripe, sort of.

**Jeff:** Thank you, exactly.

**Aside:** Again, that was plain sawn, which is the most efficient use of the whole log: it’s the most affordable cut, and it has commonly what’s called cathedral grain. So, imagine zebra stripes, kind of in the shape of pope hats, that are nested in each other, that’s cathedral grain. But a different cut of wood is rift-sawn, planks cut from logs kind of in a radial pattern from the center.

**Jeff:** Rift sawn is this board here, where the growth rings are almost at a 45-degree angle to the face. And this one being quarter sawn, these are vertical and perpendicular to the face.

**Alie:** Ha-ha!

**Jeff:** A quarter sawn is typically everyone's like, "Quarter sawn, quarter sawn," or rift sawn, is fancy; the grain pattern, you get a little more figure. But as far as building goes, plane sawn is simply just as good, they're just different grain patterns. So, in choosing how you're going to cut a board, also plays into the next step, which is drying. So, correct, you cut boards and you're like, "Okay, I got a board off the mill, let's build something." And you're like, no, that's actually not how it works. *[Alie laughs]*

If you build with wet material, if you're joining boards and stuff like that, they're going to off-gas water, as they do, over time, slowly, and as they off-gas they're going to warp. So, a tree is typically, depending on the species, anywhere between 65 to 70% water, just like some other creatures that we're familiar with, [*"Like me."*] and the cellular structure of wood... There's basically two kinds of water; there's free water and there's bound water in the cellular structure of the wood. So, free water is the water that is within the cell walls.

**Aside:** So, it's just nestled within the cell. Imagine free water kind of mingling around a room, but the bound water is trapped in the walls itself. So of course, the water roaming the cell, not within the wall, is faster to depart.

**Jeff:** That evaporates relatively quick. So, if we cut these boards, we put them on little sticks, within a few months, all that free water is going to evaporate from the wood. That's cool, three months, not that long.

However, the bound water, which is the water trapped in the cell walls, is way slower to come out... way slower. They say typically it takes a year per inch thickness of wood to air dry, and that's the bound water. That's also typically like a northeast, upper Midwest, it's kind of a trope. Out here it's not that way, it's faster because it's drier and it's more arid. But anyway, that's the general rule. So, if you're air-drying wood, you have to wait a long time before you can build with it.

There is now kiln drying technology where you can put it into a dry kiln to speed up the process. Just because you speed up the process, it doesn't mean you can do it haphazardly. It is an exact science, like baking; you can mess up wood real easy in a kiln. But if you play your cards right, it speeds up the process, maintains the stability of the wood, then you can build with it. But building with it, as a lot of people know, is also a thing. You have to then... Now you have a rough-sawn board...

**Aside:** Not like the picture-perfect finished boards he is holding, which have had a lumber yard glow up.

**Jeff:** These have been surfaced, and planed, and straight, and easy...

**Alie:** Yeah, those look on point.

**Jeff:** On point. They come off the mill and out of the kiln and they look like, "Eugh!" What did I do? It's rough and warped and all these things so you have to make it into... you have to surface it through various machines to dress it so you can make it buildable.

**Alie:** So, it's plumb. Everything is plumb as they say, right?

**Jeff:** Yeah.

**Alie:** I love watching YouTube videos where people are doing renovations and they shit-talk how nothing's plumb. *[Jeff laughs]* I'm like, probably if I built something, nothing would be plumb. *[laughs]*

**Jeff:** And it's always the other person's work, too.

**Alie:** It's always somebody else.

**Jeff:** "Ahh, this person..."

**Alie:** Nothing is plumb.

**Jeff:** "Nothing's plumb in this place!"

**Alie:** [*"Next, I install studs every 16 inches or so, making sure they're plumb or vertical."*] And when it comes to the different kinds of trees that are in urban environments, let's say, versus rural, is it so different in, say, LA, or San Francisco, or Boston as it would be in environs just outside of it? I know we've got a lot of live oak, we've got walnut, black walnut here in southern California. We have a lot of sycamore and eucalyptus but I don't know if those are native.

**Jeff:** Yeah, this is great. So, as far as species go?

**Alie:** Yeah, do you find that what you are using as a maker is different than what you're harvesting and building from?

**Jeff:** That's a great question.

**Alie:** Why thank you.

**Jeff:** So, yes. Okay, so I'll answer this in two parts. The first part is, what species? Are there any species that span any urban community in our country, let's say? There are real tried and true urban trees that are resilient, that you know, typically cities don't put a lot of money into... This is not a judgment, it's just... there's no money. They're not putting it toward the urban forestry division, so they plant trees that are resilient, they don't need much care. So, London plane is like the stereotypical urban tree that is like, "Man, they're beautiful, they grow, they're resilient, they have a good shade canopy, et cetera." So, whether you're in New York, San Francisco, wherever, LA, you'll find a London plane. So, there are species like that. But I will say, it is very easy to see by the age of the trees of an area, which trees were given 10 or 20 years, like the go-to urban trees to plant.

**Alie:** Was carob very, like, early '80s?

**Jeff:** Oh my- I literally was just going to say carob. Yeah, totally.

**Aside:** See the Carobology episode, which is yes, a whole episode dedicated to carob trees and the not-chocolate that they produce, and I'll link that in the show notes. But yes, you probably haven't seen a lot of this really beautiful, russet-hearted, carob wood around, which sucks because it's beautiful and there are 30-year-old carob trees getting cut down all the time on suburban streets.

**Jeff:** We're using a lot of species that aren't typically on the commercial market because they have been deemed, culturally as, "Those aren't wood trees." Those are canopy trees, those are ornamental trees, they're resilient, whatever, but they're not wood trees. It's interesting because most of those resilient trees that are getting planted as urban trees were somewhere, somehow, at some time, a tree that civilizations built themselves on. So no, it's not a cherry log from New York state, but a Canary Island pine... Everyone's like, "What is? I don't know what that is." And then you go on the street and you're like, "That's a Canary Island pine, that's a Canary Island pine, that's a Canary Island pine." They're like, "Oh yeah, oh those." Yes, those.

So, I'll give you an example. So this tree is so resinous, it's just a natural resin. People call it sap but it's not actually sap, that's more of a deciduous thing. But these conifers have this pitch, a really thick, gooey pitch and it just oozes out of this wood. So, everyone's like, "Oh god, I'm not building furniture from this, I'm not doing any of this." Well, that's fine, you don't have to build a Windsor chair out of Canary Island pine. However, the tree is incredible, and that natural resin in it? Why use pressure-treated wood? Why pump all these chemicals into a piece of lumber so that when you're building your deck it's ground contact and doesn't deteriorate, when nature has already made a species of wood that is pumped full of resin, natural resin, that stands up to years of earth contact and moisture. You know what I mean? We're not thinking outside the box. So now, we're like "No guys, Use this for ground contact lumber."

So, usually, especially designers, they come here and are like, "You've got to tell me about these species, I don't know anything about these species." And then we say, "Okay, so here's some best use cases for eucalyptus, or here's some best case uses for California sycamore or coast live oak." Real fast, coast live oak is an LA Basin native, California sycamore is also a LA Basin native. A riparian tree, so it's along riverbeds naturally.

**Alie:** Aha! I didn't realize sycamore was native. I was in Griffith Park, I was at Trails once, and all of a sudden heard a crack and a boom and half a sycamore just split in two out of nowhere on a sunny Sunday afternoon. It was quite a thing to see! Everyone was fine but I was like, "Oh wow, I've never seen a tree fall in the park," but it did make a sound. And I wondered, "I wonder what they're going to do with that now? Who comes and...?" They put some caution tape up, but I don't know, I wonder if that one ended up here.

**Jeff:** It could have.

**Alie:** When it comes to the model that you've done here, does this happen in other places in the country?

**Jeff:** Oh yeah, for sure. We are definitely not the only people doing this at all. They're all great people but there's New York City Slab, there's Wood from the Hood in Minneapolis, Epilogue LLC in Oregon, Bay Area Redwood in the Bay Area, there's Harvest Lumber, I've got the shirt on right here in Austin, Texas. Gosh, there's a lot, there's a lot.

**Aside:** Jeff emailed me later with a list of folks that he wished he mentioned, writing, "There are a slew of people across the country, continent, and world, who utilize urban trees as lumber currently. And there are a few others right here in southern California," that he says he would be remiss not to mention like San Diego Urban Timber, Lumber Cycle in San Diego, Alasaw in Los Angeles, and Street Tree Revival in Anaheim. And I'll list all of those on my website so you can just gawk at all of their pretty planks, knowing that such gorgeous timber was saved from maybe just decomposing in a forgotten mulch mountain.

**Alie:** What about different woods for different applications? I am not a carpentress by any manner of speaking. What kind of wood is good for floors? People are making a lot of things out of palettes from behind dumpsters. What are different types of wood best suited for?

**Jeff:** So good. Okay. Boy, that's a... It's kind of a rap sheet. I'll speak as generally as I can. Basically, for flooring, since you brought up flooring. We use typically various species of eucalyptus and coast live oak; those are our two, kind of, go-tos. Why? Because they're very hard and dense, eucalyptus is also very close grain, it can hold up to high foot traffic.

They're also not necessarily the most stable woods as boards. Solid wood is going to be roughly 5/8 to 3/4 inch thickness, no problem. Even if you're making an engineered, like a wear layer which is roughly 4 millimeters thick, no problem. So, they're perfect for that. And again, the durability is great. So, those are species that typically on the commercial market, people are like, "What are we going to do with this?" But they are perfect... I mean, I'm pointing at the floor because these are eucalyptus.

**Alie:** They're gorgeous.

**Aside:** A eucalyptus floor, who knew?... Jeff.

**Jeff:** Takes a lot of foot traffic in here. Anyway, so that's one. We have a lot of makers and furniture makers that come in here. There are certain species that are really great for joinery and making furniture: Shamel ash, like your table, is a perfect one. California sycamore, the native, is also a really big fan favorite for that. We have a lot of American elm, Chinese elm, Siberian elm, those are fantastic. There's a native black walnut; that is also great. It's basically like a deciduous, machinable, stable species, those are great for making.

We use a *ton* of pine, which, you know, everyone has this preconceived notion about pine. They're usually thinking about softer, like eastern white pines. Again, this is a cultural holdover. By the way, I love eastern white pine. But anyway, the pines that we get here, again, are really robust trees from other parts of the world. So, Aleppo pine is Syrian and Lebanese, it's endemic to those areas; super dense, especially for a pine, it's a hard wood. It's not a hardwood, but it is a hard wood. Same with Italian stone pine, Canary Island pine as I said earlier; we use those for a lot of big, chunky landscape timbers. So, we have a lot of TerreMoto landscape (Represent!). They love calling those fixtures "Chonks," as deemed by TerreMoto.

**Aside:** TerreMoto landscape and my friend David Newsome at WildYardsProject.org also do a lot of beautiful, native landscapes and they use a lot of reclaimed materials. I'll link them on my site because their handiwork has personally transformed my hill in my backyard of invasive weeds into what's now a pollinator habitat and a hub for critters. But back to inside and what was under our feet.

**Alie:** What is hardwood by the way? You said, they're hard wood but not hardwood.

**Jeff:** That's a great question. So, hardwood as one word, is typically a designation for a wood from a deciduous tree.

**Alie:** Oh, okay!

**Jeff:** And softwood is typically a denomination for a conifer.

**Alie:** I had no idea.

**Jeff:** Typically.

**Alie:** I had no idea. So, when someone says they have hardwood floors, let's say, "My apartment has hardwood floors." Does that mean it's going to be a walnut and not a pine or it that just totally a different-

**Jeff:** Yup!

**Alie:** Oh, okay!

**Jeff:** Yeah, it could be, like obviously a walnut, the commercial, the white oaks and the red oaks, beech, maple. All those, those are hardwoods.

**Alie:** Ha-ha! Does it ever pain you to see certain woods trend one year and then be like, “Augh! Everyone, rip out your white oak floors, [Jeff laughs] they’re so last year.” Does that just kill you?

**Jeff:** I love all wood; I love all trees. But I get less miffed about the trending from a tree standpoint and way more from a human standpoint, like the walnut. Every woodworker and everyone at a mill in the country is like, “I know. You love walnut.” It’s not walnut’s fault that it’s beautiful and all the things. But it’s like, “Guys come on, we gotta branch out, [Alie exclaims] we’ve gotta branch out.” Yeah, hey, look at that! It’s so ingrained I didn’t even...

**Alie:** Ingrained!

**Jeff:** Oh geez, I’m going to stop.

**Alie:** [Laughs] You’ve got to *leave* it alone.

**Jeff:** Errr, dad jokes.

**Alie:** But would you say, has there ever been a wood that’s really surprised you? That you’re like, “Who knew this was such a good one?!”

**Jeff:** Can I... can I? I’m going to go off.

**Alie:** Yes! Yeah!

**Jeff:** So, eucalyptus.

**Aside:** Buckle up, bow howdy.

**Jeff:** This ties in culturally, again. You asked about eucalyptus earlier. So, eucalyptus is endemic to Australia, I’m going to remember to backtrack for a second. People, woodworkers, woodworker people are like, “Eucalyptus is crap.”

**Alie:** Augh, bad rap.

**Jeff:** Yeah. Crap. Crap wood, can’t do anything with it, it’s crap. Unstable, it’s crap. Cell collapse, crappy. So, that has just been anyone you talk to. You see people around town and a tree comes down, a eucalyptus comes down, and they know what we do and they’re like, “Augh, well too bad because you can’t use eucalyptus right?” [Alie laughs] Well actually, wrong. Because what we have kind of really gone down a rabbit hole with is making people see that eucalyptus is fantastic. While I know from an ecological standpoint – and I don’t claim to be an ecologist and I don’t claim to know all the ins and the outs from a flora and fauna standpoint, locally and all that... It’s allelopathic, meaning there’s not always opportunity for other plants to grow under its canopy and stuff like this. Everyone hates this tree, okay.

**Alie:** Except for koalas.

**Jeff:** Except for koalas, except for Australians of any kind, human and the more-than-human world in Australia, love eucalyptus. It’s in the West, we hate them, and they’re invasive, and they’re all these things. So, very quick little abridged version of how it got here.

**Aside:** Bring it on dude.

**Jeff:** So, American settlers, mostly of the European settler ancestry variety, in their DNA, wood, wooded areas, woods, right? Woods for energy via fire, woods for building materials, as

wood, wood is wood, wood, wood, wood, wood. Post-13-colonies, we're a country now and it's just, harvest your pants off with wood. And Manifest Destiny up through Iowa, the forests had been so decimated because of you know, again, moving westward. This is where the US Forest Service is emerging and there's talks like, "Hey, what are we going to do here?" And there's this talk of a timber famine, potentially.

So, around this time as well, the transcontinental railroad... By the way, quick little plug here. There's an author named Jared Farmer who wrote a book called, *Trees in Paradise* that is incredible. But again, I'm giving you the very nuts and bolts version. But the transcontinental railroad at this point goes from East Coast to Iowa, stops in Iowa and everyone's like, "We've got to get it from Iowa to Frisco." Because it's not transcontinental until it gets to San Francisco. [Alie laughs] So great, but there's a looming timber famine and train tracks need ties, and they need split rail fencing and we don't have any trees to do it with...

**Alie:** Shit.

**Jeff:** ... and supply for everything else, right? Just so happens that this is around the time of the Gold Rush. So, not only that but now you've all these people from the East Coast to the Midwest going like, "Get some gold!" So, they're going hellfire out to the West Coast, right? Well, not everyone settles in the, you know, by the plasters, they all kind of... you know come down the central coast and southern California and there's not any trees. The native landscape is brown hills, and chaparral, and occasional live oaks and riparian sycamores, or white alders in the elevations. Side bar, [Alie laughs] people have been living here for millennia with no trees, just fine.

**Aside:** Yes, in the southwest there are many river valleys that have cottonwood, and sycamore, and willow, and mesquite, and there are varied biomes and forests. But the climate and the ecosystem is less densely forested out west than back east. But on my website, I'll link a short documentary about Indigenous ecology called, *Spirit of the Trees, Continuing Traditions, (Southwest tribes)*. And there's much more on land management and forests in the Indigenous Fire Ecology episode with Amy Christianson, which I'll link in the show notes too.

**Jeff:** But I digress. So, the European settler mindset is like, "Trees, trees, trees, trees, trees, trees, trees. How can people survive out here?" So, they're thinking about the timber famine and they're thinking, "We have to settle down here and we can't do that without trees; we don't have any firewood, we don't have any building material, we don't have anything. So, we've got to get some trees planted. And not only that, but they have to grow fast, and we have to harvest fast."

**Alie:** Oh man. It's a tree! Trees don't grow fast! It's the one thing they don't do!

**Jeff:** Right?

**Alie:** We need some faster snails around here! It's a snail! [Jeff chuckles] Let the thing grow!

**Jeff:** Let the thing grow.

**Alie:** So, they're like, "What's the microwave version of a tree?"

**Jeff:** Pretty much. And to be fair, this is after they've also decimated all the redwoods and cedars in the Pacific Northwest.

**Alie:** Just chewing through 'em.

**Jeff:** Chewing through 'em. Huge.

**Alie:** Lumber locusts.

**Jeff:** Lumber locusts, just... I can't even, my heart. So anyway, they don't know exactly who brought them in, but basically, Americans started visiting seedbanks in Australia. They had already done some plantings in Europe with rave reviews, et cetera. So, they were like, "We've got to get our hands on some of these eucalyptus seeds, we're going." They got some. Now also, seedbanks weren't as sophisticated so they didn't have a great grasp on which species, there's over 700 plus species of eucalyptus in Australia so it's hard to keep track. In the US, there's roughly 200 plus.

**Alie:** That's still a lot.

**Jeff:** Still a lot. So, it's confusing. But anyway, the point is, they brought them in through San Francisco Bay, started planting these eucalyptuses. Now, there were a lot of people that were fervent about growing these, there was flyers everywhere, people were taking investment opportunities like, "Look, you want to make money? This is a sure-fire tree." These trees grow 60 feet in six years, and by the way, this blue gum eucalyptus, *Eucalyptus globulus*, grows the fastest, it's a rocket tree. So, we are in luck, we've got it all figured out.

They started planting eucalyptus the entire West Coast, getting investment money, "We're going to make that timber, we're going to make that money, we're going to get that railroad going." And what happens? They harvest them after 15, 20 years, which is typical for deciduous trees, eucalyptus is a myrtle, a little different ballgame, and it also grows interlocking grain, so it doesn't grow quite the same way... which is also, these variables that no one was really thinking about.

So, they're harvesting them young, and they're milling them up sawmills, and they're letting them air dry, and they're warping, and they're checking, and they're splitting, and they're like, what? [*TikTok audio "Oh no, no, no, no, no, no."*] People have put all this money into it, right?

Now, this tree that was going to be a savior, people were using the oils and they were fixing their fevers and they were like, "This magic tree, look at this tree. We have trees now." Went from that to, "Fuck this tree. [*Alie laughs*] It's invasive, it grows everywhere now, it's shit-ass wood, it ruined everything, we can't harvest any..." So, now there's forests up the coast and now they're like, "Well, can't use that." So, that's the holdover mentality.

**Alie:** People still have a grudge.

**Jeff:** Still.

**Alie:** They're like, "That one did me dirty 200 years ago." [*laughs*]

**Jeff:** Right? 200 years ago. And it really makes you think about like... culturally we pass on these perspectives and these perceptions.

**Alie:** Yeah. I always wondered how we got so many of 'em. My neighbor's got one over my backyard, one day it might fall on my head, [*Jeff laughs*] I don't know. It's nice, good shade. The crows love it and I love the crows, we have a good relationship.

But when you are building with it, even though it did that warping, and buckling, and the cross grain, how do you manage that wood and make cool stuff out of it?

**Jeff:** Great question and this is one of my business partners, Todd, is in charge of drying, has been up until now, and he has done some amazing work. I want to give him a shoutout

because he has kind of changed the way people think about eucalyptus in this area because of the way he's dried it. So, Todd Cooper, shoutout.

**Alie:** Way to go Todd.

**Jeff:** But basically, when you harvest early, like that 20-year eucalyptus, and like I was saying, it grows seasonally. Every growth season it switches the direction of the fibers growing upward.

**Alie:** Wow!

**Jeff:** Which, until it's a really, really mature tree is really squirrely for wood grain. Turns out, if they did a little more research... [*Alie laughs*] and I know hindsight is 20/20, I'm not trying to be like... I know they were just doing their best.

**Alie:** No internet.

**Jeff:** No internet, they had no internet. [*chuckles*] But there's people in Australia, whether be they Indigenous, or settlers, or whatever, they know. They're like, "Look, you've got to let a eucalyptus tree grow 100 years and then you can harvest it and it is great wood." And by the way, there's all these different kinds of species and they all have different purposes.

Anyway, the way we do it here is instead of air drying... We can air dry some species, like *Corymbia citriodora*, lemon-scented gum is one where you're like, "Actually we could air dry this one; it's not a big deal and it comes out nice." Blue gum, there's a ton of blue gum in California, is one of those ones that it's tough to air dry. But what we can do, what they didn't have then, is kiln drying technology. We have dry kilns. So, we can control, basically what's happening is the off-gassing of water was happening too rapidly so it just [*mimics bursting, buckling sound*] everything buckles. Typically, what you do when you saw lumber is you let it air dry for a while until all the free water is gone, little shoutout to free water. And then you put it in the kiln to finish it off, to get rid of the bound water.

**Alie:** And that's the bound water. Aha! I know what that means. I listened to a podcast about it. [*both laugh*] This one.

**Jeff:** So now, with kiln drying technology, that's typically what you do with this particular wood. What we did, again, shout out to Todd, he was like, "I think we need to get this off the mill," right off the mill, literally a board comes off the mill and you run it, you sprint to the kiln and get it in the kiln, and you maintain that moisture so that it off-gasses more slowly. And in the kiln, you start off very low and slow, low temperature, low and slow time and let it off-gas slowly, so you're controlling that off-gassing. And then you can dry it way more stably.

So, we have that advantage of kiln drying technology. But when it's done that way, it's still tricky, but if you get it right, boy is it awesome. And blue gum we use for decking, we use for chonks as well. But we can get decking boards; perfect, pristine decking boards out of blue gum eucalyptus now. The flooring we use blue gum as well, we use lemon-scented gum, we use red gum, we use sugar gum.

**Alie:** Even sugar gum!

**Jeff:** So yeah, so it's great. So, that's my speech *du jour*.

**Alie:** I love eucalyptus now.

**Jeff:** Yay!

**Alie:** I will hug one. Can I ask you some questions from listeners?

**Jeff:** Please.

**Alie:** Okay, they had some good ones.

**Aside:** But before we do, let's give away some cash because money does not grow on trees. Technically, United States paper bills are printed on linen and cotton; now you know that. But each week we donate to a cause of an ologist's choosing because we like to make a difference. And this week, Jeff chose the Mother Tree Project, which is a nonprofit that funds long-term research to identify future forest management practices that will help our forests remain productive, and diverse, and resilient as the climate changes. It's led by world-renowned forest ecologist, Dr. Simard, who wrote, *Finding the Mother Tree*. And Dr. Simard, Jeff says, is an idol of his. You can learn more at [MotherTreeProject.org](http://MotherTreeProject.org), that's linked in the show notes. And thank you to sponsors for making that donation possible.

[Ad break]

Okay, I saw your questions, let's answer them.

**Alie:** Trevor Doty had a great question. Everyone asks you this, I'm sure: Why do we call them 2x4s when they aren't 2x4?

**Jeff:** This is a great question, wowzers. So, they were once upon a time 2 inch by 4 inch. As framing shifted from balloon framing to-

**Alie:** What's balloon framing?

**Jeff:** Balloon framing was a type of framing where you still had studs traveling vertically on a wall, but the floor system was a little different. Basically, there were cavities on the exterior walls that again, hindsight being 20/20, fires, once they started would come up through those bays, so they spread way too fast. So, that's why balloon framing kind of like [brakes screeching noise]. The 1.5 by 3.5, which is a nominal 2x4...

**Aside:** That means that we call it something that it's not like how *Pont Neuf* means new bridge, but it's the oldest bridge in Paris. Or a friend whose phone contact is still their maiden name because you've known them since like, 2006. Anyway, 2x4s.

**Jeff:** ... came about, I believe, because of industry switch to stick framing, which is the current standard for framing houses, because of the succession plantings and I think the efficiency; they're easier to carry, they're just smaller. And if done 16-inch on center, you still have the stability. They're like, "Why are we wasting lumber? We're making it harder on carpenters, all the things, framers." So, as far as I know, my knowledge is that it was a combination between framing technique and industry wanting to be more efficient.

**Alie:** But you can get more out of a tree, so that's good, right?

**Jeff:** Yup.

**Alie:** Okay, I like them now. [both laugh] Elijah wants to know, Elijah's 6-year-old, not a lot of 6-year-olds listening to the podcast, given how much I swear.

**Jeff:** Elijah has a 6-year-old?

**Alie:** I know. I'm like, sorry for the swearing, but: My 6-year-old wants to know why wood is hard when other plants are soft and bendy?

**Jeff:** Oh, wow! So, the wood is essentially... You've got cellulose, I want to say roughly half of wood is cellulose. Then there's hemicellulose, which is just a different molecular structure, and the last bit is lignin. The lignin is like the tie between cells, it's like an intercellular binder for all of the woodness.

**Alie:** Oh, okay! Aha!

**Jeff:** There's lignin in all kinds of plants, I think it's just the concentration of it in wood I think is what gives it its...

**Alie:** It makes it tougher?

**Jeff:** Yeah.

**Alie:** I feel like there's got to be a lot in the end of an asparagus stalk. You know when you get to the end of an asparagus stalk and you're like, "Can't chew that, that's the cutoff."

**Jeff:** Gotta be! Gotta be, gotta be!

**Aside:** So, to recap, cellulose is a polymer made of glucose and it gives wood most of its strength. And lignin is a polymer made of phenols which are lightly acidic, aromatic compounds. Lignin acts as a binder or a matrix for the cellulose and hemicellulose is also a binder but it's made of a bunch of different sugar compounds.

So, I'm sorry, what's happening in asparagus? I almost cut that part of the interview out because I was like, "Ward, why are you bullshitting about an asparagus right now?" But I looked it up and it turns out, I'm a genius. I found a scintillating publication, *The Journal of Food Packaging and Shelf Life*, which had the 2020 sensual study called, "Longitudinal analyses of lignin deposition in green asparagus by microscopy during high oxygen modified atmosphere packaging." And it confirmed my suspicions saying, "Lignification is the most important factor that negatively affects the quality of fresh green asparagus and limits its marketability after harvest." Lignin doesn't soften when cooked, so unless you want your dinner guests to gnaw logs at your table, you've got to snap the end of the spears instead of cutting them.

And in terms of their pee, there's nothing you can do from stopping the asparagusic acid from breaking down into sulfur. But you can keep a candle lit in the bathroom or encourage your friends to rejoice in having a functioning body with working kidneys. For more on that you can listen to the Nephrology episode, which will teach you that transplant recipients get to keep their old kidneys. And some people just have a few extra kidneys in the back like your uncle's old mustang under a tarp in the driveway that he can't seem to get rid of... just keep it there.

**Alie:** Ira Gray wants to know: How rare is spalted wood? Does it kill the tree? Can you tell a tree is spalted before you cut it? I want to know, what does spalted mean? What is that word?

**Jeff:** Great one. So, spalting in wood is a fungal characteristic. You'll see, they're typically, at least around here, black lines in the wood... I'm trying to see if I have any around here. But there's also spalting... oh, here's some. This is spalting in the sycamore right here, come on now.

**Alie:** Oh! So, like little, darker lines? Okay.

**Jeff:** Yeah, so that's a typical spalt, but there's also rust-colored, spongy-looking, like you were to take a sponge painting on a wall, kind of thing. There's also hot pink. When I first started doing this I remember seeing wood that was dry and I was like, "Who is drawing on the

wood?" But it's a fungus. I don't believe that these fungi are harming or helping these particular ones. So, mycorrhizal fungi, at the root system is like, the support network for a lot of different species and interspecies and all that stuff, so those fungi are like, you know...

**Alie:** Super important.

**Jeff:** *Super* important for trees. There are other fungi that can kill a tree, really fast. And I don't know the ins and the outs of all that. But spalting, it happens around here a lot to our sycamores, our silver maple. And I believe it has to do with, yeah, the decay over time as they're declining, there's more spalting happening in the wood.

**Aside:** So, spalting is just a little bit of fungus giving a fun pattern. And apparently, you can spalt lumber on purpose and shove it into a bag to get kind of moldy. And one website I looked at called SunCatcher Studio advises that:

*Ingredients that contain nitrogen or organics and sugar will help speed up the spalting process. This can include horse manure, fertilizer, and leaves. I have had especially good luck using two cans of beer. One can of beer you pour on the wood, the other can, you drink!*

I like this person; they seem fun to have a spalted log with.

**Alie:** We have a question about burls. Betony Maringer wants to know: What's the deal with burls? As a kid hiking in the woods, I heard stories of majorly cool trees being cut just for their burls and the rest of the lumber just being left to rot. It made me think of ivory and rhino horn poaching and, frankly, still horrifies me. But do some species of tree have more burl? Like walnut has more burl, right? What is a burl?

**Jeff:** They're sprouts.

**Alie:** Oh!

**Jeff:** Yeah, they're sprouts. And they're sprouts that don't necessarily continue to shoot. So, redwoods, everybody loves redwoods... No argument there, everyone loves redwoods.

**Alie:** Everyone.

**Jeff:** So basically, those are lignotubers. You ever see at the base of a redwood tree, a bunch of little shoots coming out?

**Alie:** Yeah, yeah.

**Jeff:** And typically, when a redwood tree comes out, the root ball typically has a huge burl, not typically but often, has a huge burl at the base of the tree to which woodworkers are like, "Save the root system! Save it, save it, save it." And yeah, it's a bunch of sprouts that didn't take. And it's the same for, yeah, for any species. They're like ingrown sprouts.

**Alie:** I had no idea.

**Aside:** So, a burl'd tree can also mean a stressed tree. Insect infestation, brush fires, and bad weather can make the tree do the dendrological equivalent of panicking, making a ball of sprouts in case its main trunk can no longer function. So, when you see burl'd wood, just think about a tree reading about an impending tragedy and making tons of babies. Now burls make me sad, oops!

**Alie:** I thought this was a great one, Fiorelily wants to know: What classifies a tree as old growth? And what can we do to protect old growth forests? Why are they important

versus new growth? So, when you were talking about forests that are just planted and then... that's the new growth right?

**Jeff:** Yes. There's a lot of different classifications and I get confused. There's old growth, there's new growth, there's first growth, second growth. I believe that the different growth stages are harvest from a given organism. So, if you plant a tree and you cut it down, that's first growth. But old growth, I think as is typically talked about, are trees that were in a forest that was not harvested, that are like pristine and really tight growth rings, and are just very old trees.

**Aside:** Okay, so let's do a quick run-down on that. So, old-growth forests haven't been logged and the Food and Agriculture Organization of the United Nations says they are, 'naturally regenerated forests of native tree species where there are clearly no visible indications of human activity, and the ecological processes are not significantly disturbed'. That is an old-growth forest. About a third of forests in the world are old growth and they're mostly in Brazil, Canada, and Russia. Old-growth forests are hanging onto a lot of carbon and species. Now, second-growth or new-growth forests have been harvested and they're growing back.

Now, how long does it take for a second-growth or new-growth forest to be an old growth? Well, it can take a hardwood forest in the US between 150 to 500 years to regain old growthy characteristics, up to thousands of years for other forests. And most forests in the US and Europe are on their second lap, the old growth long gone to practices of colonization.

I was recently visiting my cousin Nate who showed me a table he built from this densely ringed, old-growth wood. And this lost log was cut 100 years ago but was just recently dredged up from a chilly lake by the same timber company.

**Alie:** My cousin up in Montana was talking about how logs would float down the river, old, old logs, sink. It would be anaerobic enough where some of those logs get dredged up and then you have these really, really compact old growth; old, old logs that have just been in water. Does that happen? Can water be a preservative in that case?

**Jeff:** Yeah, yeah. [*Alie gasps*] And it's beautiful and it's often really dark wood. There's also bog logs. I know in the bogs in the UK that logs that have been submerged for hundreds of years and then they pull them up and mill them into lumber and it's used for gorgeous, gorgeous furniture and stuff like that.

**Alie:** Also, just bog logs. [*Jeff laughs*] Someone get BogLogs.com

**Jeff:** Yeah, totally. [*laughs*]

**Alie:** I think it is because... Yeah, Fiorelily submitted a few questions and one of them was: What's the deal with bog oak trees? [*laughs*] So, there you go. They had this question too: Are there any tree species that we should just straight up avoid buying to stop encouraging logging of that resource? Is there one that's like, "Lay off this one, everyone"?

**Jeff:** Because it's such good lumber, that kind of thing?

**Alie:** Yeah, or just its harvest is not done well. Let these mahoganies or ipe or something just keep chilling in a forest?

**Jeff:** [*sighs*] Yeah, I think forest management is a whole thing that deserves a lot of brain power to put our minds back on how to do it right. Our current system is, again, I think it's a

holdover from a post-industrial mindset which is just devoid of our relationship with forests, with trees. Robin Wall Kimmerer, in *Braiding Sweetgrass*, talking about the black ash basket weaving or harvest. There's no like, conservationists like, "Don't ever touch the trees," or anything like that. But there's a participation, there's an honor, there's a dance, and there's a reciprocity, as she would say.

**Aside:** For more on Dr. Robin Wall Kimmerer, see our Bryology episode about moss, linked in the show notes. [*deep breath*] What an episode. I love her, we love her.

**Jeff:** I think until forest management can get back to reciprocity, I would say all species are in danger. Just as any nonhuman being is in danger of what we're up to. I mean, are there certain species of animals that we shouldn't hunt more? We need to just overhaul our whole mindset.

Again, pre-industrial revolution, tree harvest was, the world over, Indigenous communities the world over for millennia and as far back as we can go, people built with wood. But the way that the forests were managed was like a woodlot. You would essentially cut down a section of a woodlot, managed by the community, and this is pre-land ownership, so this was not anyone's land to own, this was everyone's land in the community. And they would harvest a section of the forest, coppice, meaning cut at the base, and let it resprout. And they would do that in 15, 20-year increments. So, the next year you would go to the next section, cut that while this one's growing back. You go all the way around and you've got wood lots that trees are thousands of years old, and they've been participated with.

There's an *incredible* book by William Bryant Logan called *Sprout Lands*, and he actually did this whole deep dive into the history of this. He also talks about how flora and fauna, the ecology of a participated-in woodlot just booms and there's three times the amount of plants, insects, animals, in a forest that is being participated with, with humans.

**Aside:** This seemed bonkers to me. So, I surfed the bibliography of *Sprout Lands* and then literally a few hours later realized that I had been deep in papers such as "Late Mesolithic and early Neolithic forest disturbance: a high-resolution palaeoecological test of human impact hypotheses" and "The potential role of humans in structuring the wooded landscapes of Mesolithic Ireland: a review of data and discussion of approaches." Both papers from 2013 which seemed like just a banger year for publishing stuff about Neolithic forest farming.

But yes, coppiced growth according to the book *Sprout Lands* is not a single thing but a synthetic ecosystem in which human participation is a key. Far more species of plants, insects, birds, and other creatures inhabit such a mixed landscape than would live in an untouched woodland. For more on this, you can see that book *Sprout Lands* by William Bryant Logan.

To pollard is to cut certain trees at about head height so that grazing animals can't reach the young shoots that sprout from that cut surface, while coppicing is cutting closer to the ground so that the new shoots of that tree grow from that stump. And yes, I looked it up and you can coppice an apple tree, which gives me hope for the Giving Tree, even though most apple trees, as we learned from the Dendrology episode, are grafted. But if the Giving Tree just grows into one that makes shitty, malformed apples, full of bitterness and worms, and gets left the hell alone, I'm happy for the Giving Tree, I'm happy for it.

**Jeff:** Plant *any* species, if that's the mentality. But in the current system of commoditizing for commodity's sake... And I get it from a demand standpoint, these woodlots, this is when there were half a billion people on the planet and now there's 8 billion people on the planet; it's a different ball game. But I think we can still get back to that mentality and do forest management a lot differently than we're doing it.

**Alie:** What about reclaimed wood and barn wood that is being taken apart one by one? Even if there's demolitions, the idea of going and trying to take as many beams as possible and reusing.

**Jeff:** Love it.

**Alie:** Are people doing more of that and is that lumber accessible to people?

**Jeff:** Totally.

**Alie:** Are there good places to look for that?

**Jeff:** Yeah! There are places here that are awesome. One of them has gone out of business, The Reclaimer, out of Tarzana, which is a bummer. There's also Treeline, in Frogtown, Habitat for Humanity, the ReStore. So, there are places that do that around here and they're awesome and I think that is a great idea. But it's all systems.

We live in an economic system so how can you, from a process point, do it viably? And these people have a relationship with a demo contractor, they have a schedule. The demo contractor is like, "Great, you have these three days to extract all the timbers that you want." They go in, they do it, they have a whole facility set up. And that way, by that process being streamlined, it's not crazy expensive, people can go to that reclaimed lumber yard, and they do, and they use all of it.

**Alie:** I love that!

**Jeff:** Right?! It's incredible.

**Alie:** I love that. Does it ever piss you off, as someone who has a live edge table from you, beloved, the most cherished piece of furniture in my house.

**Jeff:** From Covina.

**Alie:** Yes! A Shamel ash, which I didn't know that was a species of tree. *[Jeff laughs]* Does it ever piss you off when we see things cut to look like live edge that is not live edge?

**Jeff:** That pisses me off.

**Alie:** *[laughs]* I had a feeling.

**Jeff:** Can I be real right now?

**Alie:** Yeah.

**Jeff:** Yeah, that's messed up. Don't do that. *[Alie still laughing]* That's what we were talking about the kind of like, "Oh, this is how it's supposed to look." Come on, will ya? Get a grip.

**Alie:** Yeah, I know, I figured. Whenever I see that in the catalogs, *[Jeff laughs]* I'm like, "I bet that pisses him off."

**Jeff:** Get a grip.

**Alie:** Claire Nurc wants to know if you have a favorite-smelling wood?

**Jeff:** Oh man, that's a tough one. I mean deodar cedar, is the Himalayan cedar, it's endemic to the Himalayas but that's the most common urban cedar we have here. Boy oh boy, that's my favorite, I think.

**Alie:** So smelly, so good.

**Jeff:** So smelly, so good.

**Alie:** What about the worst thing about your job? What sucks? What's the most frustrating thing, the worst thing?

**Jeff:** I sound so annoying, but I really love it. I *really*, really love it.

**Alie:** There's got to be something that sucks!

**Jeff:** Oh, there is. That was a disclaimer.

**Alie:** Okay, okay. You must have like one toenail that fell off years ago from under a log, or something.

**Jeff:** Well, yeah, plenty. [*both laugh*] But this one is more... Actually, I could really use the help of anyone in our community that's listening on this one. [*"I'm all ears."*] Because I can't figure out... The biggest bane of my existence at my job is we can't use— We *can*; we haven't figured it out yet, how to use every single morsel of our trees.

So, obviously we make lumber but that's roughly 80% of a log. I don't know, that might be inaccurate but I'm going to estimate roughly 80% of a log is made into lumber. Well, what about the other 20%? That's a lot of wood; we cut a *lot* of logs in a year. The sawdust we have solved, thank god, through LA Compost; we give them all of our sawdust and they use it for browns for their food waste to make, for compost which is awesome. But our slash, meaning the stuff that's kind of like, "We don't know what to do with this," we've started splitting firewood and having it for community restaurants and wood ovens and stuff like that, but it's not a streamlined thing yet. And the rest of it, we bring to a mulcher, for mulch. And we're like, "Yeah, I guess that's fine." But I *know* there's a better way to do this and it just crushes my soul.

**Alie:** Coasters? What about coasters?

**Jeff:** We could do coasters.

**Alie:** That's a lot of coasters.

**Jeff:** But they're like pieces of wood like this...

**Alie:** They're like weird pieces.

**Jeff:** Yeah, like I don't even know... How do I dry this? How do I cut it? What do I do?

**Alie:** There must be carvers, whittlers. A brigade of whittlers showing up.

**Jeff:** The whittler brigade.

**Alie:** There's got to be one. So, maybe a little bit of hive mind, is that 20% that... [*gibberish followed by a grunt*] What to do with it? That's the worst thing.

**Jeff:** Yes, yes. Maybe 15%, but yes.

**Aside:** Follow them at Angel City Lumber and give them some ideas. Also, you can gaze at their gorgeous stumps, and slabs, and such.

**Alie:** What's the best thing about the job?

**Jeff:** Oh man... Can I give a few? Couple?

**Alie:** Yeah, of course!

**Jeff:** Our team is like, there's 15 of us here and they are, like, angel people. I don't know, this would not... What we've accomplished already, and we have a long way to go, is just a testament to the people that are just like, "Let's do this."

**Alie:** Aww, that's so nice.

**Jeff:** They are so incredible, every single one of them. And the ones that have worked here that don't any longer. Just, incredible people. So, that's one.

But obviously, I think the main event is obviously that I feel that we are contributing to a shift in mentality to the more-than-human world around us, and I think we're contributing to a new sacred, and we're contributing to our community. That's the best part is really communing with a living being and honoring that being as you know, living on. I mentioned earlier, to put a pin in that, the aversion to death that culturally I think we have. We get to look at death head-on and share it, as opposed to be scared of it or look the other way to it. We deal with death every single day, and we get to deal with it in a way that's really beautiful and reverent and I think that's by far the best part. Also, smells really good.

**Alie:** Yeah, smells great. Death never smelled so good.

**Jeff:** Death never smelled so good. [*both laugh*]

**Alie:** That's what you can put on the coasters. [*Jeff laughs*] Thank you so much for doing this.

**Jeff:** Thank you so much, man.

**Alie:** A joy, an absolute joy.

**Jeff:** An honor.

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So, ask soft-hearted people, hard questions because there's a good chance that they've been asked before and they love telling you the answers. Again, Angel City Lumber, follow them on social media, linked in the show notes. They only sell locally to LA, but I listed a bunch of other companies that Jeff mentioned, plus studies and books that we talked about at [AlieWard.com/Ologies/Xylology](http://AlieWard.com/Ologies/Xylology).

Happy wooden anniversary to us all and thank you Jeff for joining us. Thank you to everyone at [Patreon.com/Ologies](http://Patreon.com/Ologies) for supporting from before we were ever even launched. You can join for a dollar a month and submit questions. Merch is available at [OlogiesMerch.com](http://OlogiesMerch.com) and thank you Susan Hale for managing that and so much more. Thank you, Noel Dilworth for all the scheduling help. Erin Talbert admins the *Ologies* Podcast Facebook group with assists from Boni Dutch and Shannon Feltus of the podcast, *You Are That*.

Mercedes Maitland and Zeke Rodrigues Thomas of Mindjam Media make the *Smologies* episodes which are short, 20-minute episodes that are classroom safe. Kelly R. Dwyer helps with the website, and she can make yours. Nick Thorburn wrote the theme music. Emily White of The Wordary makes professional transcripts, and Caleb Patton bleeps episodes, and those are up at [AlieWard.com/Ologies-Extras](http://AlieWard.com/Ologies-Extras), for free. And the man who *treets* us all so well and edits these episodes is the one and only Jarrett Sleeper who had a mullet trim and a birthday this week. Happy birthday to someone who makes the planet better. What a guy.

If you stick around until the end of the episode, I tell you a secret. And this week, tonight, Jarrett decided to make some apple sauce from scratch, and he peeled the apples like a normal human, and then I asked him to not throw away the apple peels because I made a salad of just apple peels with some chunks of cheddar cheese and some walnuts in it. A few years ago, I would have hesitated longer and not had the self-assurance to say, "Please save that garbage, I'd like to eat the garbage." But there's just something about the texture of a peel; I went for it, no regrets. My favorite part of a potato is the skin. But if we're being honest, a potato really only has two parts, it has the inside and the outside. Also, I eat everyone's pizza crusts. I don't even care how well I know them, I'm like a dumpster rat who can drive a car. Okay, berbye.

*Transcribed by Aveline Malek at TheWordary.com*

### **Links to things we discussed:**

Angel City Lumber [website](#)

Donations went to [The Mother Tree Project](#) via [this link](#)

[Laura Zahn](#), carpenter

[Plain sawn, rift sawn and quarter sawn](#)

[TerreMoto Landscape](#)

[David Newsome](#) at [WildYardsProject.org](#)

Video: [Spirit of the Trees: Continuing Traditions \(Southwest tribes\)](#)

[What IS wood?](#)

[How to spalt wood – on purpose. With beer?](#)

[One of a kind lumber from recovered Flathead Lake logs](#)

[OLD-GROWTH & SECOND-GROWTH FOREST](#)

[Coppicing](#)

Video: [Old growth vs. secondary growth](#)

### **Other lumber source companies Jeff likes:**

[San Diego Urban Timber](#)

[Lumber Cycle](#) (San Diego, CA)

[Alasaw](#) (Birmingham, AL by way of Los Angeles)

[Street Tree Revival](#) (Anaheim, CA)

[New York City Slab](#)

[Wood from the Hood](#) (Minneapolis, MN)

[Epilogue, LLC](#) (Charbonneau, OR)

[Bay Area Redwood](#)

[Harvest Lumber](#) (Austin, TX)

[Treeline](#) (Frogtown/Atwater Village, CA)

[Habitat for Humanity the ReStore](#)

[Frank Pouwer](#) (Netherlands)

### **Studies:**

[“Longitudinal analyses of lignin deposition in green asparagus by microscopy during high oxygen modified atmosphere packaging”](#)

[“Bound and free water distribution in wood during water uptake and drying as measured by 1D magnetic resonance imaging”](#)

[“Free and bound water in wood”](#)

[“Late Mesolithic and early Neolithic forest disturbance: a high resolution palaeoecological test of human impact hypotheses”](#)

[“The potential role of humans in structuring the wooded landscapes of Mesolithic Ireland: a review of data and discussion of approaches”](#)

### **Books mentioned:**

Shel Silverstein’s [“The Giving Tree”](#)

[Shel Silverstein narrating “The Giving Tree”](#)

Dr. Suzanne Simard’s [“Finding the Mother Tree: Discoverign the Wisdom of the Forest”](#)

Jared Farmer’s [“Trees in Paradise: The Botanical Conquest of California”](#)

William Bryant Logan’s [“Sprout Lands: Tending the Effortless Gift of Trees”](#)

Dr. Robin Wall Kimmerer’s [“Braiding Sweetgrass”](#)

### **More episodes you might like:**

[Bryology \(MOSS\)](#)

[Dendrology \(TREES\) Encore](#)

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[Indigenous Fire Ecology \(GOOD FIRE\)](#)

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