

Getting Curious with Jonathan Van Ness & Marcus Eriksen

JVN: Hey, curious people. I'm Jonathan Van Ness and welcome to Getting Curious founding JVN Hair has been one of the most exciting rewarding but also challenging things that I've ever done. And when I founded it, I was really, really passionate about reducing our reliance on plastic as much as possible. What is actually happening with our plastics when we recycle it? Where does the plastic go? How does it get in the ocean also? Like what's up with all of like the dumping of chemicals into our waterways like in the environmental justice piece? Like we, we know a lot about that from East Palestine (OH) with like the chemical fallout. But this happens like all day every day. And I know that it's kind of tied together, but I want to know like is recycling a scam and are we totally fucked environmentally slash like how can we save our water? How can we save our oceans? That's what I want to know. So to talk about all of this, we're bringing in an incredible scientist, Marcus Eriksen. Marcus has led expeditions around the world to research plastic pollution and use that research to drive solutions he co published the first global estimate of marine plastic pollution and the discovery of plastic microbeads in the Great Lakes which led to the Federal Micro Bead Free Waters Act of 2015. He and his wife Anna founded Five Gyres with an 88 day journey from California to Hawai'i on a junk raft that they built from 15,000 plastic bottles. Oh, honey, we're get into that in this episode. Now, Marcus and Five Gyres continue to lead with scientific research to drive upstream solutions through education, advocacy and community building. Marcus also has a phd in science education. If you've been listening to the pod for a long time, you know, I love a title. So, yes, phd. And what we're asking today, where does all the plastic go? Marcus? Welcome to getting curious and how are you?

MARCUS ERIKSEN: I'm doing great. I'm doing great. Thank you for having me here.

JVN: So you're minding your own business and then you build a junk raft built from 15,000 plastic bottles. Like how did you feel safe doing that? Like, were you scared? Did it? Was it, was it outfitted with like radios so you could call the coast Guard if it like sunk or something? Like how did you do that?

MARCUS ERIKSEN: I built that junk raft with my wife and another guy, Joel Pascal, all three of us together. And that was preceded by um I done another trip on plastic bottles. I actually went down the Mississippi River back in 2003 and spent, you know, five months from Lake Itasca, Minnesota all the way down to the Gulf of Mexico. And what I saw was so much trash that my career kind of shifted from, you know, I was, I was gonna be a science teacher to do the actual science, marine science. And I mett my wife Anna and I remember when I, I asked her to marry me, I said, um, you know, but I want to build this mega raft and go across the ocean to really understand, you know, I saw plastics in the Mississippi River. Where's it going? And what's the impact that's having? So we built this big massive raft, 15,000 plastic bottles. And I had some confidence, you know, I know these things float, it's hard to sink a bottle raft. And we put 26 sailboat masts to make a square deck. And for a, for a cabin, I went to the coolest junkyard in southern California. I found an old airplane and I tied that to the top of the raft and we were dragged about 60 miles off.

JVN: How big was the plane? Was it like a two seater plane or like a big ass plane?

MARCUS ERIKSEN: Tiny. It was a tiny Cessna. So a little tiny plane. And uh the whole thing was as big as a boxing ring, like 20 by 20 ft, a little thing and we had no motor and we were dragged about about 60 miles off the coast of Los Angeles and let go. And actually Anna

wasn't on the on board. She was a smart one. She was at home. She was mission control and Joel and I, we were the sailors going on this thing. Well, Anna was like fundraising. I was calling her like almost every day on my, my iridium satellite phone to say, hey, darling, where's the, where's the next hurricane? So she was like giving us weather updates. We had no motor, we had no support boat. Uh But what's interesting when we crossed the border of Mexico, we're like way offshore. I saw an airplane above us like circling like four or five times. It was a, a coast guard aircraft and they radioed us and they said, what the hell is that? And first they thought that we were immigrating from Mexico to the United States and we said, no, actually, we're going to Hawai'i to raise awareness of plastic pollution and they got a kick out of it. And in fact, those, those, those Coast Guard guys, they followed our journey the whole way and they said, if you have a problem, give us a call, we'll see what we can do. Maybe we can tell a big ship to detour and find you if you get lost or you're sinking. Um We were lucky and we had four hurricanes come really close to us, but we made it.

JVN: And what year was that? Did you do that? Oh, that was 2008. Were you ever really scared? Yes.

MARCUS ERIKSEN: Yeah. I was, sometimes I was terrified. So, we had, I think our, our, our fourth hurricane was the one that got really close. I was hurricane. I think it was Genevieve. Yes. She came really close and by the end of the summer, so I insisted we leave on June 1st beginning of the summer. And by the end of the summer, we were way late. I thought it might take us like four weeks, maybe six weeks. If we're unlucky. 13 weeks later, we're barely making the Waikiki and the hurricanes are coming really fast because they like warm water and they're spinning. And so last one got really close. We had like sustained 3540 mile per hour winds. Um, and I could feel the, the wind pulling the sail trying to pull the sail down to the water while the raft is anchored to the ocean because it's so big and, and bulky. So, I mean, I was terrified because I knew, I mean, if the hurricane came upon us, it would tear the raft apart and we wouldn't survive on the Mississippi.

JVN: And in the Pacific did you just see like so much garbage just everywhere? Just, and, and also when you're on the Mississippi, I'm from this town in Illinois on the Mississippi river called Quincy, Illinois. Did you remember passing you do? Yeah, that's where I'm from. Ah, really?

MARCUS ERIKSEN: Yeah. Oh, that's a beautiful town. Yeah, I remember all I remember. Keithsburg, Illinois. Uh, whereas Cairo Illinois, uh, I was just in the, the Quad cities recently.

JVN: Decatur.

MARCUS ERIKSEN: Yeah, exactly. So, you know, I, I learned to love the Mississippi River. In fact, I was in New Orleans for Mardi Gras just recently and I always walked down to the river. I grew up in New Orleans and I always put my hand in the river and I, I put my hand on the surface of the water. Like I'm saying hello to family because I, I love the river. I love it so much. And I mean, I, I had such a beautiful experience on the Mississippi River. Um If I, if I could backpedal a little bit to my story, I was in the Marines 30 years ago. If you remember. Um Actually, I'm not sure you were, you were born in 1990.

JVN: I was born in 87. So I was three.

MARCUS ERIKSEN: Well, I was 24 and I was in, I was in the, in Kuwait in the first Gulf War. If you've seen the image, you, you've seen pictures of fires and oil wells on fire, that this

disaster I was there. And I had made a promise to myself. If I survive that war, I'm gonna raft the Mississippi river. I grew up in New Orleans and you know, a lot of kids that grew up next to the river. I'm sure you, you, you Jonathan you've dreamed of, you know, I'm gonna, I'm gonna paddle the river. I'm gonna do a whole Tom Sawyer, Huck Finn kind of thing, maybe. So, that was in my head. And it took me about 13 years to make good on that promise. And I built my raft out of 232 2 L pop bottles. I had a friend dropped me off Lake Itasca Minnesota and it was so good for me. I mean, during those 13 years, I kind of lost my confidence in the basic goodness of people. And you know, being that close to nature on the river, I camped out every night looking up at the stars. I had bald eagles catch fish right in front of me. I had a deer jump over my raft when I was on it and I saw, I climbed over beaver dams and I saw all kinds of fish. So when I, when I saw trash and it hit me personally, I was like, this is no, I don't accept this. I do not accept that. Something so beautiful. Being trashed by all these use plastics. I could always look left or right. And I could see on the bank of the river, a styrofoam cup, a plastic bottle bottle caps floating next to me. I saw like a whole portal that float next to me. I saw uh gas cans and I saw milk crates on the bank of the river. I saw like old uh like bathroom tile and toilets and all kinds of people. It's just junk and, you know, you protect what you love. And I had that, that deep connection to the river in that, in that personal sort of that mission, you know. So when I got off the river, the Mississippi River in New Orleans actually went all the way down to Venice, Louisiana. I was like, ok, this trash is not, not ok. I got back to California to Los Angeles and I read a story called, it was called Trashed in Natural History Magazine by this guy named Captain Charles Moore. And he was the guy that discovered the Great Pacific garbage patch. I was like, ok, I'm gonna, I'm gonna call this guy. So actually I gave him a call. I sent him a letter first, then gave him a call and said, hey, you know, uh Captain Charles Moore, can I come by and say hi? So I had my raft on a trailer and I brought the raft right to his doorstep and he got such a kick out of it. He's like, can, can we work together? So I was like, yes, I'd love to. So I became his director of education and research and that was in 2004, uh four years later was when I met Anna Cummins. Um and she and I were on that, on his research vessel, going back on the ocean, do more research. And I knew she was the one so on his boat, Captain Charles Moore's boat. And it was by my side, I, I found her sleeping on the, on the pile of sails. There was no wind, the sails were down. And the day before I had fished out some plastic rope out of the ocean, some ocean trash. And I wove a little ring and I caught her, I caught her sleeping and I went to wake up and I gave her the ring and I proposed, it almost brings tears in my eyes because it was such an awesome moment. And um and I said, but I want to build this giant raft junk and that's how, that's how that started. And we've been this amazing adventure since then sailing around the world doing research trying to end the scourge of plastic pollution on land on sea and neighborhoods around the world.

JVN: Well as your unsolicited mom, um I'm in total and full support and I love that Anna is game. And I also have like 87 more follow up questions, but maybe if you guys could pull like a Diana Nyad and just have like a follow boat or something just in case, you know, just because I, I'm sensing that you're really loving to build them out of like cans and plastics. And while the resourcefulness and ingenuity is next fucking level. I just wanna make sure that you're OK because we need your science mind, honey, you're like really helping stuff and if you think we won't have that gorgeous fucking brain and what the Anna gonna do is so maybe just like a light canoe like a, just a follow canoe if you don't want to put the gas in the water or whatever, like I told to get it. Uh But maybe, yeah. OK. Um But I'm obsessed with all that. So wait, and then when you told Anna that you're like, hey BT dubs, I'm gonna build this

like 20 ft by 20 ft um sailboat and maybe get a plane to put on it like in, in sail to Hawaii. She was just like, yes, like I'm down like, I'm going to support you and I'm gonna be, I'm gonna do that and I'm gonna, we're gonna do this together. She was just like down does she get Nervy?

MARCUS ERIKSEN: You know, love is blind? We had just met. So we were totally enamored. We had just got engaged and I said, I'm Bill this rap and she said yes, anything darling. I was like, yes with this raft. And it was amazing adventure. I can tell you like years later actually, no, during the, the ocean voyage, I was like, darling, I'm not sure that's a great idea because there were a few moments where things were really scary. I, I should tell more stories. OK.

JVN: So, so was it because it was just you and the guy and like, just like the waves are crashing and you're because what were the plastic bottles held together with?

MARCUS ERIKSEN: My co-navigator Joel Pascal. He's an awesome sailor. He's been around the world himself and he lives in Hawai'i. He has a boat there and he was all in. He's like, ok, let's do this and he, he knows how to sail. He, he would tell me like we were cosigning the raft. It was a partnership. All three of us and included were saying, ok, we need this, we need that, we need that. So we put uh you know, 15,000 plastic bottles. We got a bunch of schools in Los Angeles to help out. They're all doing like their own little drives to collect bottles for this crazy junk raft. It was, it was such a beautiful sort of collaboration of all kinds of people who came together built this raft and we got towed. So he actually Captain Charles Moore. He towed us out to sea and let us go. And uh I ended up calling Anne on the phone like three days later. Um We had our worst storm was day three, worst. We were so close to the coast kind of hugging the coast. We didn't go like toward Hawaii the first, the first three weeks. Actually, we kept going south. We went past San Diego, past Tijuana, uh past the islands we just couldn't, we couldn't go towards Hawaii. The currents kept taking us towards Acapulco. So I remember day three, the biggest storm and the storm was so big. I remember like a 8 to 10 ft wave came over. The raft, hit the airplane so hard, knocked it like a foot and a half across. And that's when I called Anna, I took the, uh, the phone out of the bag that I had it in the dry bag. And I said, hey, babe, we're sinking. And she was at a coffee shop in Santa Monica and I could hear her mom was, was at the table and her mom just said, go get your man. And she did. So she actually, she began calling in favors. It took her a couple of days to find this dive, you know, scuba diving company that loved the story so much. They dropped everything and they left at three o'clock in the morning. And I, and I told Anna, I said, ok, I need, I need glue, I need a lot of glue. We were sinking because the caps were coming off the bottles. And so all the bottles were, were filled in full of water. So I said, and I need a glue. I need, I need more vegetables. I need more beer. We need a long list of things we needed to get. So this, this crew, this boat with Ann on board the dive company and a few volunteers, they meet us in the middle of the ocean, they find us and we spend one day together, we took apart one third of the bottles, took them out, poured the water out and glued the cap back on and put the bottle back. And that's when it was serious. That's when I knew that. Ok, this is dangerous. And I had this, I had this interesting choice. I thought I had two options. Either I keep going if I keep going, you know, the risk of death is real or if I go home now with Anna and say, forget this, I'm going home. Then the risk of humiliation, it's almost worse than death. That's, that's weird to say, but it felt that way. I was like, we just gotta go, we gotta focus on the mission and, and we did and that was a really tearful goodbye because I remember when, when that boat had to leave, it

stayed all day right before dark. The captain says, ok, I gotta go, you got your glue, you got your, you got your beer, you got your veggies, you got,

JVN: Why did you need the beer and veggies? Just because you had like, you're like, oh, this is gonna take way longer than we thought. Exactly.

MARCUS ERIKSEN: I just need, I need to stock up because then I knew I thought it might be like I said, you know, four weeks, maybe six. I was like, ok, there's no way there's no way we get to Hawai'i in four weeks, but I'm not gonna give up. We're gonna do this. And Joel, my co navigator Joel Pasco was like, ok, let's, let's do this. We need a list of supplies. And then when Anne and I said goodbye, I remember we were holding hands until like the boat pulled us apart and I didn't see her. I didn't see her for the next 2.5 months. And that was full on from that point on. It was, it was pretty serious. We had ups and downs, of course, but we really attracted a following, you know, in terms of, of the purpose of the trip, it was to bring attention to the issue and to bring attention to our new organization, you know, five gyres because at the time that the world was talking about plastic pollution. But there's always unanswered question, un answered questions like where is the trash in the ocean? How much is out there and does it matter? So it's, it's a really harming marine life. So those, those are research questions. So we thought, ok, to launch an organization, we could just start doing research, but that's to do a stunt gets you a lot of attention. Then it's easier to fundraise when people look at you and say what you did what, OK, we think you're serious. We believe in you. Here's the funding you need for your research. So it worked we had like a million people, you know, visit our website the week that we arrived in Waikiki and that launched our, our from then on official real research expeditions on real vessels to uh to then do research around the world.

JVN: Hey, if we were talking about the United States specifically, like how much of our plastic actually gets recycled.

MARCUS ERIKSEN: It's amazingly low. I mean, it's, it's under 10% 9% or less. And you know, if, if your child came home and said, hey, I got a 9% of my exam, you'd be like, ok, I gotta talk to your teacher, something's not working here in a big way. So recycling, it's the same way. We, we get very little uh of the plastics back from um consumers. And when I say consumers, I should also say it's, it's not just a consumer that's not recycling. I don't wanna, I don't wanna say that at all. It's the design, the decisions happen way at the beginning. It's, it's, it's deciding you're gonna use a, a thin polyethylene film to wrap whatever your, your bananas or your product or whatever it might be. Um And that the life cycle of that it goes to the consumer and the consumer doesn't always know they see a blue bin and they think, ok, I'm gonna toss it in there. They, they think everything should go in there and I understand why because they wonder do the right thing and then it goes to the recycle center and the Recycle Center, they're thinking economics. They're like, ok, we have to pay our staff and the staff, you know, the, the salaries cost this much. I want them to pick out just the things I know I can sell and get my money back. And, and that's typically just beverage bottles. It might be some yogurt containers sometimes, but typically the thin film, thin, little plastic film, polystyrene, small plastic things like straws and little toothpicks, all that kind of stuff that gets just pushed to the side that ends up going to a landfill or an incinerator. So for many people, it's kind of wish cycling they all move in. But the reality is very little of it actually has an economic value that's worth pulling it off of the, the long assembly lines going.

JVN: And isn't it true that like every state or like county you live in, in the US? Like it's like some only recycle like the one plastic and then like some are like we accept like the one, like if you look on the plastic, there's like the 1234 or five with like that little like recycling like triangle arrows around it. So isn't it true that like some accept like one and two and some are like we accept 12 and three, but not four and five and some are like we accept one and nothing else like, isn't it always kind of different based on where you are or is that not accurate?

MARCUS ERIKSEN: You're absolutely right. It's inconsistent across the country. There's no like, standard for what is recyclable now, you know, the economics, of course, they, they tell us what is so in most cities they'll recycle. Number one. That's pe T and that chasing arrow symbol, people think it means recycling. It doesn't, it just tells you where to look to see the number. And that's the kind of plastic. It is. So one is pe T two polyethylene. So then you can go down the list and see, you know what's recyclable in your city or not. It's not consistent.

JVN: It is a massive colossal fuckup. And now we have the Great Pacific like garbage patch or like, so that's true. Like that's just like a huge, like, is it, is it like a h like, isn't it just like a bunch of football fields huge in the middle of the Pacific? O like, where is it? What's that thing?

MARCUS ERIKSEN: It's much bigger than that. Um I would say, you know, it isn't a condensed little patch and it's not really an island of trash. Yeah, but we're like a big, big accumulation like that. You could see if you can go on Google Earth and find it, then we can go get it and deal with it. But the reality is it's mostly microplastic particles. Uh We, we published a paper um less than a year ago where we uh we did a, a global estimate, we estimated 100 and 70 trillion particles of microplastics in the global ocean. And I brought a sample to show you and I'll describe it. Um This is a typical sample. So when you know the ocean, you're not gonna see an island of trash, but if you drag a net, so what we do in our research is we take a net, It's about, I'd say 3 ft wide, you know, almost as wide as, as when, when your arm lengths and it skims the ocean surface and you're capturing everything on the surface, some plankton, but a lot of microplastic fragments and what you see in this jar.

JVN: Shake it around for us!

MARCUS ERIKSEN: when you can see in this jar, that's a typical sample. We collected this about 500 miles north of Waikiki, middle of the North Pacific.

JVN: Guys there is just like, can you shake it? So we can hear it like I can see so many plastic you can you hear that you guys, you can hear the plastic clinking in the glass. I mean, I'm looking at this, I I couldn't even count how much plastics. I mean, it's just, it's thousands, right? Isn't, isn't that, is it, is it millions or is that like hundreds of thousands in there?

MARCUS ERIKSEN: Well, this is, this is actually skimming about 60 centimeters by about two kilometers. It's a concentrated sample. So this isn't just scooping the ocean surface, it's dragging a net. So it tells you about how, uh, dispersed the material is. But it's like this from, you know, the coast of California to the coast of Japan. It's the entire North Pacific Ocean. That's all this microplastic. So to extract it. No, sure. There are big nets. Well, I would come across lots of big nets out there. I come across everything from, for example, here I brought this to you as well. This is an oil container, a little quart oil container and you can see it's got all these turtle and fish bites that are tearing this container into small pieces, just shredding it.

JVN: How does it end up in there? Do the trash ship sink or do people or like, or does it go down the Mississippi? Like how does it get?

MARCUS ERIKSEN: Yeah. So it's, it's leaving land from every coastline around the world. You know, some, you know, enters from shipping lanes, some is blowing from the air. Like we, we're doing a lot of work now on micro fibers from textiles, from shirts and hats, all kinds of clothing, those micro fibers they can, you know, they'll, they'll fall on the ground, wash down storm drains out to sea, they'll float in the air and they'll come down. So there's, there's all kinds of avenues to get there. But the bigger plastic items are typically, you know, either coming off of beaches, off of rivers, going in the ocean and then they begin to fall apart. They shred, either sunlight makes them kind of brittle and they get crushed or, you know, marine life, which is a pecking at it, you know, a seabird or a sea turtle or a shark or a small fish. When they see a piece of plastic trash as far as they know it could be food and they're gonna nip at it or their foods living on it like some algae or a little small crab or barnacle is on that plastic item and they'll, and they'll peck at it, but they're reducing it very quickly into microplastic fragments. And that's what we study. So that was one of the, the initial questions that we began to ask is- how much is out there? Where is it, is it causing harm? So that's how we got a big number. 170 trillion that's by, you know, we've dropped our nets in the ocean around the world over 100,000 miles of sailing, dropping our nets in the most remote parts of the planet from the Arctic Antarctic Bay of Bengal. Every ocean skimming the surface. We almost always find at least one particle microplastic, if not more, if not like this jar. And, and again, we can backtrack it, you know, back to land, back to the beach, back up the river, up the Mississippi, past Quincy, up to North Minnesota. Everyone's participating in this global culture of consumption. As, as a scientist, I wanna, I wanna really understand and study the source of the problem so that we can then apply a solution. We did it in the Great Lakes. So back in 2012, I worked with a colleague, uh uh Sam Mason, an amazing scientist. Together, we dragged our nets across the Great Lakes and we were finding those little small, little beads and I had a hunch where they're coming from. There were just thousands of them and the color and the shape, even the chemical composition, it matched facial creams. So I it was amazing. I went to a local pharmacy and I got, I think it was clean and clear by Johnson Johnson and I took it and I, I put a squirt in, uh um I put into a little piece piece of T shirt and I could wash with the cream and saw just thousands of beads and we estimated 300,000 little beads in one tube of Johnson Johnson clean and clear. And then we thought, ok, unlike the ocean where you really don't know which company, which country to point to. It's a tragedy of the commons. But with the micro bead in the Great Lakes, then we had, we knew which country we knew which company and in the uh some companies actually changed right away like lush Cosmetics. I was amazed.

JVN: It was those fucking Canadians. Damn it. I'm sick of them. Fucking Canadians fucking it all up for us. Environmentally. Every time we turn around those Canadians doing something to the great, I'm just kidding. I know it was us. It was our fault. I just was like, maybe it was the Canadians a little too. Like that's, it was like, totally our fault. But anyway, so lush and like, clean and clear. Like they were all like, we're not going to use these Mac, these like micro beads anymore.

MARCUS ERIKSEN: It's interesting. Lush said "no more." They saw the science and they said, OK, and this, I, I like companies that, you know, listen to scientists that say, OK, the facts are facts. You published the paper. It's been through peer review, we believe it. And they switched so hats off to them, Johnson & Johnson Clean and Clear. They fought us.

They, they fought us. A few companies fought us. Uh They actually hired a group called Alec, the American Legislative.

JVN: We heard about them on, on last week tonight with John Oliver. He told us about not literally me, but I watched the show and he was thinking about that fucking Alec they're doing every, they are running a muck. I'm writing them down. Who the fuck is, Alec?

MARCUS ERIKSEN: I couldn't believe how powerful Alec was that. They got that close to defending these microbeads, which I felt was an easy, an easy fix. Why do you got to put plastic in a facial scrub that goes, you wash it down the sink and goes out to the environment.

JVN: You could use like sugar or something.

MARCUS ERIKSEN: Exactly. Sugar or like a crushed almond husks beans. There are so many alternatives like- birds, bees has a bunch of good alternatives.

JVN: Crushed cocoa beans. Sounds fun. That sounds nice. Plastic and recycling seems like it got built kind of quick. Like how did we get here? Like when did recycling start? Like was that on in the seventies and the sixties? Like when did people start talking about recycling? Like when did single use plastics become so like relied upon and so popular?

MARCUS ERIKSEN: It really started, like you just said in the 1970s. So the first plastic bags, the first plastic bottles, the styrofoam cups, the straws, all that stuff back in 1970s. And that's the same time that the environmental movement in the sixties and the seventies kind of kind of surged. So people were seeing this, this, this single use plastics and they're seeing a rising um sort of grassroots movement industry's response to that was to start um something called Keep America Beautiful. If you, if you recall the -the, the crying Indian campaign or maybe you've seen images of those, but this goes back to the seventies actually. Um So industry's response to to the growing backlash of plastics was make this set of commercials where you had this Native American character who's actually an Italian actor. I had him with face paint on a horseback with feathers in his hair, you know, going down the road and seeing a plastic bag, you know, tumble down, blow down the, the street. And he would shed a tear in this commercial and, and the, and the, the tagline was people cause pollution and people can solve it. And that's how the recycling movement began because the industry was able to shift the blame away from s use plastic production to the public and they blamed you. And it was actually, it really was the tagline. People cause pollution, not the product but people.

JVN: It's giving the gun lobby. It's like guns aren't the problem. It's mental illness. It's your fault.

MARCUS ERIKSEN: That's a great analogy. Yes. So it's anti-smoking. It's the single use plastics. The gun law is the same strategy. Even the same people, the same lawyers switch from anti smoking to this. Keep America beautiful campaign. Crying Union campaign.

JVN: Wow. So that, and, and so also, so just so styrofoam that is plastic.

MARCUS ERIKSEN: Yes. Yes. Polystyrene. I mean, there are literally thousands of types of plastics. All the combinations of them. They have one through seven on your little chasing arrow symbol. There are all kinds of combinations of them. Um So yeah, there are all kinds of -

JVN: What about packing peanuts?

MARCUS ERIKSEN: Well, there are, there are styrofoam ones and then there are the, the starch ones. The starch ones are the ones that, you know, you're seeing more and more of. And those are in response to the styrofoam packing peanuts, the starch ones dissolve in water.

JVN: So that's good right.

MARCUS ERIKSEN: Yeah, that's, that's beautiful. The solutions are out there. So Jonathan, the solutions are out there. It's just can they get market share? Can they compete with the status quo? Because as you said, you know, plastic has been around for a long time. It's so efficient to make a plastic bag out of polyethylene. But what's also uh also a problem is that the, the cost, the negative externalities of plastic trash, of all, all the, all the the the toxics you and I as taxpayers we pay for that industry has washed their hands of it. So a lot of cities are, are being burdened with having to pay for recycle centers for trying to, to, to, to manage and collect all this trash. I mean, who pulls plastic bags out of trees? It's not dow chemical, it's not the industries that make plastic, it's you and I as taxpayers paying our city employees to do that. So we pay for all the negative externalities while the industry's profit from the single use materials.

JVN: Um- negative externalities is like a really good vocab like word phrase that I've never heard before. And that's a tweet moment. We have to like teach people what that means. What does that mean? Again? It's like all like the negative consequences from something?

MARCUS ERIKSEN: Exactly. It's the external costs that come from doing business that you then pass on to someone else, either the consumer or to the government.

JVN: Why is it so broken? Why are we down at the 9%? Like why is it because our infrastructure is too old?

MARCUS ERIKSEN: It comes down to, to economics. It's so cheap and easy and profitable to make a single use plastic item. Because you know, to be honest, it, it isn't efficient material, no plastics, it, it doesn't break as like glass does. It's lightweight, unlike glass and metals, it can be in all kinds of colors. It's an amazing material. It can be used in so many other ways in in such efficient ways like like a lightweight vehicles used in electronics and technologies all the time in aircraft, in our homes, we use lots of plastics is an efficient material but being used as a single use item that gets thrown away. That's where it causes, that's where most of the harm is coming from that and all the toxic materials added to it and, and the systems to make those things are so efficient. And as I mentioned, the negative externalities are pushed onto the public that this train it's going and they don't want to stop it. Now, the economics it could shift if we pass some really smart legislation, like you just mentioned about, you know, recycled plastics. If companies were required to use recycled materials. For example, if you, if you pass a law that everyone, no matter who you are, you gotta have 50% recycled plastic in your new product, your packaging, I guarantee there would be a market for it and those recycle rates would go from 9% to 50% or more. So, it's, it's finding the smart legislation that's going to tip, tip us into, into a culture that doesn't have those negative externalities. And that's where, that's where I get excited. You know, Jonathan, I'm, I'm much more optimistic now than I was when I got started, you know, 10-15 years ago,

JVN: Loving the hopeful attitudes. I love a hopeful Zaddy. So like, is there any like possibility model that we could follow that? You think someone's doing really well?

MARCUS ERIKSEN: This is where I get optimism because I meet a lot of people doing really interesting stuff. There's something called shareholder activism and that's where, you know, young activists and young lawyers, you know, ethically, minded people, they find a way to get on the board to become a shareholder. And then when the right time arrives, they, they raise their hand and say, hey, I don't think we should be building this chemical plant and it gets them internally having discussions and, and when you get enough shareholders on board saying, yeah, that's not, that's not good. Then you can ship the company from the inside, playing inside baseball. So that's, that's one example of, you know, where little bits of optimism I'm finding um that's one avenue the other are so many people, entrepreneurs and activists and scientists who are all pushing like this global treaty, the UN Global Treaty. I want to get into a little bit which companies doing it well, our country doing it well, I mean, I was just reading about the treaty. Um I'm always looking at this UN Treaty and companies like, like, like Norway and Ecuador and Rwanda even they want a strong treaty. They don't want to see like we mentioned earlier, trash end up in the hands of a child in Indonesia, the Philippines picking through our waste. They want to see a really strong uh enforceable treaty. They want a legally binding treaty. They don't want a treaty watered down by the United States that says, OK, it's gonna be voluntary. If we feel like it, we'll stick to the plan. They want a strong legally binding treaty. They want the trade of trash to end. They want a cap on the amount of plastics being made worldwide as we give other systems a chance to work. Well, systems like yours where you're using, you know, ethical materials, using aluminum and using other other materials that don't have a legacy of waste. So that's regular optimism. There are countries like you mentioned are doing it well. Um I see that there's a whole thing called EPR and we should spend a little time on this -extended producer responsibility. That's a big part of this big UN Treaty. EPR and that means the people who are the companies who are making plastics and making products from it, they've got responsibility for the full life cycle of what they make. So part of the UN treaty is to have a strong E pr uh component of it where companies making plastic stuff they have to get, if they're gonna sell a million tons of plastics over the year, you gotta get a million tons back and you got to figure out how to do it.

JVN: So by the time this episode gets released, the global plastics treaty negotiations will have had their 4th and 5th summits. Um where does this treaty take place? Where can people follow it? Like, how is the United States involved? Um I mean, I asked that because a lot of our listeners are from the US but it, but also a lot of our listeners are in like England US or England, Australia like other places. So how can people like internationally and domestically like, follow this treaty and keep up to date on like what its findings and recommendations are.

MARCUS ERIKSEN: Almost every country is participating in some way. So through your own country, your own state department, like our state department, you can find information on the, the US position on the treaty. Um You know, the UN because it is a UN treaty at the UN. You can also find, you know, the latest like with the results of Inc two INC three and upcoming INC four which will be in Canada. The last one was in Kenya. So it really is international and all the delegates are participating. There's so much information out there, but I would suggest, you know, for a good um and ethical sort of review like really taking in social and environmental justice to heart and all the solutions that we've been talking about.

Um you can follow five gyres, Us also break free from plastic. Has some really great talking points. Gives you good update on on what some, some of the pinch points are. Industry is really pushing for a weak treaty. They want it voluntary, they want it downstream, just do more, clean up, more recycling and don't stop production. But I think break free from plastic and our organization, the Five Jars Institute, we're constantly reporting on it, giving updates on, on what the treaty is about. And of course, you can always not uh reach out to your own senator. Um But I think getting, I always tell people, you know, calling your legislate. Uh um your local legislator is one way to get involved. But I think more at the local level, I I always tell people you want to get involved in anything, get organized, your buying power matters what you buy. But getting organized locally is so powerful. I've been to so many, so many city council meetings across the country and I meet the again, a point of optimism, meet the most amazing local organizations that are saying, OK, we want to stop this plastic bag. Uh We wanna ban plastic bags or get styrofoam plates out of our school. And I've been in so many city councils where a kid stands up, gets his or her two minutes and the room is silent. I always tell kids get involved, get organized and get to the city council, have your, your voice heard.

JVN: I used to work with like grove collaborative who I love. Um And I would do like, we would do like reduce reuse, recycle things that were more like personal, like, you know, you can do it like whether it's like taking like a glass jar and making it like a little candle thing or like just anything to like reduce reuse and people will be like, girl, you can save all the fucking straws you want. But like as long as these corporations are still going and dumping all their shit in water, like it doesn't like, you know, we gotta go bigger. It's not individual like that's like what a lot of like the advocates on social say. So like, whereas me, I'm like a non binary queer. So I always think like every little bit helps, like why can't we angle for systemic change while also trying to do our best individually? Like that's kind of what I think is that how you are or like, like do you recycle personally like-?

MARCUS ERIKSEN: That's exactly how I am. If I do recycle. So at our home, we recycle as much as we can and we don't buy things that are not recyclable, really avoid single use completely. And we, if we buy something, we're looking at the product and the packaging, I wanna make sure if I can get this glass jar. Can I get it in bulk? Ok. What's the biggest package I can get is the package recyclable. And we do, we have, we, we have the luxury of growing our own food. We have a yard, a lot of folks live in apartments. So we just try and all that matters, all that counts. No one should ever tell you that. You know, any effort you make doesn't matter because the big picture looks gloomy. No, I I've met so many people like I said, acting locally and they're doing things and it creates a groundswell. You know, the grassroots movement happens locally and you gotta, you gotta focus on being successful where you can and he catches fire. People. Look and they're like, oh you can, you're doing that. I'm doing that too. Let's work together and then you bring in more and more and that's I've, we often say in this, in this work that I do constant pressure over time. You can do that. Mm Johnson price. You just never give up you, you got your thumb on the scale all the time. I'm gonna keep on doing this until I tip the scale in the favor of justice.

JVN: GodDamn. Do I know some people who need to listen to that advice right now? Um Where can people follow? Are you real active on Instagram? And like the tt like do you and Anna like do like cool plastic stuff?

MARCUS ERIKSEN: We have an amazing team that, that does a lot of that. At Five Gyres, we're doing a, we're still doing a lot of research. Our focus now is mostly on microfibre. We have a new scientist. Uh Lisa Elo does a lot of great work on, on fibers and textiles.

JVN: Wait, so are you trying to tell me that you just like, have a website and you guys aren't on Instagram and TikTok? Is that what you're telling me right now? We are because if you, you guys don't have a series on your Instagram or TikTok of like you're and Anna's like origin story and like building those rafts and like where you guys like do like a cute little couples thing. I just want to say you're incorrect and you should be doing it because people would watch it that like the first, I mean, I love this whole episode but the first, like you're in Anna's origin story and like your raft stories, like that's like the most entranced I've been on this pod for a minute. Like I was just like, like, I think people would really like that on social. Like just like little bits of your stories. Like part one, part two, part three that works really good for TikTok.

MARCUS ERIKSEN: That's good to know. Thank you!

JVN: Marcus. I didn't know this was going to be one of my favorite episodes ever. But alas it was, I feel like I learned so much. I loved having you on. We got to have you back. Thank you so much for coming on and teaching us. We just loved meeting you and you're just fantastic. And thank you for coming on. Getting Curious.

MARCUS ERIKSEN: It's my pleasure, Jonathan. Thank you so much for having me on.

JVN: So did we learn about where all the plastics go? Oh, yeah, we did. That little jar of all those plastics is one of the craziest things. I've I, I just, I know that we've heard about it, but really imagine like a big patch of trash. But really, it's like all these microplastics that blew my gay mind. The 9% or less of total plastic that's created in the US is actually recycled. That also blew my mind. Um I I just, I, I I just can't even really uh get over that also. The um but there are so many interesting things that I took away from this conversation, I think, I mean, first of all, Marcus's story is incredible, but what I really took away was like the trade of trash, the commodification of trash and um that we need to keep our eye on that. Uh, really keeping our eye on this global plastics treaty. Um, I'm really interested in that. I'm also, um, there's no, there's no standard across countries or even across our country for like how we should be dealing with recycling of plastics and really like the all out assault that it's playing on our water systems. I think this is a really huge issue and it just doesn't seem like we have like a coordinate response. Ok. So now what I'm curious about Alec, I'm curious about the American Chemistry Council. I'm curious about shareholder activism. Where else is that uh done well? And also has the US ever done a legally binding treaty? Like has the US ever been like a good player environmentally internationally? Um And also like, what are some of the other harms that like our international recycling and trash trade is causing on like young people across the globe? Like I know that Marcus got into it, but I'm sure that there's more and it's deeper. Um But yeah, I mean, you guys, let's stay on top of where that treaty is. Thanks for coming on getting or thanks for listening to getting curious. We love you so much. Thanks for listening and we'll see you next time. We love you guys. Bye.

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