

CRYPTO TOKEN



Episode 101: An Intro to Bitcoin with Byron Yee

- Kelley Weaver: Okay. We'll get started right away. Today I am talking to Byron Yee, who I met yesterday at a Bitcoin meetup here in Los Angeles. Byron has an incredible way of telling stories to introduce folks to Bitcoin. We had a group of all different levels of folks who didn't even know what Bitcoin was to those who are very immersed in this space. Given that this is our first ever episode of Crypto Token Talk, when I met Byron I thought, "He's the perfect guest for the first episode, where we can really just dive in at a very entry level as to what Bitcoin is." Welcome, Byron.
- Byron Yee: Well, thank you. Thank you for inviting me. I'm really flattered that my stories came through, and I'd be happy to talk about what my experience has been and how I can describe all of this crazy stuff.
- Kelley Weaver: Awesome. Thank you. Give us a little bit of background as to who you are and how this all came to be for you.
- Byron Yee: Oh. I'll have to do the Reader's Digest edited version. I actually have a background in chemical engineering and computer science. I have an MB in finance. For about 15 years I was corporate. For 10 years I was a salesman for IBM and Merck. Then for six years I was a technologist for Charles Schwab. Of course, I gave that all up to come to Hollywood to make my way. The other side of my brain, I was very creative. I was a standup comedian out of San Francisco for many years, and there are clips of me on Comedy Central still floating out on the internet.
- Kelley Weaver: We should put those in the show notes.
- Byron Yee: Well, sure. Then I did a one man show that was successful, and I was in Edinborough and all throughout Canada, but then you come down here to LA, and of course no one cares about anything you've done or who you are. So, like anyone else, I've struggled up and down in the entertainment industry. Several years ago I just happened to help my friends out on a film, and then next thing you know I'm executive producer of a film called Bellflower, which premiered at Sundance literally seven years ago like right now, and it was the Indy breakout hit of the year.
- Kelley Weaver: Wow.

Byron Yee: It was made for \$17,000. It went on to worldwide distribution. It was picked up by Oscilloscope Labs out of New York, and I got to meet Adam Yauch with the Beastie Boys, who bought our film before he passed away. We got two Independent Spirit Film Award nominations. We're on the Best Films of the Year list.

Kelley Weaver: Wow.

Byron Yee: That gave me some Indy street cred, and it also ... What my friends taught me, and in a back way this is kind of about the story of Bitcoin, is that you don't have any excuses. You just got to go out and do it. I spent the last several years making my own film, which has been through ups and downs, but it will get released this year digitally on April 17th through iTunes, and Google Play, and Amazon Video. If anyone knows any filmmakers out there, once you make a film, you go completely broke. You max out your credit cards. You do all this other type of stuff to get your film out there, and so I'm rebooting myself, because I've been in the crypto space.

Byron Yee: Backing up to how I got into crypto was that as a technologist, a lifelong technologist, I've missed all of these great technological booms, because I'd sit there and be very skeptical and look at things going, "Hey. That's not going to work," and it ends up working. I first got into Bitcoin in 2013, when Ross Ulbricht got arrested in the Silk Road case. Instinctively, something went off in my head, because the dark recesses of the internet, those are the ones that force change, great technological change.

Byron Yee: For example, the pornography industry has instituted great technological change, irregardless of what it is. It forced beta, and VHS, and then all the way to credit card processing, which is the most boring thing in the world, to streaming, to bandwidth. The needs of that industry forced technology to move at a more rapid pace, and yet people there were breaking rules, because they had an industry, and content, and customers, and things like that. When I saw that people were trading illegal drugs on the internet anonymously and with some sort of safety, something went off in the back of my head.

Byron Yee: I started to study Bitcoin. I sound like an old timer, but way back when, it still ... It's always been derided by the financial press, but I started to take a look at it. I will tell you is that my journey through it is that there weren't that many good sources of information. There weren't that many good stories about it. I studied it I think for a good four or five months,

because I couldn't get my head around it. Once I finally did, for me, as an engineer and having some sort of a technical background, something clicked in. For me, I just tell people how the math works. All this stuff about how you explain stuff, the math works. Once I understood that, then I said, "This is going to be the next big thing." I don't think I've been proven wrong. I think this'll be a huge technological change.

Byron Yee: That is briefly who I am, how I kind of backdoor stumbled into Bitcoin. Then in 2013, I went to one of the first meetups that I could find, and there were less than 100 people in Los Angeles talking about Bitcoin, because still people weren't sure what it was. Was it a scam? Is it a Ponzi scheme? No one really understood, and I don't think anyone truly understands what this is, but I think enough smart people have looked at the evidence and all came to their own independent conclusions that this is a groundbreaking type of technology.

Byron Yee: For those people that are naysayers, that say, "This is a Ponzi scheme, and it's fake," and all that, I have yet to meet someone that has actually studied it, and looked at it hard, and given it a fair shake, to shake out the technology of what it actually does, for them to come to the same conclusion. There are people in this industry, in this space, that have less than reputable reputations, that are bad actors, that may be snake oil salesmen, that may be Ponzi people, that's actually true, but if you look at the underlying technology, I think that's what was most exciting to me.

Kelley Weaver: Very cool. Yeah. It's amazing. Even today, in 2018, it's difficult to find good information about what it is. You have to dig in multiple sources.

Byron Yee: Well, there's too much information is the problem. There's too much information, and as a filmmaker, there are unrivaled narrators. There are people out there that have an idea, and they push it in one direction, when it's really something else. Again, the information's the same now as it was in 2013. It's just that there's more of it, and there's a lot of people talking about it. As it is with most things, is that most people have heard about Bitcoin, because they watch the news, or a friend says something. As you know, storytelling is all about transmitting ideas. It's a connection. It's all very personal. Many people, almost everyone I ran into, "Well, my nerdy nephew said something about it, and I wish I would have invested."

Byron Yee: I've heard so many people that said, oh, they heard about it in 2012, 2013, 2014. They didn't take it seriously. Now they regret. That is a very powerful thing, because as it moves forward, it gains legitimacy. Then someone says, "Tell me about this," or, "Tell me about that." So, yeah, there's too much information. You don't know what of it is valid, but it

requires a lot of work. I meet a lot of people that say, "Tell me, what's the next coin to get into? Tell me, what do I do?" I shake my head.

Byron Yee: I'm saying, "If you're asking me, then you are asking me as an un-reputable source, or I haven't been vetted, or I may not have a connection with you, and that's just the same as me rolling into a town with my snake oil, saying it'll cure all your ailments." I just caution people that they can do their own research. It's out there. And to find people that you trust, and also to work with your friends, because you'll figure it out together.

Kelley Weaver: Yeah. Well, I want to get some more suggestions towards the end, but I want to dive into what is Bitcoin. You told a great story yesterday that I'd love for you to share.

Byron Yee: Sure. Again, as a storyteller, as a filmmaker, and as a comedian, it's all about telling stories and finding the right way to communicate information. Any story I tell, feel free to steal it and use it.

Kelley Weaver: I will.

Byron Yee: Because it is ... There is a very old fable ... Someone asked, "What is Bitcoin?", and I thought about this. I thought of this for a long time, and I'm reminded of this very old fable that I heard as a kid, and there are six blind Indian men in a village. They hear that there is an elephant in town, but since they're blind, they've never seen an elephant, and so they're curious about what this elephant is, because it's been described to them, and, you know, a mythical type thing. The six blind men go look for the elephant, but they feel different parts of the elephant. One of them feels one of the legs, and he goes, "Oh. It's a tree." Someone feels the trunk and, "Oh. It's a snake." Someone feels the tail, "No. It's nice and soft." Someone feels the skin and goes, "It's rough, like leather."

Byron Yee: In essence, all of them are correct, and all of them are incorrect. Bitcoin is many things to many people. Bitcoin can be a way that we can save the third world, that they will now have access to modern financial instruments that you and I take for granted. Bitcoin can be a way to take away power from central authority figures, so instead of the Federal Reserve printing more money, we no longer relied upon bureaucrats and elected officials that have direct control over our life, that we can now do peer to peer interactions. Bitcoin is a get rich quick scheme, you know, that I'm going to buy at this amount. I'm going to sell at that amount, and I'll be rich, and I'll see yeah later, suckers.

Byron Yee: It's all these things and more, but the problem is that people are only looking at one part of Bitcoin. They're not looking at the whole elephant. I say Bitcoin is an elephant. It's many different things to many people. It depends upon what you're in it for, but if you can see the entire elephant, then you can make your own choices. The funny thing about this fable, which they never tell you what happens in the end, is afterwards the six blind men start arguing. They fight each other. They get into a big fight, because they can't agree as to what it is.

Byron Yee: That's essentially what happened in Bitcoin several years ago before all these forks. One of these developers, Gavin Andresen, basically said, "Hey. Blocks are getting full. We're going to have to make bigger blocks in a couple years," and that exploded into a literal religious war within Bitcoin that started out around 2014 that was very vicious. That's why you have all of these forks. That's why you have Bitcoin and Bitcoin-

Kelley Weaver: Cash.

Byron Yee: Bitcoin Cash. Right.

Kelley Weaver: Gold. Diamond.

Byron Yee: All those other type of things [inaudible 00:10:36]. But these were huge technological discussions that were going on three years ago, before anyone realized what would happen would happen, and then it happened. That is the strength of Bitcoin is that you have people that said, "You know what? We're going to fork off, because we don't like small blocks. We wanted big blocks." Then you have the small blocks, which are rolling along, saying, "Because of small blocks, we can have the Lightning Network, which means that we can actually scale up and have [inaudible 00:11:00]. These are technical arguments, but that's the beauty of what's going on. The other thing I'll tell you is that Bitcoin is the gateway drug into the blockchain.

Byron Yee: Bitcoin is the oldest, most established. It has millions of people in the ecosystem pulling in different ways, but one of the opinions that I've changed upon is that I always said Bitcoin would be the way to go, but because the block sizes are so big, the transaction fees are so high, that it's not usable for third world people to be directly on the blockchain. The good news is there's all these hundreds of Altcoins out there with different characteristics, maybe low transaction fees or more anonymity.

Byron Yee: I would say two, three years ago I wasn't very excited about Altcoins. Now, I see, well, all right, so everyone have a choice. You don't have to be in Bitcoin. You can go to any one of the number of hundreds of Altcoins out there, but again, you have to do your own due diligence and see whether or not the community that forms around it is something that you want to get involved in and be a part of.

Kelley Weaver: Yeah. I mean, to touch a little bit more on the block size, basically it's like if you were going to go buy coffee with Bitcoin, you want to buy a \$5 cup of coffee, that's going to take a long time to verify. Visa and MasterCard transact like 20,000 per second or something like that, and the Bitcoin Network can't do that, and the the fees, even this past summer when they were, quote unquote, low, were like \$2, \$3. Now, you're looking at upwards of, if you're not using the Lightning Network, 50 bucks. Essentially, Bitcoin, nobody's arguing that it's sort of a payments rail anymore, because it's being argued that it's a long toward stored value, Bitcoin [inaudible 00:12:43].

Byron Yee: But in 2013 and '14 it wasn't. In 2013 and '14, I would do test transactions with no transaction fee, and they got onto the blockchain, because there wasn't ... Yeah. I sound like an old fogey, but I was screwing around with my wallets and trading Bitcoin for zero transaction fees, just to see how it would work. It would work. You know, it took maybe 20, 30 minutes to get on the blockchain. If I put a small fee, .0001, you know, I might get it in 10 minutes, but this is before it exploded upwards. This is a fascinating thing. It's evolved and will continue to evolve. People are jumping in and saying, "Is this too late? Have I missed it?"

Byron Yee: The other story, which I tell, which is very apropos, is that people are worried that they've missed the boat, that they can no longer make their billions, or millions, or whatever. I liken this to the gold rush, because it is absolutely true, is that if you look at the California Gold Rush, if you really look at it and apply what's happening in Bitcoin today to it, this is a story in which I think other people can relate to. January 24, 1848, there's a guy named John Marshall who is building a lumber mill on the south fork of the American River. It's Sutter's Mills. Sutter was a guy that had a fort in what is now [inaudible 00:14:00] Sacramento. He sent Marshall up to figure out ... working to build a lumber mill and mine all this lumber, because that's valuable. That's a natural resource.

Byron Yee: As the story goes, they're building the lumber mill, and they have to do stuff with water, and so he literally is looking down in the water on

January 24th, and he sees something shiny, and picks it up, and it's gold. They're not sure what it is, and so back in the old days you had to use mercury. You had to do all this stuff. After about three to four days, they said, "I think we found gold." Marshall goes to all of his people building the mill and says, "Okay. Listen. You need to work on this mill, but on the weekends you can go pan for gold," and so that's what happened. All the miners would sit there and give their 8, or 10, or 12 hours, and then on the weekends they'd pan for gold, because there was a lot of gold there.

Byron Yee: When they ran out of supplies, they went down to Sacramento or to Sutter, and there was a guy named Samuel Brannan, who was a merchant. He had a general hardware store, and he also ran the California Star Newspaper. All of a sudden, you have 20 guys walk in and say, "I want every pickaxe, shovel, pan, anything we can do." He goes, "Why?" He goes, "Well, we found gold in them there hills." Samuel Brannan goes, he goes, "Wow. I need to tell the world of this announcement," except all the people that worked on his newspaper quit and left to go mine for gold.

Kelley Weaver: How long had people been mining for gold before that?

Byron Yee: Gold wasn't discovered in California.

Kelley Weaver: You're right.

Byron Yee: There's gold. Gold was mined worldwide. There's all this technology that was brought to California, but no one thought there was gold in California, until January 24th, 1848. I'm literally talking this is in February of 1848, when they ran out of supplies and they had to get their food and all these other things. They're trading gold they found for this, and so Brannan's going, "Geez. This is a great opportunity." Samuel Brannan went around and bought every pickax, everything he could find that could be used in mining. As the story goes, and you can look it up in the news archives, in March of 1848, San Francisco was nothing more than a little, horrible town. You know? It wasn't developed or anything. He literally walked down the streets in San Francisco and with a file of gold he said, "There's gold in California. Come buy all your mining equipment from me."

Byron Yee: That was the first recorded instance of gold being discovered in California. One of the newspapers published it. You can look at the archives and see it. That essentially is where we are in Bitcoin and the blockchain. I think that we are fully around March, maybe early April, of

1948. Everyone's flooding in. They know there's gold. They're coming to rush in. What happens after the Gold Rush, if you study history?

Byron Yee: Well, we didn't know there was the mother lode in Virginia City, which was actually what built San Francisco, because there was the richest silver strike in the world, though not discovered until 1850. Sorry. Right before the Civil War, so 1857, '58, '59 is when he found Virginia City, and they had to get the silver out, and the only way to get it out was to San Francisco, and San Francisco was actually developed because of the silver, the mother lode.

Byron Yee: This is all history. Mark Twain's up there, all this other type of stuff. You can look that up, but you don't realize that there were all these different mining strikes in the Sierra Nevada or in California that weren't gold. They found silver. Mercury is needed to process gold. In San Francisco Bay area there's Alameda. I was in San Francisco for 12 years. There was a city called Alameda, which is near San Jose, but I didn't realize that that was actually founded as a mercury mine, because you needed the mercury to process the gold.

Byron Yee: We are in the exact same place right now. You have all these strikes that people are finding, whether it's Ethereum, or Litecoin, or all these other coins that are being developed. People are striking it rich. The cautionary tale is that sometimes after they strike it rich and all the gold is mined, these things become ghost towns. If you ever drive up US-395 between Los Angeles and Reno, there's a ghost town called Bodie. Bodie is in arrested development, and it's at 8,000 feet near Lake Mono. For a time period there were 10,000 people lived there and were just taking gold out.

Byron Yee: The second the gold dried up, people went away, and then the town was eventually abandoned and is now a great tourist destination. A lot of Europeans love the American West, but they go there because it's in arrested development. They're going to let the buildings decay down to nothing, but it is an authentic California ghost town, so that is a cautionary tale. On the other hand, you have cities like, I don't know, Auburn, California, which is in the foothills on the way to ... between Reno and Sacramento. That's still a thriving town. You have Sonora, if you've ever been up in the foothills near Yosemite. Sonora was a mining town. Now it's a tourist destination.

Byron Yee: Even though you have all of this great development, some of these things will go away, but other things will be left that will be the economy. As a result of the Gold Rush, California became a state, and all this

infrastructure got built. Everyone moved here, and now it's 21% of the world's GDP. These are the stories that I like to tell to try to put this in context. I may or may not be right on the dates, but essentially the Gold Rush is very analogous to blockchain and Bitcoin. If people can get their heads around these concepts and these stories, I think they can understand it better, as opposed to a technical presentation of this is what the blocks ... you know, this is blocks, and this is [inaudible 00:19:43] ledgers and things like that.

Kelley Weaver: It is fascinating. You know so much about history without even any notes. It's amazing.

Byron Yee: Well, I'm a storyteller. I'm a comedian. These are things in history. What's interesting though is that people will have facts if they're emotional connected to them, if there's a reason for you to tell these stories, and that to me is I guess one of my gifts, as a storyteller, and a comedian, and a writer, is that I will find things that I will have a connection to. If you have a connection to these things, you can communicate them effectively, as opposed to a dry PowerPoint presentation or a deck. I've seen so many of these where people were just kind of repeating the same things they've said over and over, but they have no connection. That's what I do as a filmmaker, and an entertainer, and a writer.

Kelley Weaver: You and I both referenced blockchain in this conversation, and I just want to give the listener a little bit of background as to what blockchain is without getting technical, why it matters. Bitcoin was the first example of blockchain technology. It was the introduction of blockchain technology to the world, which makes it really novel, but what is ...? We talked about block size, but we didn't explain what blockchain is.

Byron Yee: Let me take a crack at this. Again, if you read the original Satoshi Nakamoto white paper ... The first time I read it, the first 20 times I read it I couldn't understand what the heck it was. What the original white paper did is it took some existing computer science problems, and they put them together to create this thing about immutable blocks and all that. We'll go back to my blind Indian men and elephant story.

Kelley Weaver: When you say immutable blocks, [crosstalk 00:21:21] glazes over.

Byron Yee: Yeah. I did that on purpose, because again, this is how you explain things like this. One of the things they solved is something called the Byzantine General's Problem, which I think it sounds really interesting, but it's a way technologists try to explain this thing. I'm not going to call it the Byzantine General's Problem. I'm going to call it the Byzantine High

School Girls Passing Notes Problem. I think people can understand that. I don't even know if you're in high school, you're passing notes anymore. You're probably texting, but in the old days, you used to pass notes in class, right? One of the problems with the internet is that we know that the internet's not secure. The NSA, the hackers, and-

Kelley Weaver: Everybody's watching us.

Byron Yee: Everybody's watching everyone. Let's say there are two girls on opposite sides of the classroom, and one of them's passing a note to the other saying, "I like Chad," right? Well, as you know, in high school, sometimes you pass a note along, and sometimes someone will intercept it and say, "I hate Chad," right? Its an insecure network. As you're passing notes in a classroom, that's an insecure network, but you're trying to get this really important information to your friend across the [crosstalk 00:22:35].

Kelley Weaver: People might change it before it gets to [crosstalk 00:22:37]

Byron Yee: Sure. How do we solve this with cryptography and hashing. Well, you want to make sure the note gets there. The note could be intercepted by the teacher. It could get lost. It could make it to its destination, or it could be changed. How do you know that the note that you passed that said, "I like Chad," gets it to your friend across the classroom? Cryptography and hashography, and this is the math part, basically there's a little code book, and so you say, "I like Chad," and then you sign it with a secret code.

Byron Yee: This secret code is cryptography and hashography, and all that, but all you need to know is that if someone sends a note, "I like Chad," and then signs it with this really long signature, when it's received at the other end, the friend can look at it and it goes, "I like Chad," but she also has a little, secret code book, and she can open it up and see whether or not this is a valid message or not. That's the Byzantine General's High School Girls Passing Notes in Class.

Byron Yee: That seems simple, and yet it's very relevant, because that was something that people that had hashography and cryptography and all that, so that's a way to explain sending secure notes over an unsecured network, and that has always been the issue. How do you create something that isn't intercepted or counterfeit on the way there?

Kelley Weaver: Or that you have a digital copy. If a car key was a photo on my phone and I wanted to sell you my car, I could send you a picture of the key. Let's say it was a key or a code or something, but then I would still have a copy of

that key on my phone. This was one of the problems, like who's to say that I don't still have that?

Byron Yee: The other way that it's also been explained to me is that you have these nodes, these [inaudible 00:24:17] out there that sit there and transmit this. Oh. The other thing is that as you pass the note, "I like Chad," the people in the middle say, "Oh. I have a note from here to there. I'm not sure where it's going, but I like Chad, and here's the cryptographic signature." At the end, when you received the note and received the transaction, and it is a valid ... through all the cryptography, then everyone [inaudible 00:24:40]. Everyone's got notebooks saying, "I like Chad," and signed with this, but they're not sure who it was sent from anonymously or who it was sent to, but that this is a valid transaction on the network.

Byron Yee: In a roundabout way, that also explains the fact that you start to have these blocks, and these blocks are nothing more than just strings of texts, and integers, and all that, but it's basically here's ownership of this message. Here it's been signed and is valid, and therefore it should be recorded in everyone's notebook. blockchain is the most boring concept in the world. A ledger. Who cares about a ledger? You know? And transactions that can't be intercepted. Why does that make any sense? Well, this is the basis for companies and corporations-

Kelley Weaver: Being able to transact digitally.

Byron Yee: Let's go back to England and the Industrial Revolution. Double ledger accounting is the most boring concept in the world, but it changed the world. Essentially, you had all these small, mom-and-pop operations, and they had their companies, and they keep their books, and they'd have a public set of books and a private set of books, but the problems was is that sometimes there was fraud. There were mistakes, and so there was no way to reconcile whether or not a transaction that occurred was fraudulent or it was just a mistake, but when you had double ledger accounting, so you had a public set of books and a private set of books, and someone would come back and audit it and say, "No. These are all legitimate transactions, and they match up with what's on the private set of books," that's double ledger accounting.

Byron Yee: The second you had that people could form corporations and companies, and invest in them, and buy shares of stock. We take this stuff for granted, but back they're writing this stuff on pieces of paper, like Charles Dickens in a Christmas Carol doing the books. The most boring concepts in the world, but how does that change everything? Well, if everyone can

look at this ledger and see that ... we use the term immutable, but we're saying that it is valid. It cannot be changed or hacked, and that you have all these transactions, and the ownership of whatever's on this ledger belongs to this person or that person, except we're not really sure who this person or that person are, but it doesn't matter, because someone who owns that private key owns that part of the ledger.

Byron Yee: Again, this is way over everyone's head, but the drug dealers figured it out. Ross Ulbricht and the Silk Road were sitting there trying to transfer money and getting it intercepted, because they were using blue dot credit/debit cards, and the financial transactions could be intercepted by the banks. Then they stumbled across Bitcoin. I don't know who did, but they said, "Wait a minute. Here's this digital currency that does all the things we want it to do." We don't care who invented it, and we don't care all this other type of stuff, but it has value if it can be transmitted.

Byron Yee: That's how Silk Road all of a sudden ... People started selling drugs on the internet, not because of Bitcoin. It's because they needed to sell drugs on the internet, and they found Bitcoin saying, "This does exactly what we want." They rode that horse all the way into Ross Ulbricht getting arrested at the Glen Park Library in San Francisco, because he made one mistake.

Kelley Weaver: Yeah. Early on.

Byron Yee: He used his real email on a Bitcoin forum, a message board, sending people a technical question they were able to trace back. These are the stories that go, "Wow." You kind of conk your head and go, "This is fairly interesting."

Kelley Weaver: Yeah. Well, I feel like when I ask people how they explain Bitcoin or blockchain technology, oftentimes you naturally sort of want to get into what the technology is and does. When you're telling people what a credit card is and does, you're not talking about how the credit card settles its payments and all that. You don't need to get into that. It's just like, okay, you have a piece of plastic. It allows you to buy things. You have it on a statement. The consumer only needs to know sort of why it works, but then there are all these questions I get asked like, "What is a miner? Can I plug my computer in and win Bitcoins?" How do you answer those types of questions?

Byron Yee: Sure. Let me reverse engineer this from my standpoint. I'm in the film industry. I'm in entertainment and all that. If you ask someone to describe a movie and they start describing the plot, your eyes glaze over,

because you don't care. You don't care what that is. What you really care about is what is the emotional connection to the movie, and what is all this other type of stuff? When someone starts asking me these questions and they say, "What is a miner? I don't understand. How can you trust these people?", and all that, instead of trying to give the technical explanation, which I'm perfectly happy to do, but it's not going to make any sense, I try to find the emotional cord, what people are wondering about. It all has to do with trust.

Kelley Weaver: How to get rich?

Byron Yee: How to get rich. I had a guy that goes ... He was in front of a Bitcoin developer. Jonas Schnelli came and spoke last December. I had never met a Bitcoin co-developer, but I'm kind of curious. I went to go ... Very smart guy. He's from Switzerland. There was a guy that was in the media that literally had heard about Bitcoin three days before and goes, "How do I get a Bitcoin ATM? How do I get rich?" I took him aside and I said, "You got to read this book and all this, but I'm telling you. I'm just giving you the shortcut. You're not going to mine right now, because you could have four or five years ago, but you don't do it now. There are other ways to make money in this industry, other than trying to ... The things that you're thinking about right now, other people have thought about and have come and gone."

Byron Yee: We talked about the Bitcoin ATM that you had [inaudible 00:30:00] saw three or four years ago, and that was a pilot program. I went up there. I gave my palm print. I gave my California ID. I'm scanned in the system. I bought \$20 of Bitcoin at the time, because I just wanted to see what the experience was, because they made a big fanfare. They put in this Bitcoin ATM, and-

Kelley Weaver: My company, Melrose PR, was behind that fanfare.

Byron Yee: Right.

Kelley Weaver: [crosstalk 00:30:22] PR campaign. It was so confusing to me at the time, but I couldn't get my mind around Bitcoin.

Byron Yee: Oh, sure.

Kelley Weaver: I brushed it off, even after doing PR for the Bitcoin ATM [crosstalk 00:30:31].

Byron Yee: It was a very expensive thing, but the Bitcoin ATMs actually do very well with the head shops. You know, I've gone to some of the head shops and bait shops on Sunset Boulevard. They're still there. I kind of casually asked the guy, "Yeah. How many people come in here?" "Oh. We have like seven people a day." "Really?"

Kelley Weaver: You had to put all your data in and hand print?

Byron Yee: Well, it's KYC and AML. It depends.

Kelley Weaver: But you don't have to do that in Atlanta at the Bitcoin ATMs. [crosstalk 00:30:52]

Byron Yee: Well, it's changed, but California law way back when, you had to give them a palm print, and you had to scan your driver's license, because they were afraid they would get shut down, because this is a money changer. Same thing. I'm not sure if it's still there, but the Fitzgerald Casino in downtown Los Angeles was one of the early proponents of Bitcoin, so there's a Bitcoin ATM there. I actually, as an experiment, I bought hot dogs at the hot dog stand at the Fitzgerald, because they were very, very early adopters. I'm talking 2013/14, right?

Kelley Weaver: Oh. The hot dogs with Bitcoin?

Byron Yee: Yeah.

Kelley Weaver: Cool.

Byron Yee: And there's no transaction fee. I mean, it was like eight bucks for a hot dog. I think it's still on my Facebook somewhere. I could dig up those pictures, but, yeah, I was saying, "Hey, look. I just bought these hotdogs."

Kelley Weaver: How much are those hot dogs worth today?

Byron Yee: Well, yeah. Of course. That's the same thing. At the time they were worth nine bucks, and I was happy to pay those nine bucks, because I wanted to do it. Certainly, if I had held on to them, that \$9 is probably worth several million dollars. No.

Kelley Weaver: Thousands.

Byron Yee: It's probably 700,000, \$700,000. But these are the stories. I mean, I'm sure you heard the story about the early adopter in England that was

mining Bitcoin back in 2009 and 2010 on his laptop, right? He put it in the corner, turned it on, because he's a computer guy, and then after a while, he says, "This is kind of boring," and he turned it off. Three years later, he just tossed out his laptop, and then he realized he had a lot of Bitcoin on this.

Byron Yee: It runs out that at that time, in 2000 I would say '13, he had \$650 million of Bitcoin on this hard drive, which was now sitting in a land dump somewhere in the UK. Of course, he goes and tries to find it. Of course, a lot of other people have done it, because as the story goes, and I believe that it's true, there is a laptop in a land dump somewhere in the UK that is probably worth billions of dollars of Bitcoin. That's just the pure fact of the matter.

Kelley Weaver: What do you recommend to people who are looking to get into bitcoin? They're interested in their conversation, they're curious about how ... What are the suggestions that you have for how people first get involved?

Byron Yee: Well the first thing is to not go out and buy bitcoin immediately because I think it's the worst thing to do and I've seen a lot of people make mistakes, I've seen people make expensive mistakes because they didn't understand what they're getting themselves into.

The first thing I tell them is to read a book called Digital Gold by Nathaniel Popper, it came out in 2015 and it is an excellent narrative of the beginning of bitcoin and the blockchain. It talks about Satoshi Nakamoto and all the way through the [inaudible 00:00:39] hack, to the Winklevoss twins, and all the different characters involved, but it tells things in such a narrative way, a nontechnical way, about these early renegades, and also talks about silk road, which to me is what got it on my radar about silk road and trading drugs on the internet. If you look at that and read that, the beginning of these people didn't care ... These people were really crypto anarchists and they're trying to take away power from the government and all the debates we have about money, but read Digital Gold because it gives you-

Kelley Weaver: It's such a good storyteller.

Byron Yee: Yeah, very, it's a great storyteller and I think that it gives you the story that you can then turn around at a cocktail party and tell the same thing, so do that.

The second the thing I would highly recommend is Andreas Antonopoulos is one of the really good guys and good evangelists in bitcoin and he's been doing this for five, six years, I mean, he became obsessed with it and he quit his job as a developer and really absorbed it and then understood what it was and he's been one of the ethical voices out there, but he has a YouTube channel, thank god he's put all his videos up and started to modifies them because it's how he's making his living, he goes around the world talking about bitcoin. But you can take any of his videos, either the beginner videos, there's one where he spent two hours in front of the Canadian senate and talking to a bunch of idiot politicians who would ask all these questions of "Is this a fraud? Is this whatever?" But he spent two hours in a most boring thing ever but it's very exciting because if you can watch that for two hours, that is your basic intro to bitcoin 101 because if you don't know anything, he's got a great video where he spent two hours talking to dumb politicians what bitcoin is. Then he goes into very, very technical explanations for any of one of a number of really tough subjects, so that's where you start.

Once you do that, then I would suggest you think about trying to find some bitcoin somewhere. You can go through Coinbase out of San Francisco, I've talked about them but they are within the financial system of the United States because they have to ask for your drivers license, they, you know, it's KYC AML, which is know your customer anti-mongering law, you'll hear that term thrown around, but they to know who you are.

If you're concerned about your security then you go to Localbitcoins.com, which has been around for seven or eight years, and this is where you meet someone local or in your neighborhood, who is willing to exchange literally cash for bitcoin, and if you think "Well that seems kind of really dangerous." It's based upon reputation management, so similar to eBay, if you buy something from someone on eBay that's been around for a long time that has 10,000 reviews, you're pretty much assured that this transaction will be safe and if you're just buying \$100, or a couple hundred dollars of bitcoin from someone that is in your community, that has a good reputation, that's as safe as anything, and also, that also protects you from ... This guy isn't gonna ask for your drivers license, or your social security number, or your birth date, you can still remain anonymous, so if you can obtain a little bit of bitcoin somehow, somewhere, that at least gets you in the game and then you become obsessed with the price, and the politics, and all the things that go on, and you'll start to work your way through that.

I would say that would be one way to get in.

Kelley Weaver: One thing you mentioned last night, which I'd love for you to repeat, is the breakdown of people and why they get involved in bitcoin, like libertarian mindset versus the technology versus the money.

Byron Yee: Well I have no idea of a word I said but [crosstalk 00:04:13]

Kelley Weaver: I mean, you said like 20% of people come to bitcoin because they're fascinated with anti-government and then 60% come because they are really obsessed with the technology, but 100% come because they love the money, they wanna get rich.

Byron Yee: Yeah, this goes back to the blind guys and the elephant, right? It's the same thing, is that they all come to it for different reasons and there are ... Deep down, I truly believe that this technology will change the world but the way it'll change the world is that you have four billion people in the world that live day-to-day, that they live in governments or jurisdictions, where they're not in control of the money, right? This is the fascinating thing is that, theoretically through bitcoin, through a 12 word seed, which is a whole other can of worms we're gonna get into, but 12 words or 24 words, that you can actually have value transmitted to you and no one can take it away from you, unless someone puts a gun to your head or you get hacked on the inside or the out, you know, before you get in and out of the system. The system inside is immutable, that's the beauty of it, is that you can't change the rules in the middle of the game and that's what people want.

The problem right now with money, and with money supplies, and economics, is that the rules are constantly changed, and a law is passed, or they print more money. With bitcoin, the rules are setup in advance and I think that's what appeals to a lot of people, so yes, 20% of the people may be libertarian and say "I don't want the government to know what I'm doing. I want to be able to do what I can and so I am pulling my resources out of this corrupt system into a system that we know is fair." I think that's the most importantly, it's for fair. Some people are saying "No, I just want to get rich quick and I see the bitcoin at this point and I can arbitrage."

People are very ... Human nature is fascinating 'cause I'm a storyteller and I'm always looking at why people do what they do and when people get in and they start talking about what it is they want to do or why they're there, then I can pretty much quickly size them up because they

tell exactly what they're in for. A new person hears about bitcoin, it's a way to make money, that's all they care about. Someone comes in and sees, goes "Wait a minute, maybe this is a way to make the world a better place to live." Which is also true. Some people will say "I don't want to fund wars." I hear this all the time, "I don't want to fund wars and so if I take the power away from the central government to tax me and to go to war, and instead I can make these peer to peer transactions, then that's what I'm in it for."

Again, this goes back to the blind guys and the elephant, people will get in for different reasons, but it's also good to be able to maybe, if you get a little bit of sight, to see the whole big picture and then you can figure out where you can fit in on this.

The thing that I will caution people is that I've heard people say that this will never work and all that, in the present day right now, it's absolutely true. Getting into cryptocurrency requires a certain level of technical competence and everything else but what you also have to realize is that what we're recording the podcast on and what I've got in my pocket is a smartphone and 10 years ago, this didn't exist, you know, it was flip phones and all that, but you see how people use this, they don't care what's on here, they just care they can get to their app, and that essentially is what will happen in the future with bitcoin is that, from a technical standpoint, it's what's happening underneath. You don't care of all the data that goes in when you download an app and you're doing something, you're on Yelp or trying to do your fitness type of thing, you don't care what's going on, you just care that "Oh, that heart's rate is being monitored or I can find a restaurant down the street." There's a lot of technology that goes on underneath as you're typing, that's what bitcoin and the blockchain is, is that this is a way to get the engine, the engine of the car, it's more efficient, it's more effective, and it will take you farther places, so that's the other way I try to explain what's going on.

Kelley Weaver: I want to start wrapping up, but I asked you earlier, but I'm curious what you have in terms about price prediction for bitcoin.

Byron Yee: People ask me about the price, I don't know what's going to happen tomorrow. I do know my general feeling is that I'm longterm very bullish, I'm over the top bullish on this because we don't know where it's gonna go. Now, is it only on bitcoin? Well it could be some of the other altcoins, it depends upon what survives. It's survival of the fittest. The thousands or, there are several hundred altcoins that are out there, not all of them will survive but some will and they will survive become our wildest

imagination literally, so when people ask me about price, they start talking about the price, I kinda shake my head because I've been through this before.

My first bitcoin I bought [inaudible 00:08:50] \$1,100 and I bought all the way down to about \$270, I think, is the lowest price I got several years ago, but I believe in the technology. A lot of people left the space because they thought it was just gonna go up exponentially. With great amusement, I looked at some of the transactions I made in 2016, you know, 18 months ago, it was like \$500 a coin, \$600 a coin, it was in that range but it didn't have that stratosphere of upward trajectory until all of 2017.

I would say that I don't a prediction for price. I would say that the volatility will ... You'll become obsessed with the volatility as it goes up and down, and I would say think of this as money that you can afford to lose and don't worry about the price, but I will say that I will contradict myself, price is indicative of mainstream, wide-stream adoption, and as more and more people go in, the price will inevitably go up because there will be a limited number of people that are willing to sell their bitcoin for a whatever price, so the more people that will get in, the better it is for the market.

Kelley Weaver: And we're only scratching the surface in terms of adoption. I mean, I think the total number of people who own bitcoin in the world is less than 5% of the US, the percentage [crosstalk 00:10:06]

Byron Yee: Yeah, someone mentioned that, I don't know where that figure came from. That sounds about right, maybe 15 million people in all of the world out of 6.2 billion-

Kelley Weaver: Billion. Billion.

Byron Yee: Yeah, out of 6.2 billion, there's 15 million people that own bitcoin right now. Again, you're at the very, very, very early stages.

What's interesting about this is that the government regulators and the governments are trying to kill bitcoin because they believe they see the-

Kelley Weaver: As a threat.

Byron Yee: They see the threat but they're too late. They were too late as of January 10, 2009, because once the cat gets out of the bag, and that's what has happened, the technology overcomes the political hurdles, that has

always happened, so yeah, I would say again, let's take it the long term view, you think about radio, television, film, media, then the internet came along, which they kind of kept their hands off, they weren't sure what it was. If you look at the early days of the internet, what people predicted, it's laughably hysterical and so we're in the same thing.

The other analogy, which technical people will understand, nontechnical people may not, but where we were with the internet in 1994 is where we are with bitcoin right now and they're "I don't remember the internet in 1994." I do, 'cause I'll date myself, but in 1994 there used to be an Egghead retail software store on all these corners, and you had to go out and buy a browser, you had to buy Netscape 2.0 for \$29.99, and this is before Microsoft started to give away Internet Explorer. I remember the internet, I was on AOL, and CompuServe and all these other type of things. I didn't understand what the big deal was. I got ahold of Netscape 2.0 and I downloaded it and I started to browse because it was intuitive and that was my first "Oh, now I get it." Because before it was servers, and message boards, and very, very limited type of things but that was the first time things kind of broke wide open, you know?

I mean Sergey Brin and Larry Page were graduate students, or students at Stanford, they had yet to invent Google yet, right? That's where we are. We don't know where this is gonna take us. We have some indications, this is where we might go with Bitcoin, but we don't know, but that's what's exciting, is that innovation will come from somewhere that had least expected it but when it happens it will happen very, very, very quickly.

Kelley Weaver: Yeah. I mean, I think it's a great suggestion to do the research. I also think when you have a little bit of skin in the game, you're gonna be more incentivized to learn. You know, when people join our company, the first thing we do is give them \$100 worth of bitcoin 'cause then all of a sudden they're vested and so I think even if people come for the price and then stay for the technology too, it's like whatever's gonna hook you and looking at the price is gonna make it interesting at least and one of the pieces of advice that I heard Wences Casares, who is the CEO of Xapo up in [crosstalk 00:12:49] Valley-

Byron Yee: Yeah, and he's in the book, yeah.

Kelley Weaver: Yeah, he's a huge proponent of Bitcoin and has been for a long time, he said "My recommendation from an investment standpoint is take 1% of your net worth." Most people can stand to lose 1% of their net worth and put it into Bitcoin, in some secure way, you know, if it's Coinbase then

don't forget how to access your Coinbase account [crosstalk 00:13:10] probably not a good suggestion, actually you should put it on a hardware wallet offline and put that hardware wallet in a safe, and forget about it for five, ten years, that's what he said, "Buy it and forget it."

This is money that you don't need to have and then see what happens, bitcoin could go to zero, and it could go to \$100,000, a million dollars, we do not know, but if you can put an amount that you can stand to lose, if you need the money in a month, do not put it into bitcoin, you know? Because it will go down, and it will go up, so it will continue to be volatile but it's just, it's a fascinating thing and because the technology behind it has the capacity to change the world in a variety of different ways, whether it's bitcoin, like you said, or Ethereum, or bitcoin cash, whatever it might be, I do believe personally that cryptocurrencies are here to stay.

Byron Yee: We've hit 2013, but the thing is, it's a bumpy road to get there and this is the most interesting thing is that we could have a conversation a year from now, I would say that we would be ... Something will happen that will be incredibly good and it'll be taking off in a different direction, but that's the exciting thing, is that no one wanted to talk to me a year and half ago because it's yeah, yeah, yeah, whatever and then in 2017, you know, Tony and [inaudible 00:14:28] who started this meetup where I met you at, they didn't know anything a year ago and they just wanted to know, and I showed up, I said "Well I've been around for four years. I'm happy to teach you 'cause no one would talk to me eight months ago but yeah, this is what you need to know." Now, incredibly intelligent people are starting to get their idea of it and that's the exciting thing is that people go "Wow. I think I can do this." And so that's what happening.

Kelley Weaver: I suppose that's a good suggestion too is go on Meetup.com and see what's happening in your local neighborhood because I met these fascinating people every time I go to a meetup about bitcoin, or blockchain, or whatever, Ethereum, you always meet some really interesting folks who are, in general, mostly just wanna share and want to share knowledge, have thoughtful conversations. It's a fascinating topic.

Byron Yee: Yeah.

Kelley Weaver: Anyway, I'm really excited for future conversation.

Byron Yee: Sure, absolutely. I'd be happy to be on.

Kelley Weaver: You're a wealth of knowledge and it's been really fun to talk to you.

Byron Yee: Okay. Well thanks. Thanks Kelley.