



**Episode 340 - What's the Big Deal About Bitcoin?**

**Guest: Steve Patterson**

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**WOODS:** I was very glad to see your book come out; this book *What's the Big Deal About Bitcoin?* Because it's really a model for how people should approach topics like this, a topic of general interest where there are some difficult concepts involved. You've produced a short book that is also to be praised for its simplicity. You've taken complicated ideas and explained them without losing any of the rigor, without losing any of the accuracy. You've explained them for a lay audience. This is very important because as I've said for a while, I think the real trouble is that people have difficulty understanding what Bitcoin is because it's always explained to them in some crazy, techno-geek language that nobody else uses, and I suppose in deciding to work on this project and produce this little book, that was a serious motivating factor. There is no simple introduction for somebody who is curious. They go online and they try to read an article about Bitcoin, and it zooms over their heads.

**PATTERSON:** Yes, that's right. I actually was asked by an old friend for some financial advice, and I kind of gave them the old standard, well, if you want to protect your wealth, you should check out gold and silver. I said, but if you have a little bit higher tolerance for risk, there's this Bitcoin thing out there that a lot of people are talking about. If you're interested, I will share some resources with you, and she said, yeah, I am interested, and so I searched the Internet looking for introductory Bitcoin material, and there's not a lot of good stuff out there. A lot of it's very technical. Some of it is very politically oriented, which is fine. It's just not appropriate for a lay audience, and so I decided, well, I am just going to write my own book on the topic.

**WOODS:** Indeed you did, and you have organized it exactly the way I would have organized a book on a topic like this; a topic of general interest where there are some complicated concepts that need to be explained. You've got three sections. You've got a section on what it is, then a section on why it matters, and then a section on answering objections. Well, these are all very important, and you've handled them all. So let's structure this discussion in the same way. Let's begin with what Bitcoin is. Give me your explanation for the layman; basic, ground-level explanation of what we're talking about when we use the word Bitcoin.

**PATTERSON:** Okay, well, when we use the word Bitcoin, here's how I like to start with people who are complete novices. Bitcoin is an ambiguous word, and I say that because in different contexts, it means different things, and that's one of the reasons that there's been so much

confusion generated about the topic because the word means different things, but most people when they are talking about Bitcoin, they are talking about a currency that's traded online. But the currency is only one part of an entirely new payment system that was created for the Internet. The payment system has three parts. The first part is the currency. The second part is an online ledger, and then the last part is a piece of software. So together, those three things form Bitcoin, the technology.

**WOODS:** All right, I can understand those words, but I can't understand them as easily I can understand a dollar bill. So we do need to now fill in some blanks. So you're saying that this is a payment system. It's a currency. There's software involved. Now let's put some meat on the bones. So take all of the time you need, well, not really, but take a reasonable amount of time to go through now and give us a step-by-step explanation of what's really happening in the world of Bitcoin.

**PATTERSON:** Okay, the place that you have to start in trying to understand Bitcoin is that of the ledger. It is the most important part of the entire Bitcoin ecosphere. The entire technology revolves around this ledger, and all it is is a record of Bitcoin transactions. So whenever Bitcoin, the currency, gets exchanged, which I'll go into in a minute, it's recorded in this online ledger. So the next part in understanding Bitcoin is some of the details about the actual currency. The creator of Bitcoin modeled his own currency after the properties of gold. So it's scarce. It's divisible. It's portable. We can go on to more economic details later if you like, but most importantly, Bitcoin as a currency was created to be scarce in the digital world, which is something that's very unique. If you think about most digital goods are filed on a computer, you can essentially just copy and paste whatever you like and create, you know, an infinite number copies of any particular file, but if you can do that with money, it would become worthless. You wouldn't be able to have any meaningful prices.

So Bitcoin, the way the system works is that builds fundamental scarcity into the Bitcoin ecosphere, which is remarkable. When Bitcoin enthusiasts talk about Bitcoin, they often say things like, oh, I have a bitcoin on my computer or I have half a bitcoin on my phone, or something like this, and this also leads to confusion because it's not actually true. When you own Bitcoin, you don't actually own a tangible thing. What you own is access to this ledger, which records the Bitcoin transaction. So the way that the ledger works is you can think of the ledger as the kind of gold vault to Bitcoin's digital gold. In other words, all of the Bitcoin in existence are stored in this online ledger, and concretely speaking, what that means is in this ledger there are account numbers—just long streams of numbers and letters, and you can move Bitcoin into those account numbers and whoever owns that account in this ledger has ownership of any Bitcoins that are within the account. So the way that you prove that you are the rightful owner of that particular account number in the ledger is by having ownership of another long string of numbers and letters. It's essentially a password. You can think of it like a username and a password in this ledger. If you are the one that owns a particular password, you can move the Bitcoin out of that particular account. So Bitcoin ownership doesn't involve

owning anything physical. It involves owning the digital keys necessary to move the Bitcoin throughout the ledger. Does that make sense?

**WOODS:** I guess so. But, again, I think the average person is going to say, this is so much more complicated, even with Steve Patterson explaining it to me, than just pulling my dollar out of my wallet, that I don't see, to coin a phrase here, what the big deal is. Who in his right mind would want to get into something like this?

**PATTERSON:** This is just the explanation part. This is what it is, and we haven't necessarily gotten yet into why it's a big deal. So if you throw aside all of the technical aspects of it, what you end up with is this. There is a currency, which you can acquire with dollars, which is fundamentally scarce. It's usable online. And it comes with a number of perks. So for example, transactions are essentially instant. You can send money, you can send bitcoin from your smartphone in your pocket to the other side of the world instantly, and it doesn't cost any money. You can have access to this payment system where you can send scarce units of Bitcoin to somebody, and there's no intermediaries involved, meaning that you don't have to seek approval from a bank, from a government, from any Bitcoin corporation. It's, if you'll forgive one technical term, it's called a "peer-to-peer" system, meaning that the sender and the receiver of Bitcoin exchange directly with one another, which especially for libertarians can be a really great thing because not only is it cheaper to do it that way, but it also gives you more individual freedom to spend your money how you see fit.

**WOODS:** All right, so let's—I think I will leave people to get more information on the details, and we'll go—although I wonder, do you think it's too technical to explain what Bitcoin mining is?

**PATTERSON:** No, not at all.

**WOODS:** Why don't we hit on that before we get into the why would you want to be involved in Bitcoin question.

**PATTERSON:** Sure. The way that Bitcoin comes into existence is by a large network of computers that run computer software, which updates and verifies this ledger that I've talked about. So in order to confirm that actual transactions are legitimate and there's not funny business going on, it takes a considerable amount of computer power, and the way that the system rewards computers undertaking this process is by giving them a small amount of Bitcoin, and it's called Bitcoin mining. So simply when you run software on your computer which undertakes the process of maintaining this ledger, you're rewarded a very small amount of Bitcoin. That's all.

**WOODS:** All right, let's talk about what the big deal is, because there are a lot of criticisms of Bitcoin that you answer, and so in order to be able to overcome those, it's not enough to say these criticisms are all misplaced. You also have to have a positive message. What are the

actual benefits of using Bitcoin as opposed to using any other currency? So spell out some of those for us.

**PATTERSON:** Sure, there's a lot of them, and I'll just hit on a few. For one, because Bitcoin lives online, it allows access to financial tools for billions of people across the planet who don't currently have access to basic financial tools, even like a bank account. I think there's something like two billion people or more that don't even have a bank account, and what Bitcoin does is it allows those individual people to essentially become their own bank. So they are connected with entrepreneurs in New York City, who can directly help them to undertake farming projects in Kenya, for example. It essentially destroys any barriers to entry in terms of getting access to financial tools, which is an enormous creation of value. On a kind of a more technological possibility is that what you can do with Bitcoin is not just send them to other people, but you can essentially assign a bitcoin to a real world good and then track the ownership of that asset on this public ledger. So, for example, if you have a car that you want to sell, what you can do in theory is tie a specific unit of Bitcoin in this public ledger to that car and say whoever owns this car is the legitimate— whoever owns this bitcoin is legitimate owner of the car, and essentially what you create is this kind of global asset register where you can keep track of various assets from mortgages to boats and cars or gold or anything you like on this publicly viewable and verifiable ledger.

And to make this one step cooler, let's go with the car example. You can essentially program physical goods to respond to digital ownership on this ledger. So you could program your car keys, for example, and say my car keys will only work if I have appropriate ownership on this public ledger. So you could—if you were playing out a futuristic scenario, you could essentially send digital car keys to somebody from the other side of the planet and do it from your cellphone if you like. It's that kind of possibility of incorporating a money that is able to be programmed, which has a lot of more techy people really excited about it. And finally, I will just give kind of standard benefit of Bitcoin is that it is a private money. Bitcoin was not created by a central bank or a government. The currency has arisen completely voluntarily in the marketplace that is giving it value, and it can't be arbitrarily inflated. There's no individual organization or group that has the power to say, oh, I declare this many bitcoins in existence, or I can wage a war because I essentially print up bitcoins. That's not possible with the software, which is very appealing to a lot of libertarians in particular.

**WOODS:** All right, let me throw at you just some of the criticisms and concerns that have been thrown Bitcoin's way, and I am still somewhat agnostic on Bitcoin, and obviously, interest in it got really, really hot when it hit that magical \$1,200 peak, and then now it's trading somewhere a little over \$200, and people have said, look, with something that fluctuates so wildly, what in the world? Why would I want to be within a million miles of this thing? Number one, the fluctuation in value. Secondly, you do address the Mt. Gox situation, where you had this exchange that suddenly didn't have your bitcoins anymore. Well, now last week there's apparently another exchange in Hong Kong, and they may have lost \$386 million worth of

Bitcoin, and I have actually hear at least one major Bitcoin enthusiast saying about Mt. Gox, well, you know, it just goes to show you've got to be careful with who you leave your money with. Sorry, the general public—Joe Q. Public—is not going to accept that. I have got the FDIC behind my dollars in the bank, and that's the way he's going to think. So when I look at the volatility, and I look at the insecurity that seems to be a major issue in terms of these exchanges, then why would I want to do this?

**PATTERSON:** Well, first of all, they are excellent objections, and I think a lot of Bitcoiners view the technology as perfect and invincible, and it's not. And I'll just go through those. First of all, on the volatility question, it is completely reasonable to look at the price of Bitcoin and say I am not going to put a lot of money in there because my currency might fluctuate every day. It might drop 80% over a month, and so on. It's perfectly reasonable. However, there is a very particular reason that the price has fluctuated so much, and it's pretty simple. The market cap of Bitcoin, which is just how much money is invested in the Bitcoin space, is very, very small. It's something like \$4 billion or \$5 billion right now. What that means is that whenever significant, or not even significant, when a few million dollars enters or leaves the Bitcoin space, the price fluctuates wildly, and this is to be expected. This is part of the technology being young. It's part of a very small market cap. By contrast, I think the global stock market capitalization is something like \$65 trillion, so we're talking about Bitcoin being a fraction of a fraction of a percent of the kind of markets that are out there. And when markets grow as more money goes into the Bitcoin economy, it should be expected that the price volatility will drop, but I don't foresee that happening anytime soon. I think we're going to have booms and busts for the foreseeable future just because the market is that small.

So to your second point—Mt. Gox and the exchanges that go belly up—there has been a ton of cases of Bitcoin exchanges that either go bankrupt or they disappear with people's Bitcoins. That, frankly, happens all the time. But every single case where anybody has lost money on an exchange, it happens for the exact, same reason that what they've done is they allow third parties, in this case, the exchanges, to hold on to those passwords to ownership of their bitcoins. So essentially they have said I will outsource my ownership of the bitcoin to this individual, and I will trust that they won't go belly up, bankrupt, or run away with my money. And it is in terms of the purpose of the Bitcoin technology, that's the cardinal sin, and we're used to being comfortable and saying, oh, sure, I'll just deposit my money in the bank, and it will be safe, but that is not the way it works in the Bitcoin ecosphere. And it is a shame that so many people have lost their money, and it really is tragic, and I don't think anybody should support storing any significant amount of money whatsoever with third parties. I think it's an unfortunate side effect of people being lulled into a false sense of security because they are so used to depositing their money at a bank where it's guaranteed. Bitcoin doesn't work that way, and I will say there aren't any cases that I know of, of people who have properly secured their bitcoin which has been stolen from them, and right now, to properly secure your bitcoin, it is a challenge even for people who are techies and know what they are doing, it still takes time. It's not consumer-friendly at all. So it's a completely legitimate truism at this point to say that your

average Joe really isn't going to see Bitcoin as this great alternative because it's so complex. However, this is also a function of the technology being very young. There's been a lot of efforts across the globe with thousands of computer programmers, who are working on ways to make Bitcoin storage a lot simpler. And we're probably a few years out yet, would be my guess. So if any non-technologically inclined person is listening to this, I would say be very, very careful entering the Bitcoin ecosphere at this point in time. But I am confident that that's going to change in the future.

**WOODS:** There are two other main objections I want to bring up. One is the claim that you hear from some financial people that Bitcoin is a Ponzi scheme. It's a small number of people who own more than half of all the bitcoins, and they have an interest in basically making it into a pump-and-dump scheme. You get the price up, get the suckers in, sell it to them, make a fortune, and then they lose. How do you answer that?

**PATTERSON:** Quite literally. Strictly speaking, a Ponzi scheme is a financial instrument where there's somebody selling you something. They say, hey, if you buy this offshore investment, you're going to get a 10% return on your money every month, and it's going to be great, and we guarantee these returns. With Bitcoin, that's not the case. There is no asset that's being issued by a company. There's no guaranteed rate of return for anything. It has been quite simply an appreciating asset. There's a finite amount of Bitcoin in existence, and people over the last four years—more people have gotten into the market. The demand for it has risen, and so the price has appreciated. In my book, I make the analogy to something like Apple stock. If you got in really early at Apple when the shares were really cheap, you could have made an absolute fortune selling your Apple stock to somebody after you. But that doesn't mean it's a Ponzi scheme. It just means it's an appreciating asset, and Bitcoin is the same thing.

**WOODS:** The other objection I have is a technical one that might seem a little bit remote and indeed technical to the audience, but I know there will be enough people who know about it, who would want to know what the answer is. What is this 51% concern that we hear talked about? 51% of what? And what's the danger?

**PATTERSON:** The miners that I was talking about earlier—the process of mining is undertaken by a network of computers, and those computers contribute a certain amount of total computer power to the entire network, and what the 50—it's called the 51% attack, and what that is, is a theoretical attack on the Bitcoin ecosystem where you have a large enough group of miners who are all contributing more than 50% of the computer power to the network, and then they have access to be able to tamper with the system. For example, if you had 51% of the miners on the network who all cooperate and be malicious, they could block certain transactions from happening, which can't happen unless there is a majority of malicious hackers on the network. They won't be able to break the entire Bitcoin system, but they would essentially, and again, in the book what I argue is the greatest threat of the 51% attack is not technical. They can't steal people's money or create a bunch of bitcoin out of thin air. The greatest threat is the lost of trust in the Bitcoin network that would happen if someone were to

execute a 51% attack. Because the critical part of the entire Bitcoin network is that it's decentralized, that there is not one central group who is pushing people around and telling people what to do. And if the 51% attack were to happen, then people would say, hey, I am going to get out of this system. There's too much power concentrated in the hands of this one group. And I think that the price would drop, and I think a lot of people would exit the Bitcoin community. However, it's very likely that the technical threats of the 51% attack are greatly overstated. In fact, there's a lot of talk in the Bitcoin development world about how we could mitigate even the possibility for a 51% attack.

**WOODS:** I want to ask you about Bitcoin adoption and the rate of Bitcoin adoption by merchants and by other people. It seems like it was really starting to explode because we got a lot of news items about it. Overstock and then sites like Fiverr, which are not nothing, Fiverr is a pretty substantial site. A bunch of other sites are starting to take it. But then, at least to an outside observer like me, it seemed like some of the wind was taken out of Bitcoin sales by some of these negative stories. How has that affected the rate of Bitcoin adoption?

**PATTERSON:** Well, by every metric other than the price of Bitcoin, 2014 was by far the most exciting year in Bitcoin's history by a lot of metrics, and merchant adoption is a big one. We had companies like Microsoft now in a limited way accepts Bitcoin. Like you mentioned, Overstock—you have TigerDirect that accepts Bitcoin. You have NewEgg.com that accepts Bitcoin. You have a bunch of really big name merchants that have all put their toes into the world, and I would say in terms of the negative press, it's certainly affected the price, but my wife works at one of the Bitcoin payment processors called BitPay, and I know that there's a lot of conversation—all the excitement that's happening in the computer development world about what Bitcoin will look like three years from now. So I don't think that people are particularly worried that this bad news is going to be some kind of death for Bitcoin. It's a temporary phenomenon.

**WOODS:** What about that decision by the IRS that basically you've got to be taxed on a capital gain or something based on where Bitcoin was when you first had it, and then when you made the transaction or whatever. Didn't make basically make it impossible to use Bitcoin legally, almost?

**PATTERSON:** Well, you've opened up a really good question there. So two things: First of all, I would say in terms of the actually IRS stamp on Bitcoin—I am not an accountant, so don't file your taxes based on what I say—but as I understand it, you're correct that essentially they are saying you have to treat it like a commodity or something, and if you buy Bitcoin at a \$100 for a Bitcoin, and then you buy a good with it, and your Bitcoin is at \$150, you have to track the difference between the two and pay the appropriate tax and all of that, which if that were the final ruling on Bitcoin it would be devastating for people who want to legally use Bitcoin. However, right now there is a lawyer in New York City called, Ben Lawsky, I think. And he is the heads of the regulatory commission in New York City, and they are working on drafting what's called a Bit License proposal, which essentially is more concrete regulations for how to treat

Bitcoin and whatnot. And long story short, the Bit License and the IRS ruling have pretty much been universally criticized by the Bitcoin community as being too stifling, and as you would expect from a government regulation that it killed innovation and whatnot. But there's some interesting—there's two really interesting things here.

First of all, given that Bitcoin is simply a piece of software that you can run on your computer, and it's international, there's no geographic boundaries which contain Bitcoin, it's not so clear that governments can effectively regulate and control Bitcoin like they can their own centrally issued currencies. So it might be the case—though it's certainly not right now. It might be the case that even if they make a bunch of declarations about how you can and cannot use your Bitcoin, it's unclear whether or not they'll be able to enforce those regulations, not that I am condoning any kind of illegal use on that. But secondly, quite frankly, what I think is the greatest threat to Bitcoin in the entire world is government. A lot of people in the Bitcoin community think, oh, well, there's absolutely nothing that can be done. It's inevitable that Bitcoin is going to tear down the nation-state and all of this stuff, and that might be true, and I am optimistic, but quite frankly, if it's the case that really big governments devote billions and billions and billions of dollars to try to destroy the system outright and ruin the network and criminalize users of Bitcoin, it's going to be very, very [inaudible]. I don't know. I am not an expert enough in the actually technical cryptographic understanding of the Bitcoin protocol where I can say, yes, I know that this software is so well-designed that \$50 billion spent on researching ways to destroy it will be ineffective. I can't say that. So that's what I would say is bringing government into the equation is a legitimate criticism of Bitcoin's future as far as I can tell.

**WOODS:** Well, we're going to leave it there. I refer people to your book *What's the Big Deal About Bitcoin?* by our guest, Steve Patterson. It is linked on the show notes page for today, [tomwoods.com/340](http://tomwoods.com/340), and of course, also at Steve's own site, [steve-patterson.com](http://steve-patterson.com), and of course, you can go directly to Amazon and get *What's the Big Deal About Bitcoin?* Steve, thanks for coming on and chatting with us today. I appreciate it.

**PATTERSON:** Thanks, Tom, it was my pleasure.