

Haseeb and I interview Vitalik Buterin about Ethereum and blockchains. Also see Part 1.

## Protocol Politics

The elder statesman of smart contract blockchains

Haseeb: Vitalik, I want to ask you a little bit about how your role has evolved since it began at Ethereum. In the very beginning before all of this, of course, you were once the uppity young entrepreneur. Its been six or seven years now, and youve moved on from being the entrepreneur to being the chief technologist to being the politician. Youre now sort of the elder statesman of smart contract blockchains.

What have you learned about protocol politics?

Vitalik: Protocol politics is less different from regular politics than you might think. Its all this emergent phenomena of what happens when you stick many thousands of people together.

You have incentives that are aligned in some cases; you have some competition in other cases. You have different groups of people that have different opinions, and they have to fight it out, sometimes within one protocol and sometimes between different protocols, where theres competition.

A lot of the dynamics that you get are surprisingly familiar to the kinds of religious fervor that you get when people defend their opinions. Is it better to have blockchains that have smaller blocks so theyre easier to verify, versus bigger blocks so that more people can afford to use them?

People have very strong opinions in the same way that people have strong opinions about religion, or democracy, or freedom of speech, or the welfare state, or any other mainstream political topic.

## The Ethereum community

Haseeb: Its striking. I mean, you built your career as a response to Bitcoin maximalism and youve now lived long enough to see the rise of Ethereum maximalism.

Three or four years ago, it didnt seem like something that existed. And now its become very clear that as you have all these alternatives to Ethereum arising, theres a strong need for people within Ethereum to set apart their identity from other people.

So Im curious how you think about how to keep Ethereum healthy and not see the Ethereum community degrade culturally and religiously the way that you saw the Bitcoin community degrade.

Vitalik: One of the things that I feel like Ive learned over the last decade is that people are at their morally worst not out of greed but out of fear. This is true in mainstream politics, and this is true in geopolitics.

Naval: Covid showed that it was all fear-driven. The Russia-Ukraine crisis shows that Russia is not attacking Ukraine to get oil fields; its out of fear. The responses are all fear-based. Fear is used to justify all the horrible things from the Patriot Act to the Covid lockdowns. Fear drives at all.

Greed is always done in your own name, and nobody wants to do it in their own name. Fear is always done in everybody elses name. So you end up with a whole bunch of self-styled white knights battling each other.

## The DAO hack

Vitalik: Right. And even when the leader actually is greedy and megalomaniacal, fear is what they use to sell it to everyone else.

The times when I thought both the Bitcoin and the Ethereum community were both at their morally worst would probably be in the Bitcoin-to-cash, small versus big block war crisis, where people felt like there was this very zero sum struggle between one vision of what Bitcoin would be and another vision of what Bitcoin could be. A lot of principles got thrown out, and people behaved terribly in a bunch of ways.

In the case of Ethereum, there was this big application called the DAO, and the DAO got hacked. And a big portion of all of the Eth was stuck in the DAO. If nothing had been done, the attacker would have been able to get it out after a couple of months. And this was less than a year into Ethereums history. So a decision was made to make a change to the rules of the Ethereum protocol to bail out the users of that application.

There was this big debate. Some people thought this is fine one time because it was early days, and some people thought that it should be a principle that we never interfere and its best to start those principles from day one.

We did end up hard-forking to fix the DAO, and a lot of people disagreed. That ended up splitting

Ethereum into two chains, Ethereum and Ethereum Classic. Ethereum Classic refused to implement the hard-fork, so they let the attacker get away out of principle. The ways that both communities behaved at the time was not good. People were openly advocating that we should use trademark law to try to not allow Ethereum Classic to exist.

And then people were advocating 51% attacks and all kinds of things. I think the reason why people were OK with things that they would totally not have been OK with at any other time is because they were afraid. Ethereum people were afraid that Ethereum Classic would replace and completely destroy Ethereum, and Ethereum Classic people were afraid that their principles were being destroyed by Ethereum, which could then grow to overtake the version of the chain that stuck to its principles.

I feel the situation did end up working out well for most people. There hasn't been a violation of that kind of immutability on Ethereum since, which isn't something that a lot of people were projecting. A lot of people did think that if you violate the principles once, then it would be open season to do it many times. But no, people even valued not fixing the Parity wallet until a year later in order to set the counter-precedent. We actually do take this very seriously.

Naval: There was a bug in a multisig wallet called the Parity wallet, which caused a massive loss of funds. But to be clear, I think the DAO hack was much larger in magnitude than anything subsequently, correct?

Vitalik: Yeah, it was much larger and it was very unique in that it was even possible to fix it with a fork. Normally when a hack happens, the hacker gets the money instantly and there isn't a way to fix it, even if you want to. So the DAO was really special and unique in that way.

Vitalik's finest and worst moments in protocol politics

Haseeb: As a protocol politician, what do you feel has been your finest moment and your worst moment of blockchain statecraft?

Vitalik: Least proud moment? Definitely the handling of the DAO fork situation. A lot of people did feel betrayed as a result of the DAO fork. A lot of people did feel like their expectations got violated. And a lot of people felt like their opinion was disrespected, especially people who opposed the fork. A lot of them did feel like there was this social environment where if you oppose the fork, then you're evil because you're pro hackers stealing millions of dollars.

That environment ended up turning a lot of people off, and there was a lot more that we could have done to not create that environment and still make people feel welcome despite the disagreement.

Haseeb: Do you regret the decision, or do you regret the way in which the decision was made?

Vitalik: I don't think I regret the decision. That decision did have a lot of positive consequences, too, in how it put a controversial stake in the ground. And people interpreted the stake in the ground in different ways.

The way I interpret the stake in the ground is that it was a moral statement that said that you can believe in principles without assigning those principles an infinite amount of weight, without saying that we were going to stick to those principles in absolutely all possible circumstances.

That kind of moderation is something that's very morally important to me personally. It's very pragmatically important to me personally, too.

Most people who try to take a more purist approach end up hitting a scenario that is extreme enough that they have to compromise. If you committed too hard to never compromising, then your rhetorical posture becomes even more screwed up. It's better to be transparent about these things early on. People who are pragmatic and willing to look at things in a more moderate way, they're definitely very happy as a result of that.

There were even people who believed in moderation that actually opposed the DAO fork, which was interesting. Some ended up sticking with Ethereum despite the DAO fork happening.

But there were a lot of people for whom the DAO fork was this watershed moment. They were curious about Ethereum before then, and then they realized that, Oh wow, no, this was a centralized evil chain, which is unfortunate that we can't satisfy everyone. But on the other hand satisfying everyone is expensive and satisfying everyone is so hard.

I sometimes even think had we successfully satisfied everyone during the DAO fork, then might we not have had much harder politics to get proof-of-stake out the door? I don't know.

Becoming a Twitter memelord

Naval: I see you taking incredible slings and arrows on Twitter and being very good natured about it. Its something that Zooko seems to also do.

The visible leaders of protocols or creators of protocols, because Im not even sure if Ethereums really led anymore they tend to have this ability to operate in public either with a certain nonchalance or with a certain combativeness that normal humans I dont think could sustain. How did that come about?

Do you wish you just remained anonymous?

Did you have to go through a learning curve to learn how to deal with all the trolls and all the haters and all the Bitcoin maxis attacking you? Do you wish you could just press a button and disappear from Eth, and then Eth goes into the foundations hands?

Vitalik: Theres definitely a learning curve. Theres big mistakes that I made in my Twittering in years past, especially times when I would let myself get carried away in a particular discussion, and Id say something and I feel like Id have to justify myself, and Id go into a deeper hole.

Naval: You wish you didnt argue as much on Twitter. Is that what youre saying?

Vitalik: Yeah. You learn over time that there is a good style. The good style, it accepts the criticism with grace. You learn what to respond to. You learn what to let slide, because realistically no ones going to see it anyway.

Theres definitely a subconscious, intuitive art to being a good Twitter memelord and being a good crypto memelord in general.

Vitaliks influence on Eth today

Naval: How much influence do you have on Eth today, especially compared to the DAO fork time? My sense was in the DAO fork, you were very involved. If something of that magnitude came up today, how much influence would you ever have relative to what you had then?

Vitalik: I feel like my influence in Ethereum keeps decreasing every six months. I have less now than I did six months ago. Six months ago, I had less than I had a year ago. And a year ago, I had less than I had 18 months ago.

These days the number of people that even I have to convince to push in a particular direction is significant. If you watch some of the EIPs that I personally promote, some of them dont even make it. So for a lot of them you have to try pretty hard to satisfy all peoples concerns.

Naval: So whats the biggest thing youve pushed that isnt getting adopted?

Vitalik: EIP-4488 is one example. If I had more control it would have been in Ethereum already.

Naval: What is that one?

Vitalik: This is the one to do a short-term decrease in the gas cost of call data. Its a fairly technical change that makes roll-ups cheaper in the short-term.

Haseeb: It seems to me like a lot of your evolving role within Ethereum shows the ways in which blockchains are like religions.

Imagine Ethereum started off as a sect that you founded as a charismatic leader and you were like, Hey, were going to break off from the religion of Bitcoin, or break off from the religion of Mastercoin. I believe in these new principles of Turing completeness.

Once upon a time you were the sect leader, and as the sect becomes a church, there becomes more bureaucracy, more vetocracy. Theres more and more mechanisms that are developing behind the scenes. And pretty soon you might be the charismatic voice of Ethereum, but the formal leadership of Ethereum has taken on its own life force.

What is your observation of how Ethereum has become more systematized as a culture compared to what it was five years ago?

Its getting harder to do big things in Eth

Vitalik: Today the protocol decisions tend to be done through this mechanism called the all-core devs call. This is a call that happens once every two weeks.

As the name implies, all of the core developers come on line and talk about all the proposed protocol changes. Everything that people agree on gets accepted. And if people disagree, then it doesnt get accepted. So theres this fairly complicated pipeline that changes have to go through.

Step one is the idea making stage. Then step two is the refining stage. Then theres the stage of

convincing more and more people, making a test implementation, eventually turning it into a fully formalized proposal that we call an EIP, an Ethereum Improvement Proposal. And then finally, you get sent to an all core devs, and then if all core devs accepts it, then it eventually goes into a hard-fork, which is what we call a protocol upgrade to Ethereum, which includes changes to the protocol that everyone has to download to get accepted to the network.

So theres this fairly long process. Theres many points along the way where different people have to agree.

Even at the beginning, the research team has to agree. And then in the later stages, the core developers, the people actually writing the code, have to agree as well. So its definitely more vetocratic, considerably, than it was three years ago and definitely much more than it was six years ago, when we could get a change accepted and it would get included very quickly.

Even now, I feel like the window is closing on substantial things. Its getting harder to do big things even today.

Haseeb: How do you feel about that?

Vitalik: In some ways, relieved. Ethereum becoming more vetocratic gives me more freedom to retire. Well, retire is a complicated word. I feel like Ill keep doing things forever but what kinds of things? As youve mentioned, my role is changing in complicated ways that are hard to describe.

Goals Outside Ethereum

Naval: What would you be working on if you werent working on Eth?

Vitalik: Good question. Id have my big long list of things that I think need to happen. And I would do some combination of writing about and explaining them and probably putting some of my own money into making them happen. Id try to put teams together and make them happen.

This would be things like account security, what we talked about with social recovery wallets, ideas around privacy, some of the secure blockchain-based voting stuff that Ive been pushing. The entire roadmap of what we need to do to make this ideal trustless decentralized society work.

Naval: Youve already had that. The aforementioned AMMs that Haseeb uses automated market makersthat was an idea that came out of one of your blog posts and then got implemented as Uniswap.

Any other low-hanging fruit there? Social recovery wallets, I heard that one. Blockchain voting?

If youre a young hacker listening to this podcast, and lets say youre not shilling Eth but youre like, Hey, the world needs this. Someone should build it. What would they build?

Vitalik: Right now decentralized web clients is one important thing ways to access the Ethereum blockchain that are cheaper than running a full node but are still decentralized and dont depend on a server. Its something thats going to become much more possible with the switch to proof-of-stake. Theres some people working on it, but we could use more people working on it.

Theres things at the application layer that could be useful. Ive seen people working on decentralized VPNs, which are cool.

Naval: Do you feel like theres any applications of blockchains that havent taken off yet because of scalability or its not ubiquitous, not everybody has a wallet yet? Whats the extreme case? What could people be doing with blockchains a decade from now that seems like science fiction today?

Vitalik: Some kind of decentralized blockchain-based social media would be interesting. The thing that would be valuable to do with social media is to split the layers between content and user interface. Content should all be on one shared layer, and people should compete on providing different interfaces.

Twitter and Reddit, its all just users make comments and users make votes. The only big difference is what are the interfaces that people use to show it. So why not create an ecosystem where anyone can go post stuff, and people can post things that link to other things, and people can make messages that are upvotes and downvotes, and people can repost other peoples posts, and you just have 10 different ways of viewing it? They might have different presentation. They might have different styles of moderation. You might have different sub-communities. Some might be more free-for-alls; some might be more restrictive; some might be more focused on specific areas; some might be free speech zones; and some might be venues for highly focused scientific discussion. But these things would still end up sharing the network effect of having the same common standards of

content being published to one decentralized network.

Naval: People have tried to do it somewhat. But nothing's taken off. Why is that?

Vitalik: If we have a super-scalable blockchain where we can afford to stick these kinds of actions on by default, then it could happen.

Crypto needs the good-natured

Haseeb: Who do you look up to? Who are your heroes?

Vitalik: In the crypto space, I have a lot of respect for Zooko. Zcash, it's just a wholesome and honorable project. It values privacy, and it's just working really hard at achieving it in this very friendly way.

Naval: He's incredibly friendly. The amount of abuse he puts up with is unbelievable, and he's one of the OGs in crypto. He's been in it forever for all the right reasons.

I remember talking to Zooko in the early days and I was like, Hey, if you build this thing, is it even legal? What if they arrest you? He said, Then I'll miss my kids, but I'll go to jail. He's a real believer. He also has this habit of retweeting people even when they attack him. One of my favorite Twitter moments was years and years ago where somebody tweeted him and said, Zooko, stop retweeting useless crap. So, of course, Zooko retweeted this person who became an accidental genius.

Vitalik: Now I'm trying to remember whether or not I picked that up from Zooko.

Naval: I do think Zooko set the tone for how you build a community with a smile. For example, now Zooko's talking about taking Zcash to proof-of-stake, and he still keeps getting attacked over things like the Founders Award. People say, Why did you have to go build an altcoin? Why didn't you do this as part of Bitcoin? And I remember originally he wanted to do it as part of Bitcoin, but they said, No. Go implement it as an altcoin first, and then if we like it we'll adopt it.

Haseeb: Vitalik knows that story well.

Naval: Exactly. Look, Bitcoin is trying to be a certain thing. I do think Bitcoin is incredibly valuable. It is the OG.

It does fall short in two ways. One is it's not programmable, and the second is it's not private. Can those be fixed? Not without severe trade-offs to what Bitcoin is. So it occupies a very important part in the ecosystem probably the most important part but it doesn't mean that that's the entire thing. There's a lot more to it.

Bitcoin may have nailed the basic protect your money Austrian economics style use case, but there are many more use cases. The thousand flowers that have bloomed on Ethereum and other smart contract blockchains since has been incredible, and as Haseeb said, we're going to see a proliferation of blockchains.

One, the incentives are just too strong. Second, there are different trade-offs you are making between decentralization and security and programmability.

There are people coming up who are saying, Well, we're more programmable. Agoric is saying, You can write JavaScript-based smart contracts. There are people who are saying, We're faster and simpler out of the box. You don't have to deal with Layer 2s and roll-ups and sharding and all that. You just write and it's easy to run.

There's some parts of the spectrum I don't understand things like Binance smart chain. The level of decentralization is so low, they just stick their name in it. But it's obviously for the people who care a lot less about decentralization and a lot more about cost and performance and so on. It's going to be a very rich ecosystem.

Blockchains are a fundamental shift into a new form of computing. And I think you do have to be good-natured about it because there are all these disingenuous attacks on it, like the Berkeley professor who wrote this long piece about how his Raspberry Pi has more throughput and therefore Eth or Bitcoin will fail. It was just a nonsense comparison. It was apples and oranges. You're comparing an airplane to a car. They're just two different things. Yet he wrote pages and pages of this like only a Berkeley professor could. I guess these are what Nassim Taleb calls the IYIs. Nassim has the completely opposite Twitter strategy of Vitalik, where if somebody attacks him he just executes them.

Russia

Haseeb: Speaking of which, Vitalik, who would you say are your enemies?

Vitalik: Unfortunately, Vladimir Putin's lovely Russian government is one of my enemies now.

I did talk to him five years ago. I believe in talking to people. I talked to Putin, I talked to the vice premier of Taiwan at one point, I talked to people in the government of Singapore, I've talked to people in Canada, the U.K. and lots of places.

But at the same time, there definitely are times where you make the judgements that you have given someone enough latitude and as much as it would be good to give someone even more love, unfortunately, at the present time, there are cities that are being bombed. There are millions of lives and peoples families and futures that are being potentially destroyed and cut short, and a beautiful country risks being turned into Syria. Ultimately, the first priority has to be doing all that we can to help people affected by that situation.

So that's a really unfortunate thing, and I've been very public in speaking out about that. I do fully support Ukraine, and I do strongly oppose all of the characters that are complicit in trying to destroy Ukraine as a country and as a nation.

At one point, I used a Russian profanity that some Ukrainian soldiers made famous because of how they used it as a brave show of defiance against Russian soldiers that demanded they surrender. And I repeated it to the head of Russia today. So my general approach with stuff is that, I don't believe in being mean 0% of the time. I believe in being mean like maybe 0.5% of the time, and if you're mean only 0.5% of the time then that actually makes that meanness more effective.

Whereas, if you're the sort of person that being mean is your default mode of discourse, then at some point people just stop paying attention to it.

Naval: The Bitcoin community can learn from that a little bit. Although there are definitely kind people within Bitcoin, too. We just have to be a little quieter because the maxis dominate.

Vitalik's lifestyle

Naval: I'd like to talk a little bit about the unusual aspects of your life. Not because we're celebrity chasing or navel gazing here, but because it points towards the different ways you can live your life, right?

One unusual thing about your life is that you don't seem to have large collections of houses and cars. You're not doing the standard wealth thing. Another is you're still working as this leader of this decentralized organization. You speak some very large number of languages, right?

Would you mind giving us an idea of a week in the life of Vitalik or a month in the life of Vitalik? It might be interesting to look at where it's different than the normal person's life.

Vitalik: The last six months of my life, I was in San Francisco, Toronto, Argentina, Costa Rica, Mexico, and Singapore a big, long assortment of places. I've been a nomad for about eight years now.

I started doing that as part of my Bitcoin trip in 2013. And then Ethereum started, and it's like my Bitcoin trip never stopped. I just kept on going to different places. I was the person that was willing to travel to any particular event to talk to people. People just kept on piling more places for me to visit. Eventually that part of my lifestyle just became permanent.

Naval: And you've given away ridiculous amounts of money, right? Eth, if I remember correctly, had seven founders and you've probably been among the most generous of them. Do you plan on giving it all away or most of it away? Does money not matter to you?

Vitalik: I plan on putting the money towards things that are the most important and meaningful to the world.

Naval: How many languages do you speak?

Vitalik: It depends on what counts. Somewhere between four and six.

Naval: And pretty fluently, right? I saw you on an airplane once speaking fluent Chinese, which caught me off guard a little bit. Was that something you learned recently?

Vitalik: Well, Chinese over the last five years. English and Russian I grew up with. French we learned in school. And then some German and some Spanish.

Haseeb: I was going to ask, you said you're still on your Bitcoin trip. When is your Bitcoin trip going to be finished?

Vitalik: It might never be. A few years ago, I thought that I would settle down eventually, but then during Covid I spent about six months in Singapore and I realized that, wow, at this point, my brain

is rewired and I'm just not meant to stay in one place. The nomading is probably never going to end. It was fascinating and it was also liberating, realizing that I'm off the standard track for good, and I'm fine with it.

### Closing Thoughts

Naval: I have one last question, which will be useful for my audience.

A lot of people who listen to these kinds of podcasts, they're just trying to be the best version of themselves, whether it's the happiest or the most successful or the healthiest or the fittest. I'm wondering if you have any philosophy that helps you make decisions that you think contributed to where you are today?

A conscious philosophy where you're like, Should I put time into my own education or should I travel or what have you? Is there any advice you would have for a young person whose sort of going down the standard track? The standard track is, I go to high school, I go to college, I get a degree, then I go get a job, blah, blah, blah.

Is there any advice you would give them given where the world is today and what you have learned?

Vitalik: Strive to be a better person at the end of every week than you were at the beginning of it.

What better means can be very different. It could mean learn something. It could mean exercise and get better at running than you were before. It could mean improving your ability to interact positively with other people. It could mean try something new, or visit a country that you haven't visited before and add some experience.

Live every week so you don't feel like at the end of the week you've wasted it. And if you do that, then you're going to keep on moving forward and you'll be fine.

Naval: Don't live life on autopilot. Haseeb, do you have any closing questions, remarks or thoughts?

Haseeb: I know that I'm not alone in saying that the crypto world owes you an enormous debt in having moved it forward. There's the great man theory of history that feels more and more outdated over time, but you're one of the few examples of a living person who has massively and single-handedly moved forward history.

I know it probably is difficult for you to have the sense of everything that Ethereum has done in the world and feel it, but I can tell you that all of us owe an enormous amount of what we're doing with our lives to what you started.

Naval: I would echo that by saying it's most remarkable how young you are, and you're already a multi-act person because you contributed significantly to telling people about Bitcoin, you contributed by creating Eth, and then you've also contributed through the creation of Uniswap and AMMs and now pushing social recovery wallets and privacy and so on. You have a multi-act career in front of you, and I look forward to seeing the future acts. As you were talking about improving every week, that's compound interest, right? And compound interest is a functional number of iterations, not time, so as you keep iterating and iterating, I'm curious to see the Vitalik that comes out the other side and the huge, huge impact that he has.

And honestly, for someone like you, politics is a waste of time. And yes you have to engage in it because you have to coordinate people, but I'm sure at some point you're going to have some great idea and this time instead of having to create it yourself against all odds, you'll be able to recruit a great team and finance them and shepherd them into building something as impactful in a parallel domain. So I'm looking forward to that.

I know you do a lot of these. We tried to make it a little different, keep it a little more high-level, keep it a little more timeless. You're tireless on the podcast circuit, so thanks again, and I hope to be helpful to you and the Ethereum community.

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