

- Demetri Kofinas:** 00:00:00 The Hidden Forces podcast features long form conversations broken into two parts, the second hour of which is made available to our premium subscribers, along with transcripts and notes to each conversation. For more information about how to access the episode overtimes, transcripts, and rundowns, head over to [patreon.com/hidden forces](https://patreon.com/hiddenforces). You can also sign up to our mailing list at iddenforces.io. Follow us on Twitter at Hidden Forces Pod and leave us a review on Apple podcasts. And with that, please enjoy this week's episode.
- Demetri Kofinas:** 00:00:54 What's up, everybody? My name is Demetri Kofinas, and you're listening to Hidden Forces, a podcast that helps investors, entrepreneurs, and everyday citizens get an edge by equipping themselves with the knowledge needed to anticipate the challenges and opportunities of tomorrow. By sharing my critical thinking approach and by challenging consensus narratives about the power structures shaping our world, I help you make the connections to see the bigger picture, empowering you to make smarter investment decisions.
- Demetri Kofinas:** 00:01:27 On this week's episode, I speak with Balaji Srinivasan, an angel investor, entrepreneur, and prominent futurist who's views on crypto, the future of education, and the network state put him at the forefront of innovation and disruption in money, business, and politics. I invited Balaji on the show to help me work through some of the thoughts and feelings that I've expressed in recent episodes related to the state of our markets and our politics. And while technology and culture may seem tangential to these larger forces that tend to dominate the frame and govern the news cycle, I would argue that they actually run directly through both of them because I think Silicon Valley culture and the ongoing disruptive dynamics associated with social networks, mobile devices, automation, and now cryptocurrencies are not only restructuring and remaking the commercial world, but they are increasingly encroaching upon the traditional assignments and obligations of governments and the state. We see this perhaps most notably in the case of privately issued digital currencies, but I would argue that this culture of disruption runs much deeper and its consequences for society are much broader than most of us realize. In fact, I would argue that what we are living through today is nothing short of a political revolution, and while I think our systems of government are ripe for disruption, I'm concerned that the solutions being put forward by Silicon Valley entrepreneurs, financiers, and the broader commercial sector do not adequately reflect the interests or the concerns of the vast majority of people whose lives would be most affected by these changes. Nor do I think the implications of such a world for democracy and civil rights have been properly thought out.
- Demetri Kofinas:** 00:03:19 The second part of our conversation would normally be released on our overtime feed, but Balaji and I didn't begin to get into the network state part of this discussion and its implications for society until the last 35 minutes or so of the first half. So, instead I've put that part of our conversation behind the pay wall and released the second half for everyone to listen to on the main feed. I think it's an absolutely illuminating conversation and Balaji was incredibly generous with his time.
- Demetri Kofinas:** 00:03:50 If this episode makes you want to dive deeper into the topics we discussed today and you want a transcript of this conversation, as well as all the source material, notes, and questions that I put together and relied on in preparation for this discussion, you can access all of that, either directly through our website

at hiddenforces.io, where you can also go through our episode library, or by visiting our Patreon page at patreon.com/hiddenforces. There are links to both the website and the Patreon page and the episode summary as well as a link with instructions on how to connect the overtime feed to your phone so you can listen to our premium conversations just like you listen to the regular podcast. And with that, please enjoy this enlightening and highly educational episode with my guest, Balaji Srinivasan.

Demetri Kofinas: 00:04:48 All right, Balaji, welcome back.

Balaji Srinivasan: 00:04:50 Great to be here.

Demetri Kofinas: 00:04:51 So we were talking about the ... I was trying to focus in on the deeper organizing principle or issue that would make this possible or not possible or create friction, and that ultimately is power. I mean, nation states, nation states are arguably the most powerful entities on the planet. They control physical space, they can apply pretty much whatever laws they want domestically so long as they can either get consent from their people or they can crush them, one way or the other. Actually, this makes me think about something. Have you ... I mean, you must have seen the Matrix, obviously.

Balaji Srinivasan: 00:05:30 Sure.

Demetri Kofinas: 00:05:30 That's one sort of analogy. Have you read Theodore Kaczynski's Industrial Society and Its Future?

Balaji Srinivasan: 00:05:36 I am familiar with it. I have a riff on that from a different direction if you're interested, which is ...

Demetri Kofinas: 00:05:41 Sure.

Balaji Srinivasan: 00:05:42 I actually think, I mean, so that happened only about 30 years ago, right? A Unabomber basically went and mailed bombs for a bunch of people to get his manifesto in the Washington Post, I believe, right? And if you think about it, he willing to go and kill a bunch of people for the distribution, and I think about that a lot.

Demetri Kofinas: 00:06:03 For the distribution, what do you mean?

Balaji Srinivasan: 00:06:05 Yeah. Well, so in tech and this took me a long time to articulate ...

Demetri Kofinas: 00:06:09 Oh, to get his pamphlets distributed?

Balaji Srinivasan: 00:06:11 Yeah.

Demetri Kofinas: 00:06:11 What a fascinating way to think about that.

Balaji Srinivasan: 00:06:14 Right?

Demetri Kofinas: 00:06:15 Wow.

Balaji Srinivasan: 00:06:15 So he literally ... At the time, distribution was so scarce that he had to kill multiple people for the distribution.

Demetri Kofinas: 00:06:24 Fascinating.

Balaji Srinivasan: 00:06:24 30 years ago, right? And now today, anybody can go and set up a YouTube channel and have whatever a million viewers, right? And so distribution went from this incredibly scarce thing that you needed to kill people to get a Washington Post op ed into like ... Or not you needed to, but this guy decided to, into something that was much more abundant where people are now trying to crack down on that, right? And what I think about often when I think about Twitter is I'm like, there's a lot of people who aren't Ted Kaczynski, They might not want to go and kill someone for the distribution, but they'd certainly scream at them online for the distribution.

Demetri Kofinas: 00:07:01 Yeah.

Balaji Srinivasan: 00:07:02 Right? And so if you think about a power law, like when your Kaczynski is all the way out there, their sentence is parse, right? Kaczynski's sentences are grammatical and there are some interesting ... I mean, he's a genius mathematician and he put out some interesting ideas, but he's also a lunatic, right? And I think that that actually describes a significant fraction of the people on Twitter who are extreme attention hounds and what have you, right? Because it shows that this guy is willing to kill for the distribution, what would other people do if not kill? Yeah? Something I've thought about a lot.

Demetri Kofinas: 00:07:33 That's really brilliant. I really like that. Yeah, I tried to get Ted on the show.

Balaji Srinivasan: 00:07:38 Really?

Demetri Kofinas: 00:07:39 When I watched the ...

Balaji Srinivasan: 00:07:40 From jail?

Demetri Kofinas: 00:07:40 Oh dude, I tried. I mean, I had developed a good relationship with the warden.

Balaji Srinivasan: 00:07:44 Wow.

Demetri Kofinas: 00:07:45 Of this federal penitentiary in Colorado. He was one of the very first guests I wanted on because when I started the ...

Balaji Srinivasan: 00:07:52 Was this Supermax?

Demetri Kofinas: 00:07:54 Supermax, yeah.

Balaji Srinivasan: 00:07:55 ADX Florentine?

Demetri Kofinas: 00:07:57 No, I don't think that's the one. Maybe that's the one.

Balaji Srinivasan: 00:07:59 Okay.

Demetri Kofinas: 00:07:59 I mean, maybe. I can't remember now the name of it.

Balaji Srinivasan: 00:08:01 That's fine.

Demetri Kofinas: 00:08:02 But it was in Colorado and it was a Supermax and they printed out my emails presumably and gave them to him because I find him so fascinating because I think though he was clearly disturbed and in ways deranged and clearly his tactics were immoral to kill people and maim them. He was in many ways I think prescient, and if you read his work between some of the clearly sort of odd, deranged kind of insane writings.

Balaji Srinivasan: 00:08:29 Sure.

Demetri Kofinas: 00:08:30 There's this lucid prognostication that I think has in many ways really come true. Now that we're kind of moving off a little bit from the network state, but let's ...

Balaji Srinivasan: 00:08:40 Let's talk about this actually, because it is related.

Demetri Kofinas: 00:08:42 Yeah.

Balaji Srinivasan: 00:08:42 And essentially if I'm to slightly rephrase what you're saying, Kaczynski is one of the most articulate exponents of what we might call anarcho-primitivism.

Demetri Kofinas: 00:08:52 And Luddite-ism.

Balaji Srinivasan: 00:08:54 Yeah, and anarcho-primitivism, maybe it's a bigger word for the same thing, but it's essentially the idea that technology was a mistake, that the natural state of humanity should be basically being in greenery, that we just need to destroy it all and stop and go back to Eden, right? And the thing about this is the reason that has appeal to some chunk of people is humans, in my view, aren't built to think quantitatively so they aren't built to think about the fact that the nature that they enjoy is a very tamed version of nature, and that truly being in the wilderness with rain lashing down and tigers around is actually not fun, and humans are actually built to be technological species. That's why we don't have fur or claws. Over time, a lot of those things have been pushed off of the mainframe or into devices.

Balaji Srinivasan: 00:09:57 Actually, there's this good book called How Cooking Made Us Human by Richard Wrangham, I believe, where he argues that fire externalized certain enzymes so we didn't need as much energy to digest things. I don't know if you know this book, right?

Demetri Kofinas: 00:10:10 No, I'm actually familiar with that theory.

Balaji Srinivasan: 00:10:13 Okay, great. And so probably also true for tool use or whatever. Anyway, so ...

Demetri Kofinas: 00:10:17 That essentially the technologies that we use transform us biologically.

Balaji Srinivasan: 00:10:20 Correct.

Demetri Kofinas: 00:10:20 We evolve along with the changes that actually come from our brains.

Balaji Srinivasan: 00:10:25 That's right. That's right. And with that said though, because people like nature, they sort of think oh, this is my map to the anarcho-primitivism kind of camp,

right? They think yeah, tear it all down, it'll actually be better. And I actually think that this taps into limbic system things where burn it all down, that's a human thing. Nature, that's a human thing. Utopian thinking of this kind is a human thing. So, it taps into some limbic system stuff where the natural enemy or the natural opponent of the anarcho-primitivist is a transhumanist, which is much more my camp, right?

Demetri Kofinas: 00:11:01 And interestingly enough, just to kind of maybe abstract that a bit, could you also say that it's really the evolution, the evolution of the human being to such a degree that what you're looking at is a different species, is a different animal.

Balaji Srinivasan: 00:11:16 Yeah. Well, so the thing is that how would you measure progress by the year 3000, okay? A thousand years from now. I thought about this a lot and I actually think that the single best ruler, in the sense of a ruler to measure things, like a measuring stick, the single best ruler would be how much math do we know? Do we know new theorems? And the reason is math is cumulative, math is abstract, math is digital. If there's an alien intelligence species, it would know math. If you've seen the movie Contact, it's actually pretty well done in terms of communicating in terms of ...

Demetri Kofinas: 00:11:50 Sure.

Balaji Srinivasan: 00:11:50 Communicating in terms of prime numbers, right? Prime numbers are a universal and a very powerful thing. And so if you say okay, we are advanced in math, that would encompass a transition like the transition from the human ancestor to homosapiens, right? Or there may be multiple human ancestors. There's evidence that Neanderthals are [inaudible 00:12:14] and there's introgression and so on. So, the reason is do we become half machine intelligence? Is CRISPR rolled out? Do we genetically modify ourselves? There's all kinds of possible human futures that may not look very human at all, but how could you say that we've actually leveled up? Well, if you're better at math by the year 3000, then your civilization has advanced in a very fundamental sense.

Balaji Srinivasan: 00:12:38 Now there are a bunch of people who'd be like, "Oh, that's so horrible. Oh, I now am back in within the anarcho-primitivists." Right? But that's kind of like the choice in the sense of we're either going to go towards the stars or everyone's going to kill each other and we're going to regress to this stone age mentality. And I have been surprised as to how many people have romanticized the stone-age thing. They do so, of course, from their fast internet connections and their iPhones and their climate controlled apartments or they're manicured lawns, but romanticize it, they do.

Balaji Srinivasan: 00:13:12 And of course, there's someone who might say, "Well, why can't we just stick in the middle? Why can't we just have washer dryers and cars and lights, but not this crazy like limb regeneration, ocular restoration, brain machine interface type stuff that you guys want? And kind of the answer there is it's pretty hard to stop technology. I mean, you can. You can tear down the Roman empire, you can stop it for a while at the expense of destroying society, and that may be the goal of many folks. And then there's the goal of transcending, and this is kind of what Thiel talks about, which is the race between politics and technology, between those people who basically just want to tear it all down, who would vibe fundamentally with the anarcho-primitivist mentality, and then those people who want to transcend.

Demetri Kofinas: 00:14:03 This is really freaking fascinating. It took us this long to get here. So, I have a number of things I want to point out or questions I want to pose, many or all of which are philosophical. One is all progress good? How do we decide is it universally good simply to progress, and how do we define that? I'm just going to throw that out there. Then there's another question about what is the good life, right? How do we measure the quality of a human life? What is good? I don't know if you're familiar, you probably have read Nick Bostrom's Superintelligence. This gets funneled directly into thinking about designing intelligence systems and AI. Do we ... And kind of a way to maybe crystallize it is I wouldn't want to go live in the year 3000 with an alien species that derived from human beings, that's very different from me. Maybe they're incredibly intelligent mathematically, but on a sort of psycho-spiritual level, there's no connection there.

Balaji Srinivasan: 00:15:01 But would you want to go back to the year negative 500,000, or actually I should look back at the exact history. Would you want to go back and live with the protohuman ancestors?

Demetri Kofinas: 00:15:11 Live as a muskrat.

Balaji Srinivasan: 00:15:12 Yeah, exactly. That's right.

Demetri Kofinas: 00:15:14 No, but I mean, so that's a really great point, and so I guess one of the questions is ... I guess, for sure, this is really interesting. I mean, there's ... A lot of this just has to do with just an innate tension that comes out of moving forward, out of progress and identity, but I think maybe, Balaji, maybe what I'm picking up on here is really when things begin to move too quickly.

Balaji Srinivasan: 00:15:41 Well, let me put it in a different way.

Demetri Kofinas: 00:15:41 Like speed.

Balaji Srinivasan: 00:15:43 Let me jump in for a second, right?

Demetri Kofinas: 00:15:44 Yeah. Yeah, yeah, yeah.

Balaji Srinivasan: 00:15:45 The fundamental issue is I really wouldn't care that much if the anarcho-primitivists just wanted to go and live in the jungle by themselves and destroy all their possessions or what have you, but that's not what they want, they want to destroy yours too. They want to burn the whole thing down, right? Like fire--

Demetri Kofinas: 00:16:02 Well, like Kaczynski says you might as well basically scrap the whole freaking system and start over.

Balaji Srinivasan: 00:16:08 Exactly. And so these folks are essentially civilizational suicide bombers, right?

Demetri Kofinas: 00:16:13 Yeah.

Balaji Srinivasan: 00:16:14 They are not content with just killing themselves, which you might try to argue them out of it, but it's ultimately their right. You can't stop someone from doing that really. Euthanasia is legal in many places and if someone's really motivated, it's really hard to stop them.

Demetri Kofinas: 00:16:29 Well, also though understandably, they can't live their lives unless they have everyone else adopted as well, because there really is no longer any ... There are very few places where human beings haven't actually entered and altered the landscape, so I understand their perspective.

Balaji Srinivasan: 00:16:45 So, I mean, I understand it, I'm less sympathetic to it because if they want to just take off all their clothes and go and wander in the Rockies or the wilderness and be like Ug and live with stones and try to make fire from that or whatever they can do that, right? Kaczynski actually kind of did that, he had some skin in the game, right?

Demetri Kofinas: 00:17:06 Yeah, yeah, yeah.

Balaji Srinivasan: 00:17:07 He was a mountain man for a while.

Demetri Kofinas: 00:17:09 But we know just historically that civilized more technologically advanced societies ultimately encroach on more Aboriginal nativist groups. That's what happened to the Americans. They simply weren't technologically advanced enough to protect themselves from the Europeans, and they ultimately lost their civilization.

Balaji Srinivasan: 00:17:26 Oh, that's true, but this kind of person, the anarcho-primitivist is not really even pro a primitive tribe, right? They're not pro anybody because they don't respect other people's wishes. As I said, if they just wanted to get a group of people and just go ... I mean, you're right, that over the long sweep of history, civilization tends to expand into "uncivilized areas" but there's tons of tundra out there, right? If you've seen a satellite map, there's a lot of space out there which is just basically wilderness and they could go and live there.

Demetri Kofinas: 00:18:03 Well yeah, except there you run into two issues. One, there's very little wilderness. Two, ultimately that level of the way that human beings operate in such vast expanses was because population density was very low.

Balaji Srinivasan: 00:18:16 Sure.

Demetri Kofinas: 00:18:16 Ultimately, the planet's got way too many people to live that kind of life so you'd have to blow it up if you really wanted to live that way.

Balaji Srinivasan: 00:18:23 Well, so this is the logic of the anarcho-primitivists. I mean, the thing about it is I encourage it. I mean, it's funny to put it this way. I encourage them to follow that in VR, right? Where they can basically be ... Like Neuralink, in an interesting way. Do you know what Neuralink is?

Demetri Kofinas: 00:18:40 Sure, of course.

Balaji Srinivasan: 00:18:41 Brain surgery.

Demetri Kofinas: 00:18:42 Yeah.

Balaji Srinivasan: 00:18:42 Neuralink may give them what they want in a way that they didn't realize it because it gives them a brain machine interface that they can visualize themselves traipsing through the jungle, and they've got their fruits or

whatever, and it's the idealized hunter gatherer where they're always perfectly shaved and they never get gangrene.

- Demetri Kofinas:** 00:19:01 So here ...
- Balaji Srinivasan:** 00:19:02 Basically like ... Go ahead.
- Demetri Kofinas:** 00:19:04 No, no.
- Balaji Srinivasan:** 00:19:04 You understand my point of view.
- Demetri Kofinas:** 00:19:06 I do. I do. I do. So, I mentioned The Matrix. This brings us perfectly to The Matrix. Before we go down this road, I do just want to throw out again, because I think it's an important observation. How much of this is really not about having a problem with progress and change, but when change comes too quickly.
- Balaji Srinivasan:** 00:19:21 Sure.
- Demetri Kofinas:** 00:19:21 We see this in politics and I think this is what's scary to people as well, it's scary to me as well, that we move into a world where people very quickly disassociate with the physical world. And then I think is ultimately destabilizing and dangerous because we do actually live in the physical world.
- Balaji Srinivasan:** 00:19:37 Sure. So, let me be more sympathetic here. Right? So as I said, the anarcho-primitivist thing, the reason I bring that up and transhumanism is those are two ... That's actually I think the real pull, that's where I think society is realigning towards. Let's call it technological progressive and technological conservative, right?
- Demetri Kofinas:** 00:19:54 Interesting.
- Balaji Srinivasan:** 00:19:55 That I think is the real pull, where it is do you push faster? Do you push nuclear power, brain-machine interface, genetic modification, space travel, the internet, cryptocurrency, life extension, limb regeneration, bionic eyes, right? Bionic limbs, all of this awesome stuff.
- Demetri Kofinas:** 00:20:13 We're going to have sex like they did in Demolition Man. We're going to put some helmet on and ...
- Balaji Srinivasan:** 00:20:17 Who knows? Who knows, right? But basically do you push all of that stuff or do you pull in the other direction and try to hang on to the current situation, be as Amish as possible, or what have you, or do you try to forge, of course, like the triangulation of some ... Okay, well, we go for it but not quite so fast, and so on, right? Okay. And the way I kind of think about this is a lot of it boils down, but what's actually kind of interesting is the west is Black Mirror in a way that the global south and much of Asia is not, okay? I think if Asia, especially let's say India, Israel, these countries are more like bright sun than Black Mirror.
- Demetri Kofinas:** 00:21:06 You're saying we can look at the same objective phenomenon and one, the west, views it in a negative way and the east views it in a more positive way.
- Balaji Srinivasan:** 00:21:15 Well, it's not just the same ... It's maybe the same devices and some of the same technology, but there's a fundamental difference, which is the introduction of

these devices, of the internet and the mobile phone and so on, one of the most important facts of the early 21st century is that in China the technological and political capitals were basically in the same place, namely Beijing, right? Because the government saw fit to make sure all the CEOs were in Beijing. I mean, Shenzhen's a capital as well, but it's not the same as Beijing, right? All the CEOs are in Beijing so they can call them all in for a meeting if they need to, the firewall is operational, they kind of set all it up in that way, right?

Balaji Srinivasan: 00:21:53 Whereas in the U.S., the technology and political capitals are 3,000 miles apart, DC and SF. And what that resulted in is it results in a situation where tech basically developed its own culture, right? And one of the things is there weren't enough people who had careers in New York or DC or Boston who had a spouse who went vertical when Google went vertical. And if that had been the case, you might've had a degree of intra household, intrafamilial, offsetting of text appreciation with the collapse of traditional media and traditional academia and whatnot, right? The academia collapse is about to happen. It's in process, but media has certainly happened.

Balaji Srinivasan: 00:22:37 Had that happened, had that occurred, had there been a greater degree of not just economic but societal alignment, then the gain might've been ... That the loss might've been outstripped by a gain, and they might've been happier with it, but instead it was 3,000 miles away and it was also something where a tech is very largely populated by immigrants. So, depending on your count, 60% or 70% of tech is it's Indians and Chinese people and Persians and Korean people, Vietnamese, South Americans, Nigerians, Palestinians, Israel, people from all over the world, right? Work in technology, or came to Silicon Valley, right?

Balaji Srinivasan: 00:23:14 And so those are just different social networks. They're absolutely not the old money of the east coast, right? They're not the backscratching, they're not the nepotism, they're not the families who were here since the Mayflower or the Civil War. They weren't in the country for a hundred years, they may not even be in the country for 10 years. And so it wasn't continuity. All of these nouveau riche people were not married in, they were not aligned with these old families on the east coast, and so the east coast has just seen its fortunes crater and plummet as a function of this new technology, which is why they're all Black Mirror on everything.

Balaji Srinivasan: 00:23:46 Now I recognize by the way, that Black Mirror itself comes out of the UK and so on, but let's say that their vibe is one of Black Mirror because they feel with some justification, right? That basically the east coast or the U.S. can no longer win in a game of free markets and free speech.

Demetri Kofinas: 00:24:03 Wait, wait. So, you're saying that, because this is something I'm not familiar with, what you're saying is that in the east and Japan and China and Singapore and Taiwan and Hong Kong, et cetera ...

Balaji Srinivasan: 00:24:14 Japan is a little different, leave them out for a second, but go ahead.

Demetri Kofinas: 00:24:16 Okay.

Balaji Srinivasan: 00:24:18 In rising Asia, but also ...

Demetri Kofinas: 00:24:20 In the tigers and China.

Balaji Srinivasan: 00:24:23 In the tigers, in China, in India, and also to an extent, in South America, Africa, a place of Africa, big parts of the Middle East, they've risen with technology.

Demetri Kofinas: 00:24:33 That's very interesting, and that makes sense, I guess, right? Because their development cycle, they came into developed world status with the recent information technological revolution and the collapse of the Soviet Union and the opening up of global trade coincided with all of that. So, they're more ...

Balaji Srinivasan: 00:24:49 Yeah.

Demetri Kofinas: 00:24:49 That's fascinating. That's not something that I'd ever put together, ever.

Balaji Srinivasan: 00:24:53 Yeah. So, it's huge. So, I mean, and now would you call them developed world versus I think actually that term doesn't even apply anymore because I now think of it in terms of how many times have you heard of over the last year, year and a half, people say, "Wow, the U.S. is behaving like a third world country." Right?

Demetri Kofinas: 00:25:11 Well, I've said that before sometimes.

Balaji Srinivasan: 00:25:12 You've said it sometimes. Yeah, yeah, yeah, exactly. Because you see the power going out in Texas, you see the fires in California, you see the fact that the public health has gone out. By the way, the public health going out is like the power going out, it's like a public utility. It means the commons are a tragedy, it means the state has failed, right? So when the health has gone out, just like when the power has gone out, you don't expect someone to operate a restaurant. When the health has gone out, they're operating in this biohazard thing where the state was supposed to control that. Public health is both a technology and a state thing, right?

Balaji Srinivasan: 00:25:43 So all these people are saying oh, the U.S. is like a third world country, and so on, and the origins by the way, the term third world came from the Cold War when there was the U.S. and the USSR and the non-aligned countries.

Demetri Kofinas: 00:25:53 Non-aligned countries, yeah.

Balaji Srinivasan: 00:25:54 Yeah, or really NATO Warsaw Pact, non-aligned countries, right? First, second, and third world. And third world just became a synonym for poor country, messy country, slums, dirt, et cetera. And today though, really, I think it's better to think about it in terms of ascending world and declining world, because the U.S. is absolutely part of the declining world. Most Americans don't understand this yet because they haven't been either overseas or they're in denial or it's code for something.

Demetri Kofinas: 00:26:26 How so? Can we distinguish between culture and power? So are you saying, because I would agree that in many ways culturally, the U.S. has been in decline, relative in power it has been in decline, but in the world that we're moving in today, I would argue that the country that's going to be best positioned is actually going to be the United States because of its geo-strategic positioning and its geography, and it's also its rule of law, its natural resources, et cetera, et cetera, et cetera.

Balaji Srinivasan: 00:26:55 Okay, so I actually did a whole thing with Mark Lutter on this because some of what you're saying sounds like the Xi'an thesis.

Demetri Kofinas: 00:27:04 Yeah. Yeah, it is.

Balaji Srinivasan: 00:27:05 Yeah.

Demetri Kofinas: 00:27:05 Yeah, it is. It borrows from Xi'an. And others, Tim Marshall and other people who it's very, very geo-strategic geographically focused.

Balaji Srinivasan: 00:27:13 Okay, so there's some good things in ... I have no beef with Xi'an, nothing personal there or anything like that. And there's, I don't know, 10% or 20% of his book that I think has some good stuff on shale oil, and I do agree that that at high enough prices reduces dependence on Middle Eastern oil, right? That part I agree with. However, I disagree with almost all of the rest of it and I can give you certain reasons.

Demetri Kofinas: 00:27:39 Sure. Fantastic.

Balaji Srinivasan: 00:27:40 Right? Okay. So, first, basically, so I mentioned this in a Charter Cities podcast a while back, I can give some links.

Demetri Kofinas: 00:27:48 Which podcast?

Balaji Srinivasan: 00:27:49 Charter cities podcast.

Demetri Kofinas: 00:27:51 Okay.

Balaji Srinivasan: 00:27:51 With Mark Lutter, but I'll give the quick version. Okay, so first the idea that lots of people is a huge advantage is simply not the case in a robotic era, and like Xi'an quotes, he says, "Oh, China's getting old, and so on." I'm like, China's going to get robots and so are a bunch of the rest of the world. And if you think about Instagram and how Instagram with 12 people was able to beat Kodak, which had probably more than 12,000 at that time, I don't know the exact number, but it's in that ballpark, the scale of people, the number of people you need to do something when it's digital is just far less. And I don't know ...

Demetri Kofinas: 00:28:27 Yeah, in some ways you could say that lots of people becomes a liability. You could also see it that way.

Balaji Srinivasan: 00:28:31 Exactly. Exactly.

Demetri Kofinas: 00:28:31 You are bringing us back by the way to build joy, why the future doesn't need us, where he was quoting Ted Kaczynski and Ted Kaczynski talked about how in such a world people would just become useless eaters and they'd become a liability of the state structure. And then, this was actually going somewhere where I want it to go and I'll just throw it out there so it's there, is are we moving in a world where the elites are going to basically either decide to call the population or they're going to pacify them through VR and narcotics and other neurological interventions.

Balaji Srinivasan: 00:29:04 Culled would be obviously really bad.

Demetri Kofinas: 00:29:06 Yeah.

Balaji Srinivasan: 00:29:07 I hope not. But what I actually think happens is human needs and wants are endless, and so what I actually think happens is neither of those two, I think if the 1800s was farming and the 1900s was manufacturing, I think the 2000s is going to be the obvious replacement that it's non-obvious is going to be investing. Everybody becomes an investor and the 99% this century are investors and the 1% are ... So, 99% are capital and the 1% are labor, because investing in something it's very similar to just clicking the buy button on Amazon. It's an unskilled process to just click the button. There's skill of course in picking the investments, but you can just follow a fund manager and give them a cut. And then the 1% are labor, which are the people who are actually motivated and capable of going and building new things.

Demetri Kofinas: 00:29:58 What does that though do for the social contract, right?

Balaji Srinivasan: 00:30:01 So we've evolved a sense of morality in politics and a certain sense of obligation, the obligation to the community around us. You're describing an extreme ownership society, in some ways you're describing almost a narco capitalism, but it's basically a society where everything is based on ownership. Is that roughly correct? And then what does that do for people's standings, quality of life, et cetera?

Balaji Srinivasan: 00:30:31 So here's the thing. So, I would actually not call myself someone who idolizes crypto anarchy. I actually believe in crypto civilization. And what I mean by that is there's a lot of good things about crypto in terms of being able to decouple and being able to be "sovereign individual," et cetera. But I think the sovereign collective has a lot of power to it, more power than a sovereign individual. And also it's more legitimate in a bunch of ways. And it's also more likely to be able to sustain itself. The problem with Ayn Randian objectivism or what have you, I find her books entertaining and so on. I'm not going to be like, "Oh, everything Ayn Rand sucks," but fundamentally just from a leverage champion, one person can't stand against 7 billion, but a group of people can often, right?

Balaji Srinivasan: 00:31:19 And they have a common culture and a common alignment. So, in terms of what does that future look like? I think it looks like something where there are thousands start-up states around the world, start-up cities and city-states and digital states that you can choose from, and you get to the age of majority and just like you choose a university today, you choose the city or cities that you want to go and migrate to. And essentially everybody talks about democracy and capitalism. Those are very important. That's voting with your ballot and your wallet respectively. But the third force is migration, which is voting with your feet. And with technology today, with the internet, we can design political systems that actually use all three forces and just set the sliders differently.

Balaji Srinivasan: 00:32:08 The way I actually think about this is if you think about the root of democracy, the whole concept is based on consensual government, the consent of the governed. And so what I think we want to strive for, what I believe in is 100% democracy as opposed to 51% democracy. So, in a 51% democracy, 51% can outvote the other 49%. Do you know what Fosbury Flop is?

Demetri Kofinas: 00:32:33 No.

Balaji Srinivasan: 00:32:35 If you Google a Fosbury Flop, you've seen it, it's a pole vaulter who just barely clears the bar. A 51% democracy is like a Fosbury Flop where you just barely get over the bar. It's a minimum amount of consent. And what happens is 49% of people did not consent to that leader. And so therefore they tug and they resist. And so you have to use more coercion and coercion leads to backlash and in the next election-

Demetri Kofinas: 00:33:01 Direct democracy, rule by majority, majority rule, that would be what you're describing.

Balaji Srinivasan: 00:33:06 Exactly, and a bare majority rule is the best technology we had for a long time, because we've had-

Demetri Kofinas: 00:33:13 We've have a Republican democracy, there's not bare majority rule. And it isn't even about the electoral college. And we have a Constitutional government with a Bill of Rights. So, there are lots of things that the majority cannot take away from us as individuals, which is an important distinction.

Balaji Srinivasan: 00:33:27 So I think that a lot of that stuff, a lot of the American stuff is great for 1776. The reason I don't think it applies today, for example, is the entire concept of representative government, well, a lot of it was invented because of constraints of space and time. It wasn't just about being informed. It was that not everybody could make their way down to DC to vote on every issue at every moment. But in theory, you could poll everybody every time. Now to be clear, I'm not necessarily saying I'm not advocating for 100% direct democracy.

Balaji Srinivasan: 00:34:01 I am however saying that some of the reasons that it was designed were due to the paper constraints of what you could do at that time. When people think, oh, how do you modernize the political system? They're like, "Oh, let's put voting online." Right? And that is similar to what we talked about earlier, where you've got paper and you have a scanner, and then you go to a digitally native file and you start thinking about it truly digitally from first principles. So, you have offline voting and you have Estonia, which has e-voting, but it's basically the same system. And then you can think about it from first principles. What does a digital state look like? And so I think a digital state starts with the consent of the governed and a real people. So, that's a problem today is we always think about politics and why do we think about politics, you're thinking about the law. You're thinking about the state, you're thinking about coercion. You're thinking about a gun as the most fundamental thing. And we've been so habituated to this.

Balaji Srinivasan: 00:34:57 I think the way to get something done is to try to get a piece of the state, to be mayor of this, or head of that, czar of this, president of that. And then you've got a gun to point at everybody who gets in your way. You can coerce, you can mandate, et cetera. If you're CEO of something, though, what you quickly find is your ability to say, "I'm CEO, do it exactly how I want," is actually fairly limited. You have to persuade most of the time. You can't really mandate. And the more your mandate-

Demetri Kofinas: 00:35:26 But you're doing that within a legal structure that ultimately has the coercive use of force that keeps order.

Balaji Srinivasan: 00:35:32 Yeah. Except the thing is so that we are relying way too much. Coercion is a last resort. I'm not an anarchist, but a minarchist or someone who believes, not even just a minarchist, but just from a pragmatic standpoint, the more you coerce, the less legitimate you are.

Demetri Kofinas: 00:35:50 I agree with that.

Balaji Srinivasan: 00:35:51 And unless you can coerce, right. And so what we have done is we've gotten ourselves into a state where people don't consent anymore and the less consent, the more coercion and the more coercion, the less consent. It's a negative feedback loop. And so a way around that is you build internet polities. So, let me give you a concrete example. A lot of the stuff is in my book, but a concrete example. So, Austin, Texas is running out of power. San Francisco has this terrible school board. What you could do with the internet is rather than wait for an antiquated two or four or six or whatever year election cycle, et cetera, you can just set up the shadow school board. You set up the shadow government of whatever region. And you just start organizing people in a hierarchy where just like you start a company, you declare yourself CEO, you declare yourself the head of this community organization. You don't necessarily need to call it the shadow government. You can call it whatever name you think is suitable. Maybe it's the community of work or what have you.

Balaji Srinivasan: 00:36:49 And then you start acquiring people and you might say, "Well, what do they do?" Well, you're not a government, are you? You can't tax people. You can't point a gun at people. You don't have police or whatever. And you say, "Well, guess what? You focus on everything you can just convince people to do through volition rather than coercion," which is actually a lot of things. For example, you can organize everything from babysitting and childcare when folks need to rotate because they're working from home. You can organize meetings where people align on what the curriculum is.

Demetri Kofinas: 00:37:22 Right. But the world... So, what I'm challenging is that, first of all, we know historically that there's a point of inequality in quality of life, at which point people will begin to employ violence in order to obtain what you have. Does that make sense what I'm describing, or do you not agree with that?

Balaji Srinivasan: 00:37:42 I think that that is actually more elite on elite violence in the sense that I think most of the people who you hear, if you actually go and analyze it, and you actually look at who the author is of a given piece, most of the people you hear talking about the rich are the folks who are angry that there's some people who are richer than them. Many of these people who are so angry are born to old money, especially-

Demetri Kofinas: 00:38:06 What about labor movements in the late 19th century?

Balaji Srinivasan: 00:38:10 Well, actually, I mean Marx or Engels those guys were--

Demetri Kofinas: 00:38:12 They became...they became very violent.

Balaji Srinivasan: 00:38:12 Marx or Engels--

Demetri Kofinas: 00:38:12 No, not Marx or Engels. All the workers in the--

Balaji Srinivasan: 00:38:17 Yea, yea, but the leaders of those movements.

Demetri Kofinas: 00:38:18 Yeah. But they were tapping into a popular movement.

Balaji Srinivasan: 00:38:22 They created that popular movement.

Demetri Kofinas: 00:38:24 But you don't think-

Balaji Srinivasan: 00:38:25 Okay.

Demetri Kofinas: 00:38:25 Ok, so, let's say, do you think Donald Trump created the Trump movement, that he wasn't actually capturing and politicizing something that was already deeply there?

Balaji Srinivasan: 00:38:35 Yes, there is public sentiment. But I think that a lot of demagoguery taps into something that is a mile wide and an inch deep, and most of it is emotionally aligning people against something rather than economically aligned them for something. It's actually relatively easy to get people mad about, whether it's immigrants or entrepreneurs or this or that group of the day, and to get them to destroy something. And of course the US, now that a big chunk of the country doesn't like immigrants and a big chunk doesn't like entrepreneurs. It's not a great place to be an immigrant or an entrepreneur.

Demetri Kofinas: 00:39:14 I haven't sat out to plot this, but I would imagine that there's a very tight correlation between economic conditions, economic disparities, et cetera, and the rise of populous demagogues and even international conflict between countries. So, could Hitler have taken over Germany if he hadn't come in 1933 and it was 2000? In other words, there is a strong correlation between the underlying conditions and the emergence of an authoritarian figure who taps into deep rages.

Balaji Srinivasan: 00:39:47 I think there is something to that, but I think it was more the initial frame on it that I wanted to poke on, which is you think of the Magna Carta. That really wasn't the King versus the peasants, even though it's often framed like that. It was the nobles versus the King, right? And so a lot of this stuff is really intra elite as opposed to the poor versus the elite.

Demetri Kofinas: 00:40:11 But those elite grabbed their power, historically have taken their power from the people. If they can align themselves with the people, then they're able... And that's actually what populism is, because the existing elite have control of the institutions and the infrastructure and the military and the populists offset that by basically commandeering the power of the population.

Balaji Srinivasan: 00:40:31 Right. And here's the thing though. Basically, normally the way this is phrased is, oh, these folks in the US are going to go after these tech guys. And there may be something to that, but here's the thing. Americans are actually the global 4%. 95%, 96% of the world is not American. And Americans have been rich for a long time. And it is actually, once you're post peak and start declining, you're going to hear, I think, a lot more about American privilege. And everybody who is mad about Iraq and about the US throwing its weight around abroad and so on, you're going to hear way more of that this decade, because the US has the relied on coercion for so long and so aggressively, that it's less able to convince. I mean, this reached an apotheosis-

Demetri Kofinas: 00:41:22 That's a great observation. I certainly agree with the general observation that America has wrecked its credibility and it has made it very difficult for it to have the moral leadership to command the world internationally and to set the moral agenda.

Balaji Srinivasan: 00:41:37 Exactly. And so here's the thing, normally the kind of frame that you hear on this is, oh, we're going to take money from these rich Americans and so and so. And I'm not saying that something like that may not happen in the US. But the next step is going to be the world wanting to take money from the rich Americans. And that's going to manifest in many, many different ways. Basically America is no longer the leader of the free world. This is not one presidency or what have you. This has been going back decades and decades. But most people don't realize this, COVID was like a military defeat of the US, in the sense that if you go and Google 2018 national biodefense strategy, there is this whole document which purports to here, I'll just Google it, the exact thing, national biodefense strategy, 2018, I think is the thing.

Balaji Srinivasan: 00:42:31 So it's supposed to prevent against both manmade and natural threats. Yeah. Here it is. New biodefense strategy combats man-made natural threats, defense.gov, by Jim Garamone. And so this was something where it was touted as being able to protect against the biological weapons part of WMD. And there was a steering committee and so-and-so is chairing it. And they even mentioned the Spanish flu and the anthrax and Ebola. And on paper, it sounded like, dude, we're totally prepared. We've got a plan for a plan for a plan, et cetera, et cetera. Of course there was no plan, or rather maybe there is something written down on paper, but there's no execution on that plan.

Balaji Srinivasan: 00:43:19 And so this was a military defeat. It wasn't just that state, local, and-

Demetri Kofinas: 00:43:25 Does that imply also that you think this may have been a bio weapon?

Balaji Srinivasan: 00:43:28 No. No, I don't. I don't think it's a bio weapon. I think it's possible to escape from a lab that maybe the US government funded, by the way, like the Wuhan Institute of Virology got some-

Demetri Kofinas: 00:43:37 There was some connection between Duke, I think.

Balaji Srinivasan: 00:43:40 Yeah, exactly. Like, it's the gain of function stuff and-

Demetri Kofinas: 00:43:43 Yea, the gain of function stuff.

Balaji Srinivasan: 00:43:44 There is a lot of credible... That is not crazy. If you're a PhD, I've looked at a lot of the stuff, I talked about it actually early last year, and now there's been actually some pretty good work by a doctorate at MIT on this. I'm forgetting her name. I think Alina Lu, I think that is... Is it Alina Lu? I may be misremembering it. But anyway, the point is that the origins of the virus aren't actually what I'm focused on right here. It's more that local, state and federal government failed, public health failed, police failed, fire failed, power failed, public schools failed, the US failed internationally. It was just absent. And what you heard from people were things like, which is actually kind of remarkable, if you mentioned that X country or Y country was doing better, people would sort of snarl at you. And I understand why, because you're under stress and so on, COVID's a stressful time. But they wouldn't even be like, "Okay, we can learn from that."

Maybe we can do X or do Y." They'd say, "Well, are not a Patriot," or "We're not last."

- Balaji Srinivasan:** 00:44:56 Being first, and the "leader of the free world" is extremely different than not being last. "Hey, we're not number N" is not really like this great rallying cry that people might think it is. And people would say things like, "Oh, New Zealand, well, that's an island, China, that's a totalitarian dictatorship," blah, blah, blah. At the same time that the US is carbon copying China, because the Italians had locked down as a copy of the Chinese and the Americans copied the copy without acknowledging that they were doing a copy. And that was the worst of all worlds because,-
- Demetri Kofinas:** 00:45:30 Well absent the locking people inside their buildings, and the Chinese lockdown was on a whole different level than what the US did.
- Balaji Srinivasan:** 00:45:38 Here's the thing. So, we don't know which of those videos is real versus what have you, but it's absolutely the case that they took it extremely seriously. And here's the thing though, and this is important thing, when it's China versus the US, people get crazy and irrational. How about Taiwan versus US? How about democratic Asia and Australasia? How about the fact that-
- Demetri Kofinas:** 00:45:58 Or Japan?
- Balaji Srinivasan:** 00:45:59 Yeah. Australia is conservative and New Zealand is progressive, but they both managed to get this under control. Oh, they're islands. Okay. And you start going down this list of excuses and fundamentally it's basically just something where DOS is just not... It doesn't have high stake capacity anymore. It doesn't have the ability to manage or build infrastructure or come to enough alignment on what to do. It's not really a country anymore. It's just a group of people in a physical area that don't share anything in common. It's very hard to think of something that every American shares in common beyond the fact that they're governed by this empire and that they value the dollar. If you're trying to think of a value, it not like 99.9% of people salute the flag or believe X or believe Y, that's just not the case.
- Balaji Srinivasan:** 00:46:47 So I know that sounds harsh, but I'm making some observations. I'll drive to a conclusion. Let me pause there and see if you disagree with any of those observations so far.
- Demetri Kofinas:** 00:46:55 First of all, I love how you engage intellectually. It's so satisfying. I love how you think openly. As you were talking, what I started to get more clear on here is, and I don't want to divert anywhere from where you're going. I agree that we're dealing with a huge amount of dysfunction. I think my response to that has been, can we fix it? I think your response and the response of other people that you align with intellectually, philosophically is, can we exit? Can we build something better? Can we build something new?
- Demetri Kofinas:** 00:47:28 And I think where the tension exists, because I'm actually theoretically okay with that. I don't know that I necessarily have an attachment to the red, white, and blue. But I think the real thing for me is what do we value? You said it in terms of what do we share in common? What do we have in common? And I think that's where I find myself increasingly at odds with, I don't know if it's what the term would be, this cross-section of crypto and trans humanism or

futurism or Silicon Valley. What concerns me is that Silicon Valley's values are very different than the values of many people who live in Western Democratic countries. I think that-

- Balaji Srinivasan:** 00:48:10 I'm sympathetic to that and let me offer some thoughts. Basically I think the first network state is the kind of place, let's say we're successful in this project, is very focused on technology simply because of... It's like when Twitter started, it was mainly tech people doing it. Lots of these things, when crypto started, it was mainly tech people. And then eventually it grew into other kinds of markets. Financier's, human rights activists using it abroad and so on. And in the same way, I think that the first network states, I think will probably be focused on things like trans-humanism. But the second and the third and the fourth and the fifth might be veganism, CrossFit, maybe the Benedict option where people can live a Christian life. Maybe anarcho-primitivism where they just get a nature preserve and they can all be... Which is fine with me so long as they're just doing it on their own.
- Demetri Kofinas:** 00:49:08 But here's the question though, Balaji, that I think suggests, or that assumes that we can live in a world where we don't need to solve major collective action problems. And I am of the mindset that we are moving into a time where we're going to have huge problems of the commons that require collective level solutions, where we need strong governments in order to solve those problems. So, go ahead.
- Balaji Srinivasan:** 00:49:32 You may want strong governments in order to solve those problems, but you can't get those strong governments or at least in the West without being able to start new ones. Because that's the thing is it's not about the strength of the government in terms of how much it can coerce. We're so loaded on that. We're so like, "Oh, let's get more power"-
- Demetri Kofinas:** 00:49:48 Not more competent. I mean also competent, strong government.
- Balaji Srinivasan:** 00:49:51 Competent, exactly. Because here's the thing. Why is it the case that private companies could develop these vaccines so much faster? The US government, everybody has mental model of the US government from movies, which is probably more valid from, let's say 1933 to 1968.
- Demetri Kofinas:** 00:50:08 Independence Day in 1994.
- Balaji Srinivasan:** 00:50:10 Yeah, exactly. So, the period from Hoover Dam to Manhattan Project to Apollo. That was a period when technology favored centralization and mid-century you had one telephone company and two superpowers and three television stations.
- Demetri Kofinas:** 00:50:26 Yeah, monopoly.
- Balaji Srinivasan:** 00:50:27 Yeah. All the talent went to these gigantic countries and it was all focused at the state and the state allocated it and so on. And so you get these books which I very much disagree with like Innovative State, which says all innovation comes from the state, all due to the state. But if you rewind the clock further backwards in time, of course there's physics before NSF. There was engineering before any departments of engineering, railroads, aviation, automobiles, those things grew largely out of the private sector. Obviously there's a public sector

involvement in railroads, but the Wright Brothers went and did their aircraft, their first one without any grants to my knowledge at least. And if you go back further in time, like Cisco mechanics came out of actually the empirical study of steam engines. So, to was the apply that led to the theoretical rather than vice versa. So, you go back further in time and yes, science, technology exists without the state, mathematics existed without the state, certainly without the US government. It is not a necessary condition. In fact-

- Demetri Kofinas:** 00:51:32 What I would say though, is that the European Enlightenment and also all previous intellectual flowerings were very closely connected to the state, because the state of course was the organizing economic principle of society up until the last few hundred years.
- Balaji Srinivasan:** 00:51:49 I disagree with that in many ways. For example, the Wild West, you didn't have a strong state. It was organized by capitalism to a greater extent. That was closer--
- Demetri Kofinas:** 00:52:01 Well, that means, I was saying after--I'm talking about past the last few hundred years with the rise of capitalism.
- Balaji Srinivasan:** 00:52:06 Well, even the Renaissance Period was all of these competing principalities. It wasn't a giant centralized state. In fact, there's an argument-
- Demetri Kofinas:** 00:52:15 Right, but they were principalities in other words and there's an interesting point about the rise of the merchant class. And that goes back to, again, the beginning of this movement of capitalism.
- Balaji Srinivasan:** 00:52:23 Yeah. There's a good book that also gives a counter argument here, Where's My Flying Car. Very much worth reading. That guy would be a good person to bring on your show by the way. Also The Roots of Progress guy, Jason Crawford, also good. He wrote a book review of the first one who wrote Where's My Flying Car, and his premise, which I agree with, is that the centralization of science, we don't have the counterfactual. We do see, and I did see, a lot of this being choked through bureaucrats. And if you look at the average age of, example, the NIH grant recipient, you actually see this bell curve-ish thing, moving upwards in time, roughly by one year as the years tick on. It's like a cohort of people who've all just award grants to each other. Just ages with time.
- Balaji Srinivasan:** 00:53:08 And that is science by bureaucracy, which if you wrote an NIH grant, I did this 15 years ago or thereabouts, but it's probably the same, I hear it's the same today. You really have to have done much of the work prior to even putting in the grant. And so you're getting the money for something that hasn't been done, because otherwise the reviewers will say, "Ah, this is impossible or it's not feasible," et cetera, et cetera. And it's this whole stupid, bureaucratic process. And it's fighting for actually relatively small sums of money. I remember pulling somebody out from academia. I'm like, "Why are you spending all this time on a \$200,000 grant when your colleague here has a \$200 million in VC to go and do something real?"
- Balaji Srinivasan:** 00:53:50 And so the point is that bureaucratic science has a whole set of megaphones to herald it, and I'm not saying that there aren't successes. Obviously there's what people will list, which are true. You've got the internet and you've got the human genome and you've got the self-driving car, which came out of DARPA

and whatnot. But we don't have as counterfactual, which is what happens when you have instead 50 individual billionaires who can do things like what Yuri Milner is doing with the Breakthrough Prize or what Elon is doing or what Jeff Bezos is doing now at Blue Origin. I think we're going to see something different, where it's not bureaucratic anymore. It's based on you don't have just one NIH, you have 50 people who can fund at that level.

Balaji Srinivasan: 00:54:35 And frankly, much of the scientific research establishment is just to make work program where there's a relatively small number of people who produce really innovative research and were simultaneously too elitist and not elitist enough. Too elitist in the sense of lots of smart people aren't getting these grants or research jobs, not at least enough in the sense of a lot of people who are "full-time scientists." For example, in biomedicine, because you have these sort of slave labor wages that people are paying post-docs, you don't have the incentive for laboratory automation. You have people who are literally still manually pipetting 20 years into robotics, when that's an obvious application for industrial robotics, when diapers.com in Amazon warehouse has happened a long time ago.

Balaji Srinivasan: 00:55:23 But I'm not saying this as a theoretical thing. You can see a video. I built a robotic sequencing factory with some of my colleagues. This is something which can be done. Can every single step be automated? Well, you might need micro fluidics for certain pieces and so on, but more and more of it can be. However, if you have these postdocs who are just paid small amounts of money, grad students are paid small amounts of money, there's incentive for automation, isn't there?

Balaji Srinivasan: 00:55:46 Okay. What am I pointing out? Coming back to the stack to say a lot of the idea that, oh, the state is so great and so on, oh, we have to reform the state. The reason people think you have to reform the state or you have to do centralized science is because alternatives don't exist yet. We have to build those alternatives and then you can have a true comparison. And then you can say, "Yeah, okay, starting something new sucks. We need to reform something." But here's the thing. Whenever we've been able to do that, because actually the most important innovation sometimes is the meta innovation of being able to do something new in the first place. How do you start a new currency? That was an insane concept in 2007. You walk into a VC's office and say that they think you're crazy.

Balaji Srinivasan: 00:56:25 Peter Thiel and Levchin did for PayPal. They actually did go in and say that, but that's not what they did. They built something that was difficult and invaluable and a hundred billion dollar company, but it wasn't a new currency.

Demetri Kofinas: 00:56:35 No, it was embedded in the system to begin with.

Balaji Srinivasan: 00:56:37 It was embedded in the system, but it was great. I take nothing away from them. It was awesome. Still it was embedded in the system. So, 2008, when Satoshi came up with a white paper in 2009 launching Bitcoin, that was a true zero to one an epochal thing, which innovated on how to innovate in the first place. Oh wow, you can start a new currency? That's within our capabilities? I didn't even know you could do that. And now a kid in a dorm room can start a new international cryptocurrency. That's insane. if you think about it, the growth of crypto, it's at a trillion dollars, Bitcoin alone, it's obvious that all of this

innovation in the financial system, even just basic things like speed of settlement. Or the fact that you have cryptographically protected wallets so the custody is local rather than all being centralized.

Balaji Srinivasan: 00:57:25 All of these things, some are obvious, some are non-obvious innovations. All those things are being held back. And if you think about, my friend Alex Rampell is a partner at a16z, pointed out that, I think they got to T plus three settlement in the late '90s. And then they got to T plus two in 2017 or something like that. And he's like, plus 17 years between every T, in every time set. I forget the exact dates, but something along those lines. And that's the glacial pace at which the existing system is moving. But within Ethereum, you settle in minutes and have done so for more than five years now. It's been operating 24/7. And that works in any country in the world, it works programmatically for pretty much any amount, modular fees. And they're working on scaling. And that's 10X better on several different dimensions when you can build something new rather than just be forced to reform the system.

Balaji Srinivasan: 00:58:20 So a lot of people who say, "Oh, I want to reform the system," et cetera, they're only doing so because they don't actually have the option of creating a new one . And opening up that option is important for another reason as well, which is, if you think about Microsoft, the only way that Satya Nadella was able to gain the political capital to truly reform them from the inside was to show that Google and Apple and Facebook and Amazon had massively succeeded by doing things that Microsoft wasn't or couldn't do. And so eventually after he took over, he could point to their massive undeniable successes in markets that Microsoft used to be dominant in, to say, " Hey, let's do open source. How about cloud? Maybe we should be multi-device rather than try to force everything on Windows."

Balaji Srinivasan: 00:59:06 And so on and so forth. There were many deeply baked assumptions that had got Microsoft to where they were that were now holding Microsoft back that couldn't be overturned without the example to show that wouldn't lead to doom, but rather to great success. And in fact, staying intransigent and staying hooked on the past was going to lead to doom. Now a reformer like Satya wouldn't even be able to come along without those external examples. Thing would just go into the ground.

Demetri Kofinas: 00:59:34 One of the last things you said was the only reason that you try to reform what you have is because you can't start something new. But I would actually say that there's very little cost to leaving Microsoft and starting a new company. If you get it wrong, the worst thing that happens is you lost your job. But starting a new country, the costs of that are enormous. And I think this brings us back to the question of values and power.

Balaji Srinivasan: 00:59:58 Let me pause there. Right now the cost is enormous-

Demetri Kofinas: 01:00:02 No I don't mean-

Balaji Srinivasan: 01:00:03 Because-

Demetri Kofinas: 01:00:03 ... financially. I mean the cost of getting it wrong.

Balaji Srinivasan: 01:00:06 I actually think that reducing that downside is a big part of the concept the network state. Okay. So, right now, when people think about starting a new country, they think about something really grand and majestic, like winning a revolution or an election or a war or something crazy like that, right. And those are like the historical ways that people think of starting a new country. Isn't that the only way to do it. And then there's more recent ways which are like, I'll give some of the crazier ways, like micronations, "Oh, let me go and set up a platform in sea land.

Demetri Kofinas: 01:00:43 Yeah. Like Peter Thiel for example. Seasteading.

Balaji Srinivasan: 01:00:46 Or seasteading right. So, that's like another one or like space, right? Can we get to outer space and can we do something there? So like the three conventional ways to start a new country are election, revolution and war, and the three well-known unconventional ways are like micronation, seasteading and space. And I think I've got a seventh way, which is what I call a cloud country. And so the idea is that the community exists in the cloud and you have social network with virtual currency and virtual reality. So, most of what you're building is actually online at first, and then you buy territory offline, but not in one single place. As I mentioned, you have a cul-de-sac here, you have an apartment here, you have a ranch here. You have maybe a small town here, and those are physical projections or tendrils, just like Google has offices all around the world, but the things still lives online.

Balaji Srinivasan: 01:01:40 And what I described just now has no upper limit to its scale. How many warehouses does Amazon have? How many offices Google has. Quite a lot. Amazon has more than a million people under Bezos, right? Or actually Bezos is retiring now, but used to, right? So that's something where you're not winning a war. You're not winning an election. You're not winning a revolution. You're not even making a big deal out of it. You just have a million people who have opted in to be governed in this way to pool their resources, to work together in this community. It's like a large social network in some ways, just much, much more serious. And you can think of it as, I mean, it's like the communes that arose in the 1800s in the U.S. like the Oneida commune or various folks who went out into the Midwest. And some of those were actually quite successful. Some of them like the kibbutz's basically became profitable businesses where they specialized in doing things that others weren't good at. Others of course failed.

Demetri Kofinas: 01:02:36 They were Luddite communities though. This is actually an inversion--

Balaji Srinivasan: 01:02:38 Not all of them. Yeah. Like Netafim for example, like a kibbutz. It's absolutely not Luddite. It's like a world leader in agricultural innovation. People think that--

Demetri Kofinas: 01:02:47 Interesting.

Balaji Srinivasan: 01:02:47 Yeah. You can have the Amish, which go backwards in time, but you could have... Go ahead.

Demetri Kofinas: 01:02:52 How does the Israeli society and Israel share in their profits in a way that is comparable to the rest of the country? In other words, how does the nation state itself benefit from that type of organization?

Balaji Srinivasan: 01:03:05 Well, I mean, Brenda under Caesar, what is, Caesar's right. If you're in Rome, do as Romans do. The point here is to-

Demetri Kofinas: 01:03:12 So just to be clear, what I'm trying to figure out is, are we talking about a Confederacy type structure where the-

Balaji Srinivasan: 01:03:21 We're talking about a transnational entity that has a sense of purpose and self and negotiates more freedom over time using the fact that their mobile, using the fact that they're global, using the fact, and this is critical.

Demetri Kofinas: 01:03:36 I just don't know why the...the thing is, what I'm trying to understand is why would these nation states be down for that? Like, the U.S. stands to--

Balaji Srinivasan: 01:03:44 Because of financial gain. Well, several things. First is cryptocurrency means you have property the state can't easily seize.

Demetri Kofinas: 01:03:50 But why can't the state easily seize Bitcoin?

Balaji Srinivasan: 01:03:53 Okay, I'll go into that. Let me go into that. So, several things. First is, you need 12 words to represent an arbitrary amount of Bitcoin. It's not like gold, where you need like a truck to represent... to carry hundreds of millions of dollars and it's heavy. It's not like that. You can actually store it on a hard drive. You can store it on a text file. You can store it in lots of different ways, right? Bitcoin of course, is 2008, 2009 vintage. There's newer things like ZCash and more private coins that are even more private, right, number one. Number two is, it is an international phenomenon. It's available in every single country and number three is to shut off... even if you managed to shut down the Bitcoin network, you can't delete all the ledgers. You have this ledger that's backed up, maybe the most replicated data structure in the world. You also can't unwind-

Demetri Kofinas: 01:04:42 But what's the value of that backup if the network can no longer process transactions?

Balaji Srinivasan: 01:04:47 Because you can import into other ledgers. For example, WBTC, or Ren BTC are ways to import the Bitcoin ledger or piece of it into a Ethereum. If by some extreme circumstance, the Bitcoin protocol ever had a flaw or it was shutdown, the ledger can be imported into one of a hundred other cryptocurrencies that have different consensus mechanisms. Yes, it would be a Tower of Babel moment. Yes, it would mean that the value of crypto would be split into 50 pieces. But the point is that cryptocurrency, as a concept, will never vanish from the earth.

Demetri Kofinas: 01:05:18 Yeah. I mean, as a concept, that's, I think I could probably go on board with that.

Balaji Srinivasan: 01:05:23 Because there's proof of stake. There's-

Demetri Kofinas: 01:05:25 That's okay because that's another thing. I don't know the proof of work can operate at scale in the type of environment we're describing. And I mean, certainly to begin with the very least sort of lowest hanging fruit is that I question whether you can get rid of the block reward, but even proof of work itself seems like something that ultimately, if Bitcoin... it seems that the real strategy for Bitcoin is to become adopted by those in political power so that it becomes an effect too big to fail politically and then they would simply change

the consensus mechanism to something that's more sustainable, both energetically, but also security wise.

- Balaji Srinivasan:** 01:06:04 Well, so actually, I made some points like this in my most recent blog posts actually pinned to the top of my Twitter, How India Legalizes Crypto. I make the point that Bitcoin can't be banned for technical, social and political reasons and the technical reasons are some of the ones that I just ran into like, to truly shut down crypto, people really haven't thought this through. Engineered to be very difficult to do that since you can't just like shut down the internet for a day because that doesn't delete the hard drives. And that just means that the rest of the world's engaging in crypto transactions. You'd have to like degauss or electromagnetic pulse lots of hard drives. You have to cut off all communication with the countries so people can't get told where it's in or out, including phone calls. You have to stop all immigration immigration and the thing about that is that's just not possible. I just described as too much of a-
- Demetri Kofinas:** 01:06:52 Maybe can't kill entirely, but you can expend a very small amount of money, energy, et cetera, to make something practically unusable.
- Balaji Srinivasan:** 01:06:59 Well, so I don't think so because this would basically be like a replay of what happened with the RAA where the RAA went, and this is much lower stakes but 20 years ago they went and, yeah, they were able to get Napster to go out of business and Cozaar to go out of business, but they weren't able to stop BitTorrent or the Pirate Bay because they were in jurisdictions that were just simply less sympathetic to the RAA, number one. And their technologies like Magnet links and actually Kademia distributed hash tables and so on that were invented that started to make it harder and harder for them to go and attack, number one. Number two, they spent down a ton of their reputational capital by suing their own customers because the more you course, the less you can course, basically. They just spent down reputation and eventually the existence of BitTorrent, which is still around and still people still use it, led them to actually make an honest man of themselves and work with iTunes and Spotify to offer what people actually wanted, which was streaming.
- Demetri Kofinas:** 01:08:00 But then the question is, what do people actually want when they own Bitcoin? Because with streaming music, you were able to get something that you couldn't get without it. In the case of Bitcoin, you have existing payment networks work much better than Bitcoin-
- Balaji Srinivasan:** 01:08:15 Ah, do they? So, let me push back on that. So, there's Bitcoin, but there's also Ethereum and there's USBC and there's other kinds of things. Cryptocurrency is good for those transactions that are very large, very small, very fast, very automated, very international, or very transparent, okay? If you have something which is, let's say two or more of those characteristics, you'd find it very difficult to do with the traditional financial systems. Let me give an example of something which does fit in the traditional financial system. That's buying a coffee at Starbucks. Everybody comes back to this because it's a very frequent purchase. That's another very large and very small, it's mezzanine, like a few bucks. It's not very automated because you're just swiping your card. It's not international because you and the person are right there. It doesn't have to be very transparent.

Balaji Srinivasan: 01:08:59 You don't need to see the receipt on chain, right? So none of those criteria apply. However, if you are, let's say doing a crowdfund, like the brave ICO, several years ago, you're taking lots of payments from overseas, some very large, some like a million bucks, some like a thousand bucks. So, very large, very international. They're automatically going into a smart contract. It's very transparent because everybody can see because it's like people from Japan and Brazil and Nigeria and the Philippines, et cetera, are all sending money in, but they don't know you, but they're seeing the smart contracts.

Balaji Srinivasan: 01:09:33 It's very transparent. And then you are sending them back like effectively, a stock certificate, which is like not a stock certificate, because it's not equity, but something similar to that, which is a stake in this new network, a token. And it's distinct. It's something which has a utility to it. So, in that sense, it's actually very different than traditional certificate, but it also is something where there's a capital investment aspect where people are sending money in and they're getting a digital token out. So, it blurs boundaries and it shouldn't be regulated in-

Demetri Kofinas: 01:10:08 Why is it better to do it that way as opposed to... well, why would it be better to raise money in Bitcoin than to raise it with say, through a normal payment processor? A traditional payment processor.

Balaji Srinivasan: 01:10:17 So, I mean, Bitcoin is good. I think crypto, I would say is just generally better than normal payment processor, because it's international, right. Anybody can send in. So, it's truly global equality of opportunity. Someone isn't boxed out. If you try to receive a hundred wires from a hundred different countries in a hundred different amounts, that's not going to settle and be liquid for you within 35 seconds. But it is on chain. And let me give you a concrete example of why that's valuable, right. With earn.com, the business that we sold to Coinbase, we would take in an Ethereum transaction or Bitcoin transaction from somebody, let's say from Canada or from Greece or what have you, for \$10, 000 worth. Okay. And I would just be on the phone with them and I'd see it refresh. I'd see it on either scan and because while you're on the phone, you can just wait, boom, you see on either scan, great. We have received the funds. And then we hit the button to send an email out to a thousand people, paying them each 10 bucks to complete a task. For example, review that person's app.

Balaji Srinivasan: 01:11:25 Or go in and like fill out a survey, something like that. And say review like a user test and kind of thing. You download the app, go through it, fill out a survey, get back the results, okay. And that goes out to a thousand people in 40 different countries and they each get \$10 of cryptocurrency and they return back their survey results or their user testing within basically an hour. And that comes back to the user.

Balaji Srinivasan: 01:11:53 Now think about that. If they had sent a traditional wire, it would have taken, I don't know, two to three days to clear, right. Or we would have had to extend them credit. And in terms of paying a thousand people in 50 different countries, 10 bucks and settling it within seconds, forget it. You can't wire money that small to that many people in that many different places, right? Your account gets frozen. Their account gets frozen. The wire transfer fees are too much. Swift would take too long. They're not going to put back a survey, et cetera, right. So, you start to actually see what the change is in the metabolism of business. It's like the difference in going from a postal mail where you send it

and you have to wait two or three days for a receipt to electronic mail where you can actually have a real-time conversation back and forth.

- Balaji Srinivasan:** 01:12:41 And once that metabolism changes, well, you go from email to instant message to Facebook and Twitter and group instant message and each step is like an obvious step, like from physical mail to email, from email to a group email, group email to a Facebook thread. But then you start thinking about how would I do a Facebook thread with physical mail and you'd have to send like a stamped envelope to a thousand friends. You'd get back a comment from three of them. They would include a photo. You'd have to copy that photo and send it back out to a thousand friends. Just think about the costs associated with that broadcast scatter gather. It would just never happen, right? It's like thousands of dollars for the equivalent of a Facebook common thread using the technology from 30 years ago. And so crypto completely modernizes every single aspect of finance. I mean, it's insane how many different levels of touches from settlement, to the amount that you can send, to the programs-
- Demetri Kofinas:** 01:13:36 But also the question is, what is the quality of that settlement, if you are doing it instantaneously? I guess the question has to do-
- Balaji Srinivasan:** 01:13:46 Yeah, we're talking about finality, you're talking about finality. And it depends.
- Demetri Kofinas:** 01:13:49 I'm talking about the way in which you reach finality and how secure that finality is. Based on the different protocols.
- Balaji Srinivasan:** 01:13:56 So, if you want to be more rigorous about it, in theory, the time before you should spend is a function of how much money you've received and like the theoretical cost for an attacker, right? Because if you've received a billion dollars, then an attacker might see that on chain and go and rent a hundred million dollars of hash power to try to unwind and steal your money or something. In theory, this is possible. In practice, I haven't seen that happen on the big chains. It could happen on smaller chains, but the way to rectify that is to simply either send smaller amounts or to have a longer finality time-
- Demetri Kofinas:** 01:14:33 But I'm also suggesting that sending smaller, if we're at least we're talking about the Bitcoin networks, sending smaller amounts doesn't work. It's just too expensive.
- Balaji Srinivasan:** 01:14:40 Yeah. Yeah, sure. So, I mean, the thing is, I'm not-
- Demetri Kofinas:** 01:14:42 It's expensive because it's meant to be more final, but it's not final, but it's meant to be some more secure.
- Balaji Srinivasan:** 01:14:47 Yeah. I mean, the thing is, look, I'm a huge fan of BTC and Bitcoin, but I don't get hung up on its technological limitations because there's so much innovation going on in crypto. So, BTC is like digital gold and it may turn out that you move it about as frequently as gold. And you do like one giant transaction of \$10 million to set up the equivalent of WBTC or Ren BTC on another chain and then you can send fractions of a cent on that chain-
- Demetri Kofinas:** 01:15:14 But if that's the case, then it's such a scale that you're describing where you have second layer solutions that are basically facilitating almost every single

transaction, what's going to provide the income for the miners to sustain the network at the base layer to keep it secure?

- Balaji Srinivasan:** 01:15:29 Well, because the value of an on chain transaction for... it will be packed, right? It'll be like this incredibly high demand thing. And what you can do for example-
- Demetri Kofinas:** 01:15:39 What do you mean? Why would it be high demand if people aren't using the base layer since they're all using secondary layers or tertiary layers?
- Balaji Srinivasan:** 01:15:46 Because I mean, you still need to send a transaction. In order to move BTC you're still going to have some layer one transactions and there's going to be enough of them--
- Demetri Kofinas:** 01:15:57 But if they become less often as a result of the fact that people--
- Balaji Srinivasan:** 01:15:58 Well, what will happen is they just become totally saturated. And so people do move as much as they can off on L2 but it's expensive to move gold. It'll be expensive to move digital gold.
- Demetri Kofinas:** 01:16:11 Right. Well, I mean, I guess what I'm saying is if I follow your logic correctly, you're just simply saying that as transaction volume on the base layer decreases the price of each transaction increases. So, what I'm trying to-
- Balaji Srinivasan:** 01:16:23 I'm not saying that. So, what I'm saying is-
- Demetri Kofinas:** 01:16:27 And we're talking about a world without a block reward too, or diminishing block reward like we're moving into where you have the block reward or not that the block ward is diminished substantially.
- Balaji Srinivasan:** 01:16:35 Two different pieces. Number one, I don't think demand for L1 transactions drops. I think it keeps increasing. What happens is that anything that is below that threshold of economically feasible it gets pushed off in L2 but the queue for L1 transactions just keeps increasing.
- Demetri Kofinas:** 01:16:54 Okay. Because, the overall adoption of the network grows.
- Balaji Srinivasan:** 01:16:58 Yeah, exactly. I mean, we're at a hundred million crypto users, but we'll be a billion. Will it scale perfectly? We don't know. It may be something where you have to move a hundred billion dollars of Bitcoin over to something like WBTC or Ren BTC and then use it there.
- Demetri Kofinas:** 01:17:16 Wrapped. Yea, wrapped on Ethereum.
- Balaji Srinivasan:** 01:17:17 Yeah, exactly. But to your second point on the block reward, the thing is, the reason I don't care about that that much is because for the block reward to ever really wear out, you'd have to have prices less than two X every four years and they'd be way ahead of that, number one. That's at least to keep constant, right? Number two is, fees are increasing as well quickly, due to all this demand for that. Number three is like, if you think about what you might have, for example, possible outcome is Bitcoin is a king of coins and every other chain wants to hash its chain state to this extremely scarce proof of workspace. And so, every block they put up a hash, and say, "Buy," whatever number of hash is per day because it's about like six per hour, 144 per day on average, and you're

basically paying a fee to Bitcoin to hash your chain and it's like, they all pay tribute to the king of coins, right.

Demetri Kofinas: 01:18:14 Yea, it becomes the global settlement layer for all of the other settlement layers is your point.

Balaji Srinivasan: 01:18:19 Exactly. That's right. This is one possibility, right? There's another possibility, which is, you can do something clever with atomic swaps and so on where the money stays in mobile, on BTC and you don't have on chain transactions, but basically there'll be a thousand different workarounds to try to minimize on chain transactions. And as I said, the fact that Ren BTC or other kinds of things like that exist, and that there's a lot of interesting work with roll-ups and whatnot, I'm not concerned about blockchain scale because this is sort of like in the late nineties, early two thousands, when people were concerned about intranet scalability, I think there's so many overlapping different things that can work for this without getting super technical. And a lot of them work in different ways they have a synergistic effect.

Demetri Kofinas: 01:18:57 But that's one side of the coin, the technological side of the coin and part of the technological choices and trade-offs are made in light with security in mind. And that brings us then to the question of nation states again, which is for example, you have an authoritarian country like China, a country of 1.3 billion people that's going to be launching, it's the DCEP, a digital national currency. And now I don't put myself out as an expert on China, but we have done so many episodes on China on this show, on the CCP and the political system and the economy, et cetera, et cetera, et cetera.

Demetri Kofinas: 01:19:29 I do not see a scenario in which the Chinese would be willing to allow Bitcoin transactions and Bitcoin in any way to function, to have an economically important role within its domestic boundary. Now, I feel like if anything, the Chinese would be more than happy to allow Western countries to adopt Bitcoin as much as possible because they're in a position to disrupt the network to their advantage. They basically launch a digital currency, try to get the world to adopt it and if the West is willing to stay on a proof of work, digital currency like Bitcoin, which currently has 60% or so mining capacity in or hash rate in China, China's in position to disrupt Western financial systems.

Balaji Srinivasan: 01:20:14 So a couple of thoughts on that. One is, it will be interesting to see what happens with Chinese mining. China has actually been trying to push miners out of the country for several years. And so that's why folks have been setting up shop elsewhere. There's a lot. I mean, crypto's actually very popular in China. They are into digital currency. Millions and millions of Chinese people hold cryptocurrency. Some of the use VPNs and so on, but it is very well known, very well adopted. And the thing about it is it's been going through the roof, right? So it's been creating all of these new millionaires and soon billionaires and those are folks who have clout as well. And so it's not going to be quite as simple as, Oh, just ban it and it goes away. Lots of folks will, first of all, they'd only ban it for China. And that ban would be something which is like the ban of 2017 where everybody's still holds cryptocurrency and so on and so forth.

Balaji Srinivasan: 01:21:07 I think that what is the most realistic scenario that would happen, China is actually the one country, which, because it's got the great firewall and because it's had the reputation of being just totally ruthless on this kind of thing, here's

what I think they could do. They still wouldn't stop it but this is a possible scenario. The possible scenarios, they use the firewall to go after port 8333, which is the bitcoin port or other cryptocurrency ports. Okay. So, then the developers respond by doing port randomization. All right. Now the Chinese firewall guys would prepare for this and they look and they're like, "Okay, it's among these ports. We're going to do deep packet inspection. We're going to see which ports it's being sent on.

Balaji Srinivasan: 01:21:48 Okay. So, now the developers try to do tunneling, send it over SSH, make it look like HPPS or something like that. And this goes back and forth. And I'm not sure exactly where it lands up because one of the things is that it's not a lot of bandwidth here in the sense of... You're not talking about streaming video per se, right. There is a latency requirement in terms of people being able to see what's on chain, but you can get around that by having a more lenient approach towards finality and listening on a bunch of other nodes. So, point being that what they could do is they could maybe set up a peek-a-boo scenario where the Chinese chain starts extending because miners can't see the rest of the world and the mining's in China, but the transactions are happening outside of China.

Balaji Srinivasan: 01:22:36 Okay. So, you have a peek-a-boo problem where the Chinese chain extends and then the rest of the world chain also extends. And then periodically they see each other and then --

Demetri Kofinas: 01:22:46 They synch up.

Balaji Srinivasan: 01:22:46 They sync up and all the blocks that were mined in the rest of the world are thrown away because the Chinese chain is longer. So, now one way of dealing with this is, as I said, you require more block confirmations, significantly more than six. I don't know. You'd have to work out the math, but basically it's also an empirical thing in terms of how long periodically do those sync ups happen and then you don't want any transaction to be reversed, right. Fundamentally, the thing is that this is the one assumption which Bitcoin does have, which other currencies will need to work around, which is Bitcoin assumes a global network. So, it is not set up for indefinite partition tolerance.

Balaji Srinivasan: 01:23:27 Okay. Indefinite partition tolerance means a network is partitioned with no recipe or a timeline for when it will come back together and every node will see every node. Okay. So, in such a situation, you probably have a fork of Bitcoin and what would happen is it would no longer be the heaviest chain because of mining was in China, instead there would be something where the non-Chinese miners would have to put digital signatures or something similar into the blocks that they were mining so that people could determine which chain it was. Right. So, that is actually not proof of work anymore. That is, because it's not-

Demetri Kofinas: 01:24:08 You've centralized the mining.

Balaji Srinivasan: 01:24:09 You have partially introduced a trust component into the play. Okay. What are the ways around this? Several ways around this. Again, I'm being very technical. So, your audience may or may not care about this stuff.

Balaji Srinivasan: 01:24:20 One promising way is ProgPoW. So, ProgPoW is pretty interesting because it says, all right, mining will always specialize in Asics. Make those Asics GPUs because GPUs have an adoption envelope that's above that of cryptocurrency

since they're used for everything else, the graphics and other things. And so designing your mining algorithm to give a workout to GPUs such that you'd have to advance the state of GPU's and beat Nvidia in order to build a better mining chip. So, I think ProgPoW is very interesting a new kind of hash function that is GPU based because it would, in theory, re decentralize mining since Asics would no longer work for mining and you would instead be able to use all these computers around the world. Because Satoshi hadn't really thought about the idea of concentrated mining farms because he had wanted it to be distributed.

Balaji Srinivasan: 01:25:13 So one model is ProgPoW which I think is very promising. Another is proof of stake where in the event this China chain thing happens... I mean, the one major advantage of proof of work is if you have a number of different chains competing for your attention, like a Hydra, you don't have to trust anybody else to figure out what the heaviest proof of work chain is. You can download each of them and basically just look, you cryptographically verify and just run it all the way back and you figure out, "Okay, which one has all the correct solutions and was shown to first order who has the most leading zeros in each of the blocks. And that's actually the heaviest proof of work chain, right? I mean, you have to do more calculations after that first order. Proof of stake isn't like that because you can't just on your own determine what the leading chain is.

Balaji Srinivasan: 01:25:57 There's a degree of trust in terms of having somebody point out to you what the longest chain is because the stake process doesn't involve computation. It's not burning any energy. It's just people voting, right? So it is possible. You need to have somebody tell you, "Oh, that's the Ethereum chain." Now, a lot of people could tell you that and you could try and get it on that from a number of different axis. You can argue over whether that's a huge requirement or not, but this is another approach where you first approach ProgPoW, you'd use a more de-centralized proof of work with GPU's. The second approach you get rid of entirely, and you would go the proof of stake approach, right? Anyway, we're getting down into the weeds, but this stuff will be important.

Balaji Srinivasan: 01:26:34 It's going to be stuff which is like, in 2021, everybody cares about politicians tweeting or retweeting or liking or replying or whatever to somebody. And that was like this arcane thing that only tech people cared about 13 years ago, right? Crypto will be like that. All of these crazy details that we're talking about today, in five years or ten years, every head of state will care about this because to be a head of state, you'll have to be head of network. There's much more I can say, by the way. I am getting a little tired-

Demetri Kofinas: 01:27:04 Listen, this was awesome. I could talk to you forever. I wonder if you'd be, I mean, I guess I would put it this way. I've had so many interesting guests on the program and I have so many more interesting ones coming up. I think it would be really cool to try to put together a clubhouse event where maybe I was able to bring on a Peter Zeihan or John Mearsheimer, the realist, and maybe also a Mariana Mazzucato or a Bill Janeway, and try to do some real and really interesting talk where we really take people that have really thought about these things in depth with different points of view and kind of, you know what I mean? I mean, I would do it in the real world if this wasn't freaking COVID. That would be exciting.

Balaji Srinivasan: 01:27:47 So, the thing is that basically, I think that with Peter Zeihan or Mariana Mazzucato I mean, I really disagree with them on a lot of things.

Demetri Kofinas: 01:27:56 Yeah. Well maybe. I mean, I just threw it out there and it's not-

Balaji Srinivasan: 01:28:03 No, No yea, so, I don't mind debating with somebody who is a very different opinion. I'm just not sure. Maybe a written thing might be better for no one to get mad or whatever.

Demetri Kofinas: 01:28:12 A what?

Balaji Srinivasan: 01:28:13 W-R-I-T-T-E-N like written. Like essay back and forth might be better.

Demetri Kofinas: 01:28:18 Oh, written, written, written.

Balaji Srinivasan: 01:28:19 Yeah.

Demetri Kofinas: 01:28:22 You're very congenial interlocutor.

Balaji Srinivasan: 01:28:27 That's true, I think. I like to think so, but okay. So, for example, let talk about Zeihan just for a second. Right. So, I mentioned, one of his arguments is that demographics is important. I think robotics is more important than demographics. Another argument is that location -

Demetri Kofinas: 01:28:43 U.S. military and Navy and patrolling sea routes is important.

Balaji Srinivasan: 01:28:46 Yeah, and the US military and navy patrolling the sea routs, and so, yes, I do think that the U.S. will remain a military power in the sort of brute force way for a while. But I think that a better model conceptually for the U.S. is more like, post-Soviet Russia, right? Basically post dollar collapse, America will be like post-Soviet Russia.

Demetri Kofinas: 01:29:06 Well, that's not very encouraging.

Balaji Srinivasan: 01:29:09 Yeah. So, it's like this former global ideological empire that still is armed to the teeth in certain ways that has abandoned all of its military bases abroad and that like in the same way that Russia blames the U.S. for its fall, the U.S. will probably blame China because they'll probably date it back to COVID and so on and sometimes a lot of the stuff is a delayed reaction. Occupy Wall Street happened in 2011, which was three years after the financial crisis. I kind of think, unfortunately I think the board drums will beat after everybody gets vaccinated and then people will want to settle a score with China or something like that. I feel like that's a subplot, which will build by the mid 2020s, unfortunately. Go ahead.

Demetri Kofinas: 01:29:54 No, this is interesting because you challenge so many of the positions that I've come to hold thoughtfully. I'd like to think that I haven't come to these views by adopting someone else's position. I've done a lot of episodes on this stuff, but it's valuable to me to talk with someone that is, I think, such a... It isn't just that you have interesting ideas, you also are very good at discussing them. You're civilized. And anyway-

Balaji Srinivasan: 01:30:26 Well thank you. Yeah.

Demetri Kofinas: 01:30:27 ... In my mind, I just thought it'd be an interesting panel to put together. And I like to think also of myself as a very good moderator and someone who really

makes an effort to ensure that people are getting the right amount of time, et cetera, et cetera, et cetera.

Balaji Srinivasan: 01:30:43 Totally. And I'm not saying I won't consider it. I definitely will think about it. But let me actually just finish my-

Demetri Kofinas: 01:30:49 Yeah. And then I want to give you your evening, because I know you've got to wake up.

Balaji Srinivasan: 01:30:54 Totally. Totally. Yeah. And again, not to beat up on Zeihan or anything, but it's what I disagree with. A, robotics over demographics. B, I think the US Military in many ways... And this is maybe an out of the money prediction, I think it's a paper tiger. Why do I say that? Because COVID was a military defeat. If you have a biodefense strategy that's at defense.gov that says you're going to combat man-made natural threats, and you've had anthrax and you've had years and years and years of bio-defense appropriations and talking about WMD with nuclear, biological, and chemical weapons, and that's been this primary thing of US national security for more than a decade and what you fought a war over. Blah, blah, blah. It was a military defeat.

Balaji Srinivasan: 01:31:36 And basically, to my knowledge, the most public thing the military saw... And you correct me if I'm wrong but the most public thing I saw the military do was set up folding chairs in the Javits Center, which was palliative. It wasn't the superhero, movie, Captain America secret plan to vaccinate everybody thing. There was a DARPA program to do fast vaccination and I'm not sure what came of that. Again, correct me if I'm wrong, but basically it looked like a military defeat because these seas, these oceans, these aircraft carriers, et cetera, the virus bypassed all of them. And the thing about it is it couldn't be bombed, it can't be regulated, you can't freeze its bank account, you can't demoralize it with press coverage. All the typical weapons of the American state, this thing just bypassed everything. Now again, I'm not saying it's a bioweapon, I am seeing, however, that the US Military versus something like that is Maginot Line.

Balaji Srinivasan: 01:32:31 And I'm also saying that every adversary who saw that is... There's probably somebody out there who might cook up a bioweapon as a function of that, or at least it's something to contemplate. I'm not saying it's 100%. it's pretty dangerous because it would hit them as well. But if they had a vaccine and they cooked up by a weapon and they can see just how bad the US is at dealing with this, this is the way that you could really hit the US right. I'm not saying that is 100% or whatever, I'm just saying that if you're a military planner, you'd want to think about that scenario, right?

Demetri Kofinas: 01:33:04 Sure.

Balaji Srinivasan: 01:33:05 Okay. So, the military, I think, is very over-hyped in terms of its role there, especially because execution in the physical world... China was able to build a hospital in like 10 days. And it's not just that hospital. I know people say, "Oh, that's propaganda." They built out their whole country. If you've seen the before and after, you can't fake Shanghai. It exists. And you compare that to San Francisco, where it takes basically years to dig up Fourth Street, and China can build a train station in nine days. Now, there's a lot of cope, C-O-P-E, which says, "Oh, they can only do it because they're authoritarian. Blah-blah-blah." And that is certainly part of it. But the US's state capacity has just been falling off a cliff.

And here's the issue: If in a life and death situation, like COVID, China can build a hospital in 10 days and the US cannot execute like that in the physical world, almost certainly in a physical conflict China will be inside America's OODA loop.

- Demetri Kofinas:** 01:34:06 The irony here is that China is a much stronger state. This is the irony. It's like you're making the case for a more authoritarian government.
- Balaji Srinivasan:** 01:34:16 No, not really, I'm not even making a case for China because I think that actually as these two forces fight, increasingly woke America, woke capital versus communist capital, the rest of the world I think is going to go to crypto capital. And just like the first and the second and third world during the Cold War.
- Demetri Kofinas:** 01:34:35 But they're going to have to align with a physical state. And by the way, this happened 100 years ago where a new class of American elites who were the offspring of the robber barons became internationalists. And many of those people funded fascist Italy, they funded the Nazis in Germany. They're not going to just pour their money to the cloud. They've got to pour it into a country.
- Balaji Srinivasan:** 01:34:58 Not necessarily, because here's the thing: Imagine if the billions wasted on San Francisco real estate was building out virtual reality.
- Demetri Kofinas:** 01:35:06 But you know this though. Information resides in the physical world.
- Balaji Srinivasan:** 01:35:10 Sure, but you can replicate it. That's the point of like decentralized... And to be clear, I'm not saying everything is digital all the time. Instead, what I'm seeing is something a little more subtle, which is the physical is still valuable but it's a premium product. Everything is digital primary, and only the most important things get printed out. Most-
- Demetri Kofinas:** 01:35:26 But digital primary also kind of not... You need the hardware to run the software.
- Balaji Srinivasan:** 01:35:31 Well, let me explain what I mean when I say that the digital is now primary and the physical is secondary for many kinds of things. So, a newspaper, it used to be that the physical paper was primary and a few articles were online. Now today, the website is primary and many of the graphics can only be produced online. And the physical printout is secondary and an afterthought. People don't even necessarily get the physical paper anymore. And I think that 2020 was the year that it flipped and the internet became primary in many other areas. That's to say, many relationships begin internet-first and only materialize in the physical world if they're high enough value. Conferences will be Clubhouse-first, for example. Online-first and only in person if they're of very high value. And so it's not that physical ceases to be valuable, of course it's valuable but it becomes a premium product.
- Balaji Srinivasan:** 01:36:23 Companies start online and it's all remote and they only get co-located if they become valuable enough to be able to afford it. So, for example, you assemble a million people online in these network states, and maybe like 900,000 of them might just stay in their current apartments. And then 100,000 are in groups of one, 10, 50, 100, et cetera, in larger and larger clumps around the world. You have a power law kind of thing where the most simplest thing is to first declare yourself mentally to be part of that group. And there's a funnel where you move towards, "Okay, I am in this apartment in Berlin. I am in a house in Mexico, but

this is my community. These are the people who I really vibe with. They believe in the same thing that I do." And then you hang out more and more there, virtually, and then eventually you might clump up with three other people in that location and you get a group house together, or 20 other people and you get a cul-de-sac. Or you move to another country to join one of those locations. And this fashion, digital-primary, physical-secondary.

- Demetri Kofinas:** 01:37:40 I think where you and I, maybe we're disagreeing, we're bumping up against a disagreement about perception here. Our perceptual disagreement is that we're understanding... Ultimately, I think a realist view of international relations... And I think that actually applies here as well to this discussion. And I feel like a lot of the assumptions you make or a lot of your recent analysis and inductive reasoning ultimately depends on the assumption that there is some super-national security state or something... Not that you do consciously, but at some point power has to get involved here because I think human beings have always been violent and I don't see why any of that would change. People are still going to try and exert force and coercive energy.
- Balaji Srinivasan:** 01:38:29 Sure. Several thoughts on that. One is... I'll give you three or four different arguments on this. One... I thought about this today.
- Demetri Kofinas:** 01:38:40 We've tried to wrap this up so many times.
- Balaji Srinivasan:** 01:38:42 Yeah, yeah, yeah. Let me see if I can wrap this up. But basically, on the topic of violence, first, encryption is a way of protecting property rights without violence. The less physical stuff you have, the more digital stuff you have, the harder it is to steal,
- Demetri Kofinas:** 01:39:00 Unless you do a wrench attack.
- Balaji Srinivasan:** 01:39:02 Yeah. But to do a wrench attack can you define the person physically. And so I think that by 2050 or thereabouts, doxing will be the ultimate crime because if you know somebody's X/Y location you can send in the drones.
- Demetri Kofinas:** 01:39:14 Interesting.
- Balaji Srinivasan:** 01:39:16 And so-
- Demetri Kofinas:** 01:39:16 Because people just won't have physical relationships?
- Balaji Srinivasan:** 01:39:19 No, they will, but it'll just be like-
- Demetri Kofinas:** 01:39:23 Because then you can wrench attack the people you know?
- Balaji Srinivasan:** 01:39:25 Well, it was the whole thing about a wrench attack is it requires you to know where that person is and be able to go there with force and be able to enter that region and so on and so forth. And what I think happens... I've got to talk on the pseudonymous economy where I think that what we just did is we just uploaded the real world to the internet in un-encrypted form. "Hey, everybody use your global identifiers, your, quote, real names. All connect to each other, et cetera." But real names are actually a technology in their own right. A better term for them might be social security name or state assigned name. It's not like

it's in your DNA. It's literally a global identifier that we assign a lot of significance to but that is itself a social construct.

Balaji Srinivasan: 01:40:06 And the alternative to real names would be, quote, pseudonyms that, you just set up a new account on Reddit or you are whoever you want to be when you go into a new town online. This is how it used to be. Rather than a single global identifier where everything can be tracked and mapped together, you had a pseudonym for each thing. The problem with real names online today, real names basically allow people to join 30 different databases on you. And what an internet name for a... Another word for a name is a handle. And imagine a handle to a file cabinet being pulled out with your name on it. And so real names are actually a huge security risk. And I think that people... Already the young kids are starting to do it, but actually 400 million people on Reddit use pseudonyms.

Balaji Srinivasan: 01:40:53 I think pseudonymity is this massively underappreciated thing. And we've been able to do pseudonymous communications, but crypto allows us to do pseudonymous transactions. And so I think that the truce on the other end of this 30 year internet war that we're getting into, we're already in the middle of, the piece of Westphalia among other pieces of the piece of Westphalia equivalent is the pseudonymous economy where, with a pseudonym, that combats both discrimination and cancellation. It's not great but it's acceptable to enough folks both on all sides of any conflict that it actually erects a defense. And it means, in particular, that... Imagine you have hierarchies of pseudonyms, just like an HD wallet in crypto. You have this address and then you have addresses under that address and addresses under that address. So, a compromise doesn't hit the whole thing.

Balaji Srinivasan: 01:41:50 So you have pseudonyms and then pseudonyms under pseudonyms. And you separate out your earning name, your speaking name, and your real name, and probably have multiple speaking names and multiple real names. And you have an identity management thing. And very few people, if any, need to know that the physical person maps to a particular digital identity. Maybe you tell your wife. You don't probably tell your password to anybody. You don't tell your private keys to anybody. So, you basically secure the physical person by not having that mapping and you have that as encrypted as possible.

Demetri Kofinas: 01:42:26 I wonder, in such a world, how secure your mind becomes to being hacked.

Balaji Srinivasan: 01:42:33 Sure. Crazy things can happen but basically, in that kind of world, you'd basically want to have minimum physical consumption. A lot of the status games move online. For example, the clothing industry, I think a big chunk of it is going to become the virtual clothing industry where you have NFTs and this type of stuff. It's like designer items in video games because, if you think about it, here's one way of putting it: What percentage of your waking hours do you spend looking at a screen?

Demetri Kofinas: 01:43:05 Ugh, an enormous number.

Balaji Srinivasan: 01:43:07 An enormous number, right? So you already are spending most of your life in the matrix.

Demetri Kofinas: 01:43:11 In many ways, yes. Not just through the screen, but there are different layers of the matrix. I agree. We're living in it. We're swimming in it.

Balaji Srinivasan: 01:43:18 Right. And so with VR, with AR and so on, that's going to become... With Neuralink. Those kinds of things, that's going to become even more of a thing. And so that's what I mean by digital primary, physical secondary. This is the long arc to bet on-

Demetri Kofinas: 01:43:31 Yeah. I see what you're saying.

Balaji Srinivasan: 01:43:33 And so if that's the case, then you really want to think about, okay, what is dominant in the digital environment? And it is encryption over coercion. And everything that you can set up as a battle between those... I've got all these examples in my book. But for example, the FBI wanted to go and surveil all of these phones and end-to-end encryption thwarts them. And I'm not saying that violence doesn't exist and so on, but I think that a lot of people haven't thought through the details of it. And it's not that easy. You know what it reminds me of, is people are like, "Oh..." I'm not saying you but people are like, "Oh, the government will just do X and Y." I'm like, the government can't send checks to people. The US government-

Demetri Kofinas: 01:44:14 Currently. Currently. Currently. I think we should be clear about that. The present dysfunctions aren't necessarily what we're going to see in the next five years, year or two. It all depends. The US may go from being highly dysfunctional to highly functional given the right set of motivations.

Balaji Srinivasan: 01:44:35 What do I think about that? I have over, over my lifetime, over your lifetime, we have seen China and India and many other countries go from dysfunctional to functional. So, absolutely, that is possible. But they hit bottom and tap the bottom for a long time. These great civilizations were humbled. India was, quote, a third world country. China, people were eating each other. And other countries like Argentina used to be rich and have never recovered. They've just been basket cases that have gone through currency crisis after crisis. I think the thing I would say is... And this is maybe one of the most important macro concepts I have, is the most American thing in the world... America is a nation of immigrants, but that means it's also a nation of emigrants. And the most American thing in the world is to leave in search of a better life.

Balaji Srinivasan: 01:45:31 And I think that if you go far enough west you end up in the cloud. And I think that the internet is to the USA what the Americas were to the UK. It is a gigantic new world that will eventually give birth to whether you're going to call them polities or societies or what have you that supplant the old. As you go from common law to a constitution to smart contracts, you get more abstract, more powerful. Rather than you go for precedent to a written constitution to smart contracts. We take the judge out of the equation and put it into a computer form. You go from the rights of all Englishman to the rights of all Europeans and all Americans to the entire world. You go from less than 30 million British people. It was much less than that at that time. 3 million. I forget the number.

Balaji Srinivasan: 01:46:26 To 300 million Americans to 3 billion people on let's say the free internet. And so that's the next step, I think. And internet culture is as American as American culture is British, which is to say it hails from it but it really is its own thing.

Demetri Kofinas: 01:46:42 Yeah, I understand.

Balaji Srinivasan: 01:46:44 And I think that's going to become more obvious over the next few years once people realize that most of the people online today are not American. They may speak English, they may be in Twitter threads or Hacker News threads but if you could see all the flags, they wouldn't actually be posting from the US or not US citizens. And so as the US sort of fades... And the reason I say fades is COVID is a military defeat. Whether we want to recognize it as such, it was one. And so I think the economic defeat will probably come with the likely... Obviously people will argue about this endlessly, and we'll see whether it actually happens, but I think it's quite likely that some form of inflation will hit, and who knows when? It's been punted on for a decade, but it is something where part of the reason it could hit is that Bitcoin is now ready. Crypto is now ready. The alternative is now ready.

Balaji Srinivasan: 01:47:40 So you would actually have funds flow into harder currencies that can't be seized very easily. And then you have the printing commence, the trillions of dollars. So, that's the economic defeat on top of the military defeat. And both of these are very abstract. No one was invaded, nothing was bombed or whatever. It's basically just like Maginot Lines, things were bypassed. This is why I like the... Just to close up on the Zeihan thread, then we'll finish up. Zeihan versus demographics, I think robotics. Versus being super bullish on like the US Military as this big force, I think it can beat up on people in the Middle East and Afghanistan that don't have an organized military, but I don't think it's faced a peer competitor for a very long time. And given the degree of physical mobilization that China could manage in a time of crisis versus what the US can manage, I'm not that sanguine on that. It's all something where you have... There's all these signals. I think it was the F-35 that had these issues-

Demetri Kofinas: 01:48:42 Yep. The Raptor.

Balaji Srinivasan: 01:48:42 Yeah, exactly. And you have something where Intel is missing its tape-outs. You have something where Boeing is screwing up. You have these flagship things in the US. Intel, Boeing, Lockheed Martin that are just, on the things that they're supposed to be world dominant on, are just like this. And basically, if you think about the US performance under COVID, only those institutions that are post-internet really did well. One basically like DoorDash and Zoom and so on and so forth, those are things that did well. The tech stuff that was new and that was internet-base. Those actually managed to keep society afloat. But restaurants were non-functional. The physical world basically failed, right?

Demetri Kofinas: 01:49:25 I don't know if that's true, that the physical world failed

Balaji Srinivasan: 01:49:29 What worked in the physical world?

Demetri Kofinas: 01:49:31 Hospitals.

Balaji Srinivasan: 01:49:32 Did they work? In the sense that the...

Demetri Kofinas: 01:49:35 Yeah.

Balaji Srinivasan: 01:49:36 You're right that there are brave doctors and so on and so forth. And on the spectrum of things, did they fail as bad as public health failed? No. But it's sort

of like the last line of defense. It's like saying, "Yeah, I got cut in my arm and you know, my skin failed but I've got a wound there and my white blood cells responded and what have you." That's the last line of defense, these millions of infections and so on. Go ahead.

- Demetri Kofinas:** 01:50:04 Just wary of something that I think happens a lot, which is there's sort of grand sweeping statements. And we wave off some of the details, which I think are actually relevant.
- Balaji Srinivasan:** 01:50:18 Fair. Fair. Your corrective is actually a good one. I'd say, of the various systems, I think you're right that hospitals, they've remained functional. Yes, there were folks who were turned away because wings were devoted to COVID. There were times where surges, ER rooms were-
- Demetri Kofinas:** 01:50:33 The police department also remained highly functional. The police departments around the country dealt with enormous amounts of political and social pushback, and they were able to operate within that environment and we were able to have a civilized society. The levels of crime that have increased in New York are a fraction of what's possible in a lawless, anarchic, Mad Max-type failed state society.
- Balaji Srinivasan:** 01:50:57 Well, that's the thing is if you graded against Mad Max, yes. It's better than Mad Max.
- Demetri Kofinas:** 01:51:03 Yeah, but it was an incremental increases. We still have a ridiculously secure country. New York city is insanely secure.
- Balaji Srinivasan:** 01:51:12 I argue that... Okay, San Francisco definitely is not. I don't know if you'd agree with that.
- Demetri Kofinas:** 01:51:19 San Francisco was never very secure.
- Balaji Srinivasan:** 01:51:21 Well, know this. I was in San Francisco 20... I've already lived in San Francisco for 20 years.
- Demetri Kofinas:** 01:51:26 For sure the west... Portland is a disaster. Yeah. There's a lot of reasons for that.
- Balaji Srinivasan:** 01:51:32 Here's the thing. Let me see if I can put it a different way. The trajectory, basically spending a lot of my time at Stanford, traveling to San Francisco over time. The trajectory is down and to the right. If you took stop motion, it looks horrible. Garbage piling up, people attacking each other in the streets, crazy things happening. And it's very post-apocalyptic Post-COVID. And the thing is that California is the future of America as people say. And a lot of San Francisco's bad ideas were adopted, for example, by Austin and other cities where you got the same kinds of problems adopted by Austin, and Austin's showing some of the same power outages and other kinds of things. And I'm not negative for the sake of being negative. Let me explain. I'm simply trying to enumerate a bunch of facts that, just like something-
- Demetri Kofinas:** 01:52:29 I don't think you're being negative. I think if I were to label you I would label you as a techno utopian.

Balaji Srinivasan: 01:52:37 Some people would say I'm a... I'm not even a utopian, really. Some people would call me a paranoid optimist. And the reason for that is kind of like Andy Grove's book, Only the Paranoid Survive. Was it Grove? I think it was Grove, right? Only the Paranoid Survive.

Demetri Kofinas: 01:52:55 Balaji, listen. Balaji, I think I've never had to do this before but we're going to have to wrap this up. I thought you were going to be the one that have to wrap this up three hours ago but I actually have to be somewhere in less than 30 minutes and I need some time to get there.

Balaji Srinivasan: 01:53:09 Great.

Demetri Kofinas: 01:53:10 I don't even have that much time to even wrap this up the way I'd like to, which was kind of... Anyway, look man, this has been very useful for me. This conversation has challenged a lot of my thinking and maybe given me a lot to think about that I think I'll be incorporating in my mind as I work through problems over the next few weeks at the very least. I really appreciate you coming on. I hope and would love to find some way to do something more creative in the future, maybe a kind of panel event. But I want to give you the floor here to say whatever you'd like, and we'll wrap it up.

Balaji Srinivasan: 01:53:46 Sure. I do have a book coming out. It'll be free. You can go to balajis.com/signup. B-A-L-A-J-I-S.com/signup, and get it. And I think that-

Demetri Kofinas: 01:54:03 When does it come out?

Balaji Srinivasan: 01:54:05 I've actually written like 15 chapters, so I'm going to start hopefully releasing it March 1st. So, just sign up there, and-

Demetri Kofinas: 01:54:12 Perfect. This comes out March 1st, so we're actually-

Balaji Srinivasan: 01:54:15 Yeah. So, that goes through I think a bunch of the points that we discussed and maybe some new ones, and continues the discussion from here. So, if you've got a jump, why don't we wrap there?

Demetri Kofinas: 01:54:25 All right, awesome. I'm going to release this second part, Balaji, on the main feed because it took us a little while to really get into the part of the discussion that I wanted everyone to hear. If you're interested in hearing the first part of our conversation, head over to patreon.com/hiddenforces, where you can listen to Balaji make the case for DLT, for how cryptocurrencies are reorganizing capitalism, commerce, education. He also shares some news in the first part about a venture that he started in education, which is absolutely fascinating. And the last 30 minutes or so of that conversation is the beginning of what we basically spent the last two hours discussing, namely the network state but specifically the game theory around how we get from here to there.

Demetri Kofinas: 01:55:10 Hidden Forces premium subscribers also gain access to the transcripts of every episode, including this one, as well as the rundowns, which are elaborate show notes and documents that I put together ahead of every recording. They include charts, images, tons of hyperlinks to primary source material that can help you dig deeper into whatever topic we cover on any given week. They're basically compressed versions of the entire process and database of knowledge and computation that I go through in order to educate myself ahead of each and

every conversation that I have on this podcast. Balaji, again, thank you so much for coming on the show.

Balaji Srinivasan: 01:55:50 Okay. Thank you, sir.

Demetri Kofinas: 01:55:52 Today's episode of Hidden Forces was recorded in New York City. For more information about this week's episode or if you want easy access to related programming, visit our website at hiddenforces.io and subscribe to our free email list. If you want access to overtime segments, episode transcripts, and show rundowns full of links and detailed information related to each and every episode, check out our premium subscription available through the Hidden Forces website or through our Patreon page at patreon.com/hiddenforces. Today's episode was produced by me and edited by Stylianos Nicolaou. For more episodes, you can check out our website at hiddenforces.io. Join the conversation at Facebook, Twitter, and Instagram, [@hiddenforcespod](https://twitter.com/hiddenforcespod), or send me an email. As always, thanks for listening. We'll see you next week.