Captain Callicanus is here, reporting for duty.
Wait, is that a Spirit Airlines cap?
Absolutely. Spirit Airlines, I just wanted to say, all in podcast,
now sponsored by Moncler and Spirit Airlines.
Or now sponsored by The Village People.
Why? M-C-E-A.
Are you a pilot or a flight attendant, J-Cal?
He's a flight attendant.
I don't think he's thin enough to be a flight attendant.
Are you fat shaming me? Are you body shaming me?
I can't do that nowadays. I'll get you canceled.
Getting sacks canceled at this point?
Fat shaming would be number 72 on the list.
He can't get canceled because all the Libs have left Twitter.
There's nobody to...
There's no whole monitors left?
That's not true. They all pretend.
No, they quit every week.
Yeah, it's like all the Libs who said they moved to Canada when Trump got elected.
Yeah, Canada Immigration.
Go ahead.
A hacker figured out a way to take all this data and track, you know, people's yachts,
people's planes.
Obviously, one of those people was Elon.
Elon had a security issue.
This is all public information.
So the larger issue at stake here is the fact that the law allows for people to do this
persistent tracking of planes, which then becomes persistent tracking of a person.
And what really is at stake here is how we define the term doxing.
For people who don't know the term doxing, it means giving a person's location.
That could be your home.
That could also be your at a location for some period of time.
You're at a hotel, you know, for a basketball game.
And it's pretty clear.
You can take a picture of a celebrity and say, there's a celebrity here.
Oh, Lady Gaga is at the farmer's market.
What I object to here, we all understand doxing is dangerous and in fact is against the law
to just get people's addresses and stuff like that.
The issue here is a new type of doxing, which I'll call, you know, persistent, coordinated
doxing where dozens of times a month you're giving a person's location.
It may not be against the First Amendment sacks, I think you would agree.
But we have to ask ourselves, do we want to live in a world where whether a person's on
an electric bicycle or an airplane or any device in between, somebody should be releasing dozens

of times a month, a specific dedicated feat of their location.
It is terrorizing as a parent when this happens.
I've had doxing people on the call here have had various security concerns.
We don't want to live in a world with de facto doxing.
What these sites were doing was de facto doxing.
I think it was a bad decision and I think that it represented, the least generous statement would be that it represents deep hypocrisy in that not just a few weeks ago did he say he would never delete that account, but he also said he was buying Twitter to enable freedom of speech and freedom of expression and that he wouldn't come in and do the same sort of content moderation that was done by the old regime.
And then he came in and did exactly what the old regime did, which is that he took the rules and he took the, quote, moderation policies and he found a way to use them to make some editorialized decisions that he thought was appropriate.
Now, the more generous thing is what you guys are saying, which I don't think is necessarily wrong, which is that he's trying to protect people where there's some loophole or some law that doesn't seem right morally, but it is the law and it is what it is.
In those cases, I think you run into the exact same issue that the old guard at Twitter had, that the moderators and the executives at YouTube have dealt with and that the executives at Google have dealt with and that we sit here and we criticize until you're on that side of the table and you're forced to make these moderation decisions.
You're forced to make these policy decisions and you're forced to implement these policy decisions because of some moral framework that you now think is appropriate.
And guess what?
Some people will say that's not freedom of expression.
That's not freedom of speech.
You're taking that away from some people.
You're taking this particular case away from a 15 or 16-year-old kid who's built a Twitter feed.
And so I think what it shows is just how hard it is to moderate these sites, these platforms, and that there is no simple, easy, idealistic, idealog of, hey, all these things are open.
All these things can be used by anyone all the time because as soon as one of these edge cases start to happen, you want to come in and do something about it.
Shemath, what do you think?
What should happen going forward?
So I have had these issues happen to me multiple times.
I'm not nearly as important as Elon is, but it feels the same when you're in the middle of it.
It feels pretty terrorizing.
That being said, I think the real decision for somebody like me is that if it's too much, is frankly just to get rid of it and to find a different mode of transportation that's a little bit more anonymous.
You're pragmatic about it.
And the reason I say that is that I just think that you would have to go and get the government to basically change the law, which they're not going to do.
And so then as a result, your reaction will seem somewhat contrived and deeply personal.

And in that, I think you lose credibility.
Let me just summarize this and be the first one to just state this.
I think that if there's any person in the world that can figure out Twitter, it's probably Elon.
But man, has he taken on just a gargantuan battle.
And increasingly, I am not a fan of this battle, and I'll tell you why.
This is a man who has essentially proven that he can bend the laws of physics on behalf of humanity.
He's done it twice, once in electric cars and once in rocketry.
The problem is that the realm of decision-making at Twitter has nothing to do with the laws of physics
and is governed by emotions and psychology, in which there is no canonically right answer.
And so he's quickly finding out that half the population will always find fault with him, no matter what he does.
And now the implication of that becomes very important.
We saw yesterday that he had to sell another $3.8 billion of Tesla stock.
Why is that?
It's because this transaction, which was very tight to get done, probably required lots of margin.
Look, I have a margin loan at Credit Suisse, so I know how these things work.
And you can very quickly get margin called.
You have to sell down things that you own in order to maintain your collateral limits.
We've talked about this before.
He's had to do this twice now in the last few weeks.
And that's because, again, not because of the demand at Tesla as far as we can tell,
but because people believe he's distracted.
And so people are anticipating weakness at Tesla.
People are now shorting the stock.
Anyways, it's causing this downward spiral.
And can he fix it?
I think so.
Can he pull it all out?
Sure.
Is it just putting himself under an enormous amount of pressure that he could have avoided?
Somewhat yes.
And I think that this is sort of where we're at.
Six weeks in.
My gosh.
I mean, I was saying, this guy learned in six weeks what it took YouTube seven years to learn,
how hard it is to moderate content.
And, you know, I think.
This is where I disagree is you're attributing so much good faith to these content moderators
at YouTube and Twitter when the Twitter files reveal that they made no effort to suppress their bias.
In fact, they were like pretty much.
Wait, can you, okay, they were dancing in the streets every time they booted off someone they didn't like.

Fair enough.
Before you react to what Freeberg just said at the end, that Kota, can you respond to what I just said?
Isn't it true?
Like it's like.
Well, look, I mean, if you define what Elon is, you know, doing there as, you know, acting as a judge, arbitrating on every little content moderation decision.
Is that a great use of his time relative to what he could be building at Tesla and SpaceX and doing on behalf of humanity?
Then no, clearly not.
But if you define what he's doing in the larger sense as restoring free speech to the most important town square social network,
hopefully thereby inspiring other tech companies to move in the direction of opening things up,
then I actually think it's a pretty good use of his time.
So look, I think we can quibble about this or that decision that he makes or this or that tweet.
But I think the overall thrust of what he's doing is very important for the country and for humanity.
So I get where you're coming from.
Hopefully he'll find some people at Twitter who he can empower and trust to make these content moderation decisions.
So he's not drawn into every single little battle, right?
We do want him focused on the highest priority problems.
My point is just that I get that.
I just think that what he's learning and what we're living and seeing in real time is that there is no canonically
right decision ever in this space.
There's only a decision where some percentage will support and some percentage will always be against.
That's my point.
Correct.
He did say when he took over, he knew that would be the case.
He said, you will know I'm doing the good job when both sides are equally upset.
Just to put a pin in it, I think it's important for people to understand what the new policy is.
So I'm just going to quickly read it.
Just hang on one second before you get to it because I think the philosophical point rather than the specific one is an important one.
And I just want to respond to what Shamath said and have sacks respond to this in the case of the points you make around the Twitter files.
And by the way, I don't agree with any of the moderation decisions personally.
So I don't think that someone should be suspended for posting public information.
I don't think someone should be suspended for saying controversial things.
That's my personal opinion.
Just so I'm clear on that because I know that that's been questioned.
Describe yourself as a libertarian speech.

Sure.
And so in this particular case, I think what really irked me, I was trying to identify why it made me so angry yesterday.
It triggered me.
It really did.
And I think the reason was that in the case of the Twitter file points, it was a minority that was affected.
It was one person that was affected because the majority wanted to do that thing to that person.
And I think in this case, it's that the minority wants to affect the majority in the sense that Elon has aggregated this control and this power over moderation.
And he's benefiting himself and a few people that have private planes and he's shutting down hundreds of Twitter feeds that are using publicly available information.
And so it feels even more onerous of a use of power and influence because he's doing something that benefits a small number and affecting a larger number.
Whereas the other one was affecting a small number that benefited a large number because that's what a lot of people wanted to see happen.
A lot of people wanted to see Trump suspended and it wasn't right either.
Okay.
I don't know if that makes sense.
We understand your position completely.
I just want to add to that.
In this policy, I think it's very important to understand what he is saying about this.
Accounts dedicated to sharing someone else's live location are going to be suspended going forward.
You can still share your own location, obviously.
Content required, you know, content for public engagements, you know, the president is speaking somewhere, whatever.
You just really can't be persistently, consistently tracking an individual otherwise known in, you know, playing speak as stalking.
But Jason, if NPR is live tweeting.
Sure.
Jerome Powell's speech.
Perfect.
No problem.
XYZ location.
Not a problem.
If they do Jerome Powell's location for the next year, for the next year, 10 times a week on his off-duty, on-duty, that's the thing we're talking about here.
I'm just saying, like, let's just say he gives a speech every week.
Is that illegal?
No.
Totally fine.
If you're giving a speech at a public place where you've announced that you're going to be appearing at a certain time and place,

you've already made a public where you're going to be.
No problem.
What we're talking about is, and what Elon Jet was showing, was a live stream of precision GPS coordinates over a sustained period of time.
Yes.
And not to be too dramatic about it, but if you look at, like, the weapons that are so successfully being used in Ukraine right now, they're all precision GPS guided.
Now, right now, you have to be a state actor to get a hold of those weapons.
But you could imagine over the next decade that having someone's precise GPS coordinates over a sustained period of time,
it would be pretty easy to target them for, and not to be too dramatic here, but for assassination.
Yo.
That is a security risk.
There's no way around that.
I brought this up with Palmer Lucky, man.
I'm scared.
That dude could come at me anytime when I get my jet.
I don't want Palmer Lucky taking me out.
Yo, Palmer, I'm sorry, dude.
Do not take me out.
I'm going to get my jet.
I'll be on my first flight, and he's just going to send a drone in.
But look, let's talk about hypocrisy for a second, okay?
Oh, here we go.
Let's talk about CNN's hypocrisy and the media's hypocrisy.
Because earlier in the week, they were saying that any criticism of Yoel Roth, who is Twitter's former head of trust and safety,
amounted to a threat to his safety.
And they had this, like, theatrical tweet where they claimed to you as having to flee his house, which a lot of people found pretty preposterous.
And they were basically saying that public criticism of someone who has put themselves out there to engage in a public debate,
who's writing op-eds for the New York Times, that is a threat to safety.
However, publishing someone's real-time location on a continuous basis.
So they could be targeted.
It's not intellectually consistent.
It's not intellectually consistent.
It's not a threat to safety.
That is not.
I'm sorry.
If one of those two things is a threat to safety, it's the real-time doxing of somebody.
Yes.
I think we now understand why Elon did what he did.

He obviously had an incident in LA in which the safety of his kid was threatened because he's got stalkers coming after him.
So his safety is a real issue.
It's not like a made-up issue.
But why should his personal experience affect the usage of the service that hundreds of millions of people use?
And that's the big issue.
The decision should not be based on what affects him personally.
There needs to be a principal basis for any decision about content moderation or censorship.
Maybe in the first few hours of that decision, it wasn't handled perfectly because there wasn't a principal basis.
But since then, one has been put in place.
The principal basis is what Jake House showed.
And this applies to everybody.
And so now it's a debate about whether that policy makes sense.
Now, is Elon just as arbitrary and capricious as the former executives who are running trust and safety at Twitter?
I don't think so for two reasons.
Number one, he's promised transparency.
He said that when we ban or shadow ban an account, there has to be a reason for it and you have to be alerted to it.
In other words, none of the shadows stuff.
No shadows.
We need to be informed.
You get your speeding ticket, you get your ticket.
It's there.
No more shadow.
That is different.
And then the second thing is that, and again, I think you could say that he didn't do this perfectly in the first few hours.
But there needs to be a principal basis for a censorship decision and it needs to be applied to everyone equally.
And so far, we haven't seen any basis for believing that he's not applying this principle equally.
It's still very early.
Whereas the former rulers at Twitter were indulging their personal bias and personal preferences and who were they were banning.
There were two standards of justice.
If you were someone who was allied with them, it was almost impossible to get censored no matter how hateful your tweets were.
But if you were somebody on the other side of the political debate, they were eager to suppress you.
And I think that at least so far, Elon has not shown that type of selectivity.
He selected against someone that put him at personal risk.
I think, yes.

If that's where the decision had stayed, then I would agree with you.
But I think that since then, they've put in place, they've undergirded that decision with a principal policy.
I think those tweets, streams are cool.
I think there's some cool tweets, streams that some of these people run and there are hundreds of them.
And they're actually kind of cool.
You can see where these different.
You're in favor of people tracking people's planes.
Yeah, they show like where Air Force One is.
They show all these different planes.
Look, and whether or not the FAA should be publishing this data as a separate question, but it's on the open internet.
It is already there.
It's like turning off the RSS feed from the open internet to protect himself.
That's why it feels on earth.
So here's the part I agree with, which is I think this policy with regard to planes specifically is going to be futile.
It's going to be at best harm reduction because as long as there's many ways to publish this information.
It's on Reddit, it's on Facebook.
So listen, I think this whole, I think this whole policy on Twitter is a little bit of a red herring.
I think the real issue, the real underlying issue is that the FAA is publishing these iCal numbers, thereby making every plane personally identifiable.
I don't think there's, I haven't heard anyone explain why it's necessary.
I have a counter to it actually, Sax, if I may.
What we saw, whether you agree with it or not, with the mass banning of certain individuals did actually silence them and take them out of the public square.
One of the reasons, in fact, Elon wanted to buy Twitter.
So if you look at certain individuals, whether it's Milo, Alex Jones, Trump himself, right on down the line, when they got banned across all systems, it was dramatic in terms of the reach of that information.
So because of the size and scale of YouTube, Facebook, Twitter, etc., when they act in coordination, they can have a dramatic impact.
Not a perfect impact, but a dramatic, which is why we have this issue of, hey, should 230 be rethought?
Because when they act en masse, it is extraordinary what they can do to an individual.
They took Alex Jones, how do you consume Alex Jones?
You have to seek that out in a major way.
It's distinctly different.
Chamath, last word, and then we're moving on to what could be the greatest science corner ever in the history of all in pod.
Final word, Chamath.

I think this is a great transition.
We're about to talk about nuclear fusion.
And my point is, I don't care about any of this stuff.
Like I said, this is my point is, if you take an average person, we are, let's say, awake 16 hours a day.
And if you take out the time with our family, David, the family is people that are related to you.
Can we DM sacks those people one more time?
Yeah, we'll send you their names.
But if you take that out and you take out exercising and bathroom time and eating.
Can we also explain that to sacks?
That's when you crease your heart rate and sweat sacks.
The point is that you have, let's just call it 12 hours, a functional executive time that you can apply to a problem.
And you can break that down into these blocks, right?
I would really love what is basically the smartest human and the most productive human of our generation to be filling those blocks with things that sort of like really transcend.
And increasingly, and I agree that freedom of speech is important.
Recently, those buckets are being filled with things that are very low level and hyper tactical and are distractions at best to the to the path of free speech.
And so I think that hopefully he gets all this shit under control over there.
He finds a good executive team.
I would like to see him get back to landing rockets on barges, getting to Mars.
Finish self driving. We're almost there.
Tramoth definitely has a point.
I'd say one of the reasons why we don't care that much about this issue is because I think something to understand that's important is there are different kinds of speech and different kinds of speech deserve different levels of protection.
The fact of the matter is like business advertising is not as protected as political speech.
Porn is not as protected as political speech.
Political speech, speech criticizing the people on power is the most protected category of speech because the founders of the country understood that the people in power will always try to insulate themselves from accountability by limiting that kind of speech.
But that is precisely the kind of speech that the former rulers of Twitter suppressed the most and showed the least sensitivity to.
So listen, I mean, is Elon going to be the perfect content moderator?
No, I mean, nobody is nobody is.
But I do not believe that puts him in the same category as, you know, Vigia Gotti or Joel Roth, who showed no sensitivity for political speech.
He has indicated a desire to restore freedom of speech, and I think they ultimately ended up in a good place.
I want him to get us to Mars.
I want him to get us to Mars.
Let's move on to the best science corner ever.
So according to sources, scientists work for the U.S. government have achieved a net energy gain in

a fusion reaction for the first time.
No, not net energy gain.
Get it right.
We had ignition energy, which is very different from net energy gain.
Okay, hold on.
I know that you're in the anti-camp.
Please let the science nerd have his moment.
You have to say it correctly so that people understand what you're talking about.
Let me just make it even simpler then.
Explain to us what fusion is, Dr. Friedberg, and explain to us why this could potentially change everything.
We did this on a show once before, but I'll kind of do a quick summary again.
Basically, if you take atomic nuclei, which are made of protons and neutrons, and they repel one another, right?
Because protons are positively charged, so they want to push apart from each other.
So with enough energy and enough density, meaning that they're moving fast enough and they're close enough,
they'll overcome their repulsion and jam into each other.
When that happens, some energy is released because the total mass of the fusion of those nuclei is actually less than those nuclei when they're on their own.
And so some energy is released and that energy drives a chain reaction.
And so fusion is this concept that is fundamental to physics and fundamental to the energy driver of our universe.
So the star in our sky, the sun, is driven by fusion and only about 15% of the mass of the sun at the center is dense enough to actually drive fusion.
So the big challenge with fusion is how do you get these atomic nuclei close enough together and moving fast enough that they'll actually fuse and release energy?
And that's super hard.
The reason it happens in the sun is because the sun has so much mass that the gravity pulls all those particles together.
They get close enough, they get hot enough, they move fast enough, and fusion happens.
Boom, all this energy comes out and every day we're warm.
Now, to do it on Earth is very difficult, but if we can do it, what happens when you fuse nuclei together is you don't release any...
This isn't like a radioactive fission reaction, you release energy that can be harnessed to drive our systems, our technology.
How is it done?
Yeah.
So in the 1950s, you know, this was theorized, hey, we could do fusion on Earth.
We got to get a really, really dense plasma, meaning the atomic nuclei and the electrons have kind of gone off the atoms and it's just the nuclei spinning apart.
You got to get them to move super fast, like tens of millions of degrees Celsius, and you got to get them really close together.

So how the heck can you do this?
There's a couple of concepts to do this, one of which is called inertial confinement, which is where you basically create a little pellet of the material you're going to try and get to fuse.
And you put a ton of energy on the outside and you compress it really hard, really fast.
And when you compress it really hard, really fast and you can get it to be done in a perfect sphere and you can get it to collapse on itself very quickly without, you know, kind of shooting all over the place.
Enough of those particles will come close enough together, fast enough, hot enough, and they will start to fuse.
Another way is through magnetic confinement, where you use magnetic fields to create a really hot plasma, get it to spin around or to move.
And then the magnet brings that super hot plasma closer and closer and closer together until all those particles are moving fast and they're dense enough that they start to fuse.
So, you know, one is called magnetic confinement, the other one's inertial confinement.
And so what we saw happen this week is at the National Ignition Facility, which is a facility that was built starting in 1997, and they've spent about three and a half billion dollars to date.
They demonstrated a net energy output from the fusion reaction of an inertial confinement system.
And what that means is they took a little pellet and that pellet was made up of deuterium and tritium.
And the atomic nuclei that they use, the particles that they use, are deuterium, which is a proton and a neutron stuck together, and then tritium, which is a proton and two neutrons stuck together.
And the reason they use those two combinations is of all the different ways you confuse nuclei together, this has the best energy output of any kind of reaction.
So, Freeberg, what actually happened this time that made this work for what apparently only three billion dollars you said? You didn't say three trillion, you said three billion.
About a third of what Sam Bankman fraud stole. We have done something here, allegedly.
So what actually happened that is so dramatic that we have a press conference, everybody's losing their mind?
So yeah, I just wanted to highlight one more thing about why this is so hard.
You have to get such an incredible density, you have to get an incredible energy, so high temperature and high density, that confining those atoms and not letting them escape and basically dissolve before they fuse is super difficult.
It requires so much energy in such a controlled way, in such a perfect and precise way that all of the digital technology, the magnets, all the measurement systems, all the software,
it's taken us decades to get everything that allows us to do this today.
And now we're at the point that we may be able to start to realize production scale versions of this.
So what they did is they had a small deuterium and tritium pellet and they shown 192 lasers onto this container that held that little fuel.
Those 192 lasers, the whole thing happened in a billionth of a second. The lasers pulsed, boom, here's an image of it.
And as they did that, they basically x-rays kind of hit the sphere, this little BB if you will, BB kind of thing and compressed it.
And it compressed so quickly and with such heat and it didn't dissipate because it was done so

precisely, all the lasers hit at the exact right time, boom, this thing compressed.
And then energy came out and the energy that came out that was measured was one and a half times the energy that kind of went into that reaction.
And here's a chart that I'll show you from the National Ignition Facility which shows just how inefficient the system still is.
And this isn't even speaking to Chemoff's point, but basically these guys lose 90% of the energy that they put into the center of the system.
Only 10% is actually used to drive the compression. The rest of it is lost and there's a lot of ways to improve the efficiency of the system from here.
But basically they put two megajoules in, they got three megajoules out.
And so it was the first production proof point in the 70 years that we've been theorizing about nuclear fusion here on planet Earth that this is possible and it's real.
Now, this is these kind of inertial confinement systems.
There are 33 private technology companies today that have raised about $3 to $4 billion so far this year to pursue several other technologies besides what the National Ignition Facility is showing to try and build production ready versions of nuclear fusion.
And so these 33 companies are using a bunch of different types of tools, one of which is the Tokamak. If you show the image, I'll show you this one.
There it is.
Yeah, Tokamak, this is what we talked about.
That is the magnetic spinning thing. That looks like Iron Man's arc reactor, which I think they based it on, yeah.
Yeah, you create a plasma, you basically speed up the hydrogen nuclei super, super fast, these uterium and tritium nuclei super, super fast, and then you use magnets.
And the magnetic field has to precisely squeeze the plasma, squeezing it, squeezing it, squeezing it.
And if it's slightly off in even the tiniest way, think about a balloon, right? If you put a pinhole in a balloon, everything escapes from the balloon.
Yeah, you got to do it perfectly.
That's how technically hard this is. You're basically trying to create a balloon with a magnetic field and you're trying to keep the gas and you're trying to make it smaller and smaller and smaller.
And if any tiny hole emerges, the entire plasma shoots out.
Now that they've done this, is that what happens in Uranus?
Like when you're trying to hold in the wagyu. Anyway, let me ask this question then about the consistency of this.
And then we'll go to Yuchimov.
Can they do it consistently or do you think this is like they got lucky once or are we going to be sitting here a year from now?
And they're like, we put in two when we got out six and we did it five times.
Yeah, so now we've proven that humans can do this.
Okay, which is, look, I mean, I want to give you guys some, and I know kind of some of Chimov's concerns, which is how humans can recreate the sun is what this comes down to.
Yeah, but guys, I want to just say one important thing from a historical context.
All breakthrough technology starts out seeming impossibly large, impossibly expensive and

impossibly slow.
The human genome project 20 years ago cost $100 million to sequence the human genome.
Today we can do it in a couple of minutes for $100.
Okay.
Incredible.
The first computer, the ENIAC computer had 500 flops of compute capacity.
It filled a room.
It cost $8 million to build.
20 years later, we had a mainframe.
20 years later, we had a PC.
No, this is all this emotional bullshit. You're using the wrong examples.
Okay, let him finish then you go Chimov.
Good. Finish your sentence, Freeberg, and then we go.
And today we have an iPhone that can do two trillion flops of compute in your pocket.
I think that what we're seeing with fusion today is similar to what we saw with the ENIAC computer in the 1950s,
which is the demonstration that compute is possible.
And now we're seeing a demonstration that fusion is possible.
And a lot of folks have anticipated this moment and they've invested ahead of this.
Now, I don't know if any of these companies that are currently kind of being built are going to be production ready anytime soon.
My estimate is that we will see production demonstration of fusion in the 2030s.
So call it eight years from now plus.
And then you'll see grid scale scale up in the 2040s.
So this isn't something that's going to happen next year or two years from now.
It's already happening. What are you talking about?
Okay, now, Chamath, your rebuttal.
Oh my God.
Knowing you're a huge fan of solar.
This is the most naval gazing head up your ass scientific bullshit I've ever heard.
Okay, couple points.
Let's start with the basics.
The first is that there was no previous technical analog.
Why are you angry at me?
I'm not angry.
I find this so tiring hearing this.
It's all syrupy nonsense.
You're seeing a little trigger.
He's right.
Yeah, why are you so angry?
I don't get it.
Because I don't find this intellectually honest.
Okay.

I find it completely intellectually dishonest.
Let's keep in motion.
Let me finish.
Let me finish.
Okay.
When you talk about sequencing the genome, there was no alternative.
So you're right.
It was an enormous technical leap forward.
When we built a computer, there was no analog.
It was an enormous technical leap.
And so you're right.
We have a cost curve we don't understand.
And then we iterate as rapidly as possible.
And all these innovations where we built an entire infrastructure to ride down the cost curve.
The thing is fusion energy exists today.
It's called the sun.
We actually know how to capture it at virtually no cost right now.
So according to the IAEA, today you can capture grid level solar energy for about three cents a kilowatt hour.
That's as close to zero as we've ever been.
And over the next 10 years, their forecast is it's going to get to one and a half cents.
If you then want to store it and you layer in storage costs, we'll be at a whopping three cents a kilowatt hour.
That's where we are today.
And so I think that fusion does exist.
I do think that this is an incredible technical leap to replicate something that exists.
And I think that's where the intellectual dishonesty is.
It does exist.
It has been captured.
It can be harnessed.
And there is a positive energy equation just in a different modality that doesn't speak to these technically minded individuals.
A couple of other points about what I saw.
I think it's incredible what happened.
But just to make sure we're clear, this is 192 lasers the size of three football fields that consumed 322 megajoules of energy, which then ultimately delivered two megajoules to a target, which then released three.
So this is why I'm saying we had positive what's called ignition energy.
We did not have positive electrical energy captured.
So yeah, could we figure this out?
Absolutely.
Can we then shrink the three football fields down to something that looks the size of a laptop?
We possibly could.

Will it take 20 or 30 years?
Possibly.
But in the meanwhile, if the goal is unlimited, costless energy, you're on that cost curve already.
Yeah, but why can't it be both?
You said I was being intellectually dishonest.
What was I intellectually dishonest about?
Where's the design?
Where's dishonest?
Yeah.
You're comparing this.
What you're saying is right.
Yes, you can get.
You seem to be in agreement.
Industrial scale.
I just think that I think that you're trying to say that this is an entirely new thing.
No, it's a different approach to a thing we've already beaten and basically captured.
Let me bring.
What I would argue, Chamath, and I think this is important, the net energy you can capture on, say a football field-sized facility from solar is a tiny fraction of the energy you could generate from a football field-sized fusion reactor.
And that's why the argument would be like, hey, when we were developing computers, hey, we have abacuses, we shouldn't be developing computers.
And I think that's the analogy I would use here.
This is why the cost per kilowatt hour is what the levelized cost of energy tries to do.
It tries to normalize that argument away because everybody would say that, hey, hold on a second, you're going to need plane fulls of this or boat loads of that.
And people said, no, what's the levelized cost of energy?
What is the cost per kilowatt hour to generate energy?
And what I'm saying is that is an absolute scale and free is zero and we're at 1.5 cents on it.
Here's what I would say.
Check out one sec.
Chamath, the opportunity here is not necessarily about cost reduction.
It is about scalability.
And if hydrogen is abundant, which it is on this planet, it is nearly infinitely abundant.
We can take that hydrogen and we can scale up energy and electricity production in a way that is unimaginable compared to solar.
And I don't think that solar should be excluded.
Solar is key today and should be scaled up and I'm 100% agreement with you.
But the scalability to go 100x, if we want to make 100 times more electricity, I think we need fusion and I think that it's feasible.
So I think we have reached a good settlement here.

Chamath, you're saying, hey, listen, we're getting solar down so cheap, we can solve this problem.
All forms of energy.
Okay, great.
We are solving that.
So for our needs today.
And what Friedberg is saying, but what if you had unlimited, a thing that we can't even imagine.
Beautiful.
Now, watch, as I get sacks involved in a science conversation, he has zero interest in.
Mr. David Sacks, if in fact there was 100% more free electricity available in this time for him, the next 10 to 20, 100x, the available energy, in other words, supply of energy just becomes flooded and it's free, essentially.
What would be the geopolitical reaction on planet Earth in terms of this incredible rivalry we have with China and for humanity on a political basis?
Such a good question, Jacob.
Go ahead, Sacks.
That's a good question.
Here we go.
Thank you.
World's Greatest Moderator, TM.
Why don't we let Friedberg answer it?
No, no, I want to hear your answer, Sacks.
But you're the politics guy.
Get in there.
Take a second to think it through.
No, I want to hear if Friedberg already has thought about this.
I want to hear his answer.
I actually want to hear your answer, like, you know, in a world where, you know, energy becomes more abundant.
David hasn't been paying attention, guys.
This is what he's trying to say.
He was just on a group drive with Tucker.
Can I just say?
Jacob, I'll call your intellectual dishonesty and raise you a steel man.
Go ahead.
Go ahead.
I love you.
I love you, Sacks.
You know I do.
Sacks and I had a great night out.
One day night.
A Sunday night.

Okay, great.
Let's talk later.
I just want to be great.
I think last week you called me petty, too.
I think that I'm just glad that you guys are fighting not me and Sacks.
Guys, please let me finish.
Okay.
I think that this breakthrough is really valuable.
I think it's interesting to see that these kinds of scientific breakthroughs continue to happen in government-sponsored facilities and not private companies.
And I think that that's probably where a lot of these innovations will continue to come from because look at the scale of what had to be built.
Three football fields and 322 megajoules of energy and 192 lasers.
This is really complicated, expensive stuff.
I'm an enormous fan of these kinds of scientific breakthroughs.
I want to be clear.
I think that where I struggle is translating this into actually an investable area.
And I worry that this is going to consume lots of money by folks that could otherwise put money to work in things that will actually pull forward our energy independence and energy abundance sooner and faster.
So for example, there are all kinds of things that we could do to secondary, ternary, third, and fourth and fifth generation batteries that aren't happening today.
There are a bunch of things that we could do to actually create an infrastructure of green hydrogen.
And the simplistic answer is we could do it all, but the reality is money is finite and we can't.
And all I'm observing is I do think that more practical things that do have geopolitical ramifications sooner are not going to get funded because people do get enraptured by this.
And my skepticism is that this is still in the realm of government sponsored research and is not really an area that for-profit private companies can tackle.
And so I would rather those for-profit companies, for example, why Combinator just today put out something where they were a call to action, a request for startups in climate.
And when you look at that list, those are really practical, investable areas.
And I just want to make sure that the capital allocators that listen to this weigh those equally.
I am glad that the US government did this.
I hope they do more of this.
But if you're asking me, quite honestly, I would rather the next $10 billion go into energy efficiency HVAC than fusion because A, fusion exists and B, I think it's going to happen at an innovative bench scale level by the government and not by a particle.
Let me just respond to that real quick.
Tamar, I think that the idea of allocating our resources as a society should be done

on a portfolio basis, 80% on the pragmatic near term, 15% on the next gen and 5% on the moonshot.
And this maybe starts to shift from the 5% to the 15%, maybe it's still in the 5%.
But I don't see kind of overfunding happening.
So I'll tell you guys, there was a survey done, there's 33 private companies in fusion that are kind of fusion companies today, VCBAC, eight new this year.
So the number has kind of increased by 33% this year.
And so far this year, those companies have raised around $3 to $4 billion.
Which by the way, is a fraction of what was done by 15 minute delivery companies from convenience stores.
Exactly, exactly my point.
And by the way, the biggest funding is happening in ITAR, which is the largest construction project in Europe.
And this is a $30 billion production scale fusion demonstration system that should be online by the end of the 2020s.
Government sponsored.
Government sponsored.
Yeah.
And so to your point.
This is my point.
I am a huge fan of government sponsored research.
Now we get finally.
The first science corner, everybody braced themselves.
It's the first science corner where David Sacks has his opinion.
Pop the cherry sacks.
Here we go.
Come on, you can do it.
You can do it.
Mr. David Sacks.
Your question was a little bit, was not a very hard question.
Let me reframe it.
Okay.
Hold on.
I'm coming in.
What's the geopolitical impact if this does happen?
100x energy is available.
Obviously it's fantastic for the United States if it actually happens.
And the reason is, if you look across the world, there's this thing in politics known as resource curse, where the worst governments, the most despotic governments, tend to be in the countries that have the biggest natural resources, ironically.
So the countries that have huge amounts of petroleum or other kinds of minerals, they tend to have pretty corrupt governments.
And the reason for that is that if you're sitting on a giant oil reserve, you don't

need to make anything else work.
You just fight over who gets to control that oil reserve.
And that's what politics ends up being.
You don't need to create policies that foster innovation or attract knowledge workers, right?
You just basically mine that oil.
So if all of a sudden you're talking about turning energy into a software problem or an innovation problem that looks a lot more like the software industry, that's an area where the United States has a huge advantage.
And yeah, I think it would pull the rug out from under many countries all over the world in favor of the United States.
I mean, it's a big if because where I agree with Chamath is this stuff still seems pretty far off and it's still pretty unproven from a commercial standpoint.
But I agree with Freberg, why not try investing in it and cultivating it and see where it goes?
Okay.
Fantastic.
This was a fantastic science corner where we actually engaged David Sacks.
Which country?
Did you find anything to disagree with there, J.K.
All right.
Take it easy.
I just want to let people know.
No, you didn't.
I think you like that answer, right?
Yeah.
Well, I love all of your intellectual- Was it steel enough for you or was it more like copper?
I love your intellectually.
It was a copper man.
It wasn't steel enough.
No, I was a steel person.
It felt silverish.
It felt silver manning.
But I love what you're intellectually on.
Silver person.
Yes, you're silver veying, you're silver thing.
Was that platinum gold or silver or steel?
I think that's your, you're in platinum with some diamond dust.
I think in fact-
Can I just say-
I spent a couple nights together this past week has really improved the mood of the show.
I mean, when you guys go out and drink together and have fun on Larry's, you guys are like-
Sax and I left our asses off Sunday night.

Can I just say, Sax and I had the best 48 hours together in a decade.
This is Sunday night.
It turns out Chris Rock and Chappelle are playing at the Chase Center, where Chimoth used to own a piece of The Warriors, right?
And this incredible arena has this incredible show.
And you know, me and Sax and some friends will leave it at that, go to the show.
Our bestie Draymond is at the show.
So I text Dray and I'm like, hey, you're going to see Chris Rock by chance tonight with Chappelle?
He said, yes, sir.
I said, hey, we're going to go with a couple of friends.
Maybe we roll together, hanging out after the show.
We go and after the game, after the show, which was incredible, we go backstage and I'm sorry, to the practice court and we're hanging out with Draymond in the practice court with Dave Chappelle.
Dave Chappelle and I start shooting hoops.
David Sax is talking to Chris Rock about free speech.
Steph Curry comes out and starts giving Dave Chappelle and J.Cow shooting lessons where Chappelle and I are breaking like old men, you know, you know, on a concrete court.
All of a sudden, Steph says, hey, J.Cow, you got it.
And by the way, he's a fan of the show, says you're short every time and just, you know, hit the backboard.
You got to go long.
You got to go to Chappelle.
You got to change this.
All of a sudden, we start hitting shots like, you know, we're on the warriors.
You're reigning threes.
You're reigning threes.
It was literally like cut into here.
Were these mid-range jumpers or threes?
I was a free throw line extended, free throw line extended, cut into here, Rain Man and Rain Dance from Along Came Polly, Rain Dance, Rain Man.
Let it rain.
Rain Dance.
Let it rain.
Let it rain.
I was hitting break after break recipes, Philip Seymour Hoffman.
So then we're chilling and Saxon and I are talking to Dave Chappelle, Joe Lacum, owner of the Warriors are there, the majority owner, you know, as opposed to you being a minority owner.
That's racially charged.
That's racially charged.
No, no.

I was speaking.
The only person who drops more names is Phil Helmuth.
I mean, I'm trying to catch up.
Absolutely.
I'm trying to catch up.
Anymore.
10 names.
He's holding back.
I'm literally...
Three names.
Sax.
Sax, am I leaving?
You want to say it so bad, but he's not going to say it.
No, I'm not going to say it.
Not doxing anybody.
Oh, you're so brutal.
They'll be zero doxing.
Oh, look, now you're so brutal.
And it's comfortable.
So we, I kid you not, Chappelle comes over and says, Jacob, Sax, you guys want to go to, after, to do a, go see me do a show at like 1 a.m. at this like local comedy club with 70 seats.
I said, word?
Yes.
Here we go at 1 a.m. Chappelle sits on stage smoking cigarettes and doing 90 second pauses and then having a beer and interacting with the audience and does a two hour set after doing this set with Chris Rock at the Chase Center.
Me and Sax and Dremont hilariously laughing.
The stuff Chappelle is a genius.
And when you see his show and Chris Rock, by the way, he puts a tight set together.
I mean, Chappelle's got this storytelling vein where he kind of meanders a little bit and then he hits you with it.
But Chris Rock is just bang, bang, bang, bang, bang, bang, bang, extraordinary.
Just two incredible minds at the top of their game.
Artists.
Artists at the top of their game doing what society needs, but more importantly, doing what David Sax and I needed, which was to laugh our asses off together and remember our friendship.
So it was a great night out.
I want to say to Bestie, Dremont, Dave Chappelle and Chris Rock, thank you.
The David Sax, J.Kalff, Bestie friendship has never been stronger.
I don't know about Freberg and Shemath.
That seems to be on the rocks.

Yeah.
That's weird.
We'll be in there.
We'll be vacationing together next week.
So we'll.
I love.
I love Freberg.
Yeah.
Well, we are going to be.
Whatever is going on, we'll take a walk and figure it out.
Well, I just want to say the alliances amongst the Besties.
I got mad at Freberg when he edited that Google bit to say the exact opposite of what he actually said.
Don't bring that up.
Don't bring that up.
Just beep that.
But yes.
That is the thing that bothered me.
I have to be honest.
That's you playing to the crowd versus you being honest and telling what you think.
Freberg.
Freberg, let me put that in the form of a question.
Freberg has your fame as the sultan of science because, listen, nobody knew who you were outside of Silicon Valley before this has impacted your ability to speak.
No, no, no, not my fame.
I look, I'll be, I'll be honest.
And I'll speak openly about this.
I had said that there could probably be a significant head count reduction of like 75% at Google and the business could keep operating.
And I took it out.
And I took it out because I have a lot of friends that work at Google.
Google is a close partner of mine.
They're an investor of mine.
And frankly, I just want to be careful about that.
It's not something I commonly do.
You know, as you guys know, I usually speak my mind pretty clearly, but I was just trying to be respectful.
And that's the reason I did it.
You know, so I think that that was fine.
What I'm saying is not that it says that the part that you edited in actually made it seem like you were not saying that at all, but the opposite.
I think if you had cut the whole thing, it would have been more honest.
But to keep that other thing in actually led the perception of the opposite.

So I think that I think, no, no, no, I don't want to trigger it.
I'm saying, I think we should have a principle.
Hold on guys.
I don't edit it very often.
I know.
I think that we should just have a principle to not play to what the perception of what we say should be, especially if it means we could be saying the opposite of what we actually mean.
That's all.
Intellectual honesty.
I think that's important.
Is a bestie tenet.
It's a bestie tenet.
I think so.
Absolutely.
Bestie tenet.
We always come back together.
We have a fight.
We always come back together.
Sacks.
Can I?
I'm still mad at you.
A little bit.
I'm just kidding.
Okay.
But talking about hypocrisy, I mean, so Chris Rock gets up there and he gets like right out of the gate.
He's attacking woke right out of the gate.
Swinging came out swinging like Will Smith.
Shook Smith, you mean?
Shook Smith.
He took down Will Smith.
I mean, the Will Smith takedown, which you will see in this special, is so complete.
It is just chef's kiss.
But how great was his set?
Let's say just give Chris Rock his flowers.
Did he filet and fricassee?
Will Smith.
He did.
But I thought the more important part of the set was the, he came right out like calling out all this, you know, you know, all of the vow woke stuff, yeah.
And there was that undercurrent to Chappelle's set as well.
And also he said, listen, words can hurt you unless you write them on a piece of paper

from time to a brick.
These, a bigger point right now, and this does tie into our first story, is I think comedians look at Twitter as a place to get canceled, not a place to be part of the discourse.
And that's a huge loss.
That's indicative of our society being broken.
And it's incredibly important that these comedians be allowed to mock and to speak and to step over the line and challenge us as citizens in a free society.
And we should cherish them, and we should not even try to cancel them.
Let them cross the line.
Let them say things that make us uncomfortable so that we can understand ourselves and our society better.
And I just want to say.
Why can't you include Libs as TikTok in that?
Do we want to have a discourse about it?
Oh my God.
Let's go.
What's the next topic?
No, I don't want a conversation about it.
I'm just asking you.
I'm okay with mocking.
No, don't start.
You guys, you did so well.
Come on.
Let's go.
Here we go.
No.
J.K.
I'll cut it out.
All right.
Well, we have two more science corners to get to.
All right.
You know what?
I mean, I just want to say that.
No, let's talk about the Koopa deal.
And, Sacks, this is right up your alley.
Have you...
I'm going to pay a lot of attention to it, to be honest.
Oh, really?
One thing you guys asked is like, you know, what signal will Elon's moves at Twitter be for the rest of the tech industry?
I think the biggest wake-up call is to actually PE companies.
So if you played this out and you think that Koopa is, you know...
Explain what Koopa is, please.

Koopa is a software as a service company that does revenue management, I guess, or expense forecasting, or something in the financial realm.
I don't particularly know, to be honest.
But anyways, this is a company that was off 70% or 80% from the high, like a lot of SaaS companies were when rates started to go up.
And they got this offer from Tomobravo.
But here's what's so interesting about this deal.
If you think that, you know, these guys bought a company, I'm just going to make up a number, at 20 times EBITDA, right?
And you see Elon at Twitter and you think, well, wait, maybe we can't cut 75%, but maybe we can cut 50% of headcount and the company can still do well.
And you know, you take half of the expenses out of the business.
All of a sudden, you know, if you're EBITDA doubles, you're actually buying it at 10 times.
So I think the thing that is the real insight here is twofold.
Private equity can still put out a lot of private credit to fund these deals.
And SaaS companies are perfect because they have huge free cash flow, right?
So instead of funding it based on earnings, they can fund it based on ACV and ARR.
So private equity will be super active.
And two, all these rifts basically show what the efficient frontier is for the number of employees you need to run a company.
And if you can cut 50% of the headcount, private equity folks will do that.
And so I think Kupa is like the canary in the coal mine.
It is the beginning of what I suspect is a tidal wave of PE-sponsored deals in tech companies, largely SaaS, but may go into other realms, taking advantage of these two things.
Tap the private credit markets and finance it based on ARR and then fire 50% of the team and double earnings capacity.
So on Kupa, I thought the most interesting thing was just the, we got a public comp.
So we got a comp on what private equity is paying for public companies right now.
So the deal happened at an $8 billion valuation that was a 31% premium to the public price.
It was 8.4 times next 12 months revenue.
And on a trailing basis, it was about 10.4 times the last 12 months revenue.
And by the way, all the comments were around how what a rich price Tomor Brava was paying.
People generally thought they were paying a premium to the valuation.
So by the way, Sacks, it was 77% premium before the rumors came out that this was happening.
So it was a pretty big premium.
Yeah.
Good point.
And there was a bidding war with Vista.
And so it was a really rich kind of deal that got done here.
So my point is that people thought this was a really rich deal.
And yet the valuation multiples are so much lower than what private company founders expect.
So remember last year at the peak, founders were thinking 100 times ARR was normal, 100 times.

And you could roughly say ARR is roughly equivalent to next 12 months revenue.
It's not perfect, but it's roughly the case.
So these founders were expecting a valuation multiple 10 times what the public markets are paying.
And actually, the public markets are half of where Tomor Brava was in this particular world.
So the public markets right now are valuing the median SaaS company at about five and a half times.
And a high growth, that'd be for like a 20% year we were growing company.
And they're valuing the high growth companies that may be eight times.
And Tomor Brava did this at 10 times.
So that gives you a sense of what the ballpark is.
And these are companies that are already public, they're at scale.
They're doing roughly a billion dollars of ARR.
They have already kind of won their category to some degree, whereas private companies are subscale.
They're, you know, typically you're talking about companies with one, five, 10, usually under 20 million dollars of ARR.
They're not de-risk, they're still a ton of risk.
We've seen many, many SaaS companies fizzle out and plateau at 20 million of ARR, never get to 100 million, never mind a billion.
And yet these founders think that they're entitled to, you know, even in this market, 30 to 40 times ARR, no way.
I mean, like it's getting to the point now where, you know, maybe it should be 10 times, 20 times, like max, and that'd be for a company that's growing two and a half, three X year over year.
So I still think that, like, so I think basically what we're seeing here is even a good scenario, like a coop acquisition that was done at a premium, like it's still a wake up call to the private markets that the valuations are still completely and utterly out of whack.
Yeah.
Let me ask you a question, Zach.
So this company was growing 45% last year, they're growing 35% this year, and they got this multiple.
Why is it not worth a significantly higher multiple if a company's growing two and a half to three X, which is 250%, 300%, and these guys are only growing 35%?
Sure.
I mean, it is, and that's what you're paying a premium for.
But so the, so the, here's the theory of it is that if you can invest in a private company that's say tripling year over year, and they can do that for another five years or whatever, then you're paying for that, you're paying for that outcome in a couple of years.
Yeah.
Basically, well, think about it.
If you're paying.

You're getting a discount to the outcome in a couple of years.
Well, if you're paying 30 times today and it triples next year, you're only paying 10 times next year.
And if it triples again, you're only paying three times.
So if that keeps going, that's where your arbitrage is.
But here's the thing you have to weigh against that is that these early stage private companies, many things go wrong and they hit a plateau, they fizzle out, or their growth rate starts to, the bigger they get, the harder it is to grow.
They should be priced at a discount, not a premium because there's risk.
There's more risk.
They're growing faster, but there's more risk.
But also it's very hard.
Once you get to a bigger number of ARR, 50, 100 million of ARR, it's extremely difficult to be doubling or tripling year over year.
Let me just point one thing out.
So I looked at the numbers on Koopa.
I think they had about 170 million of stock based comp expense in the last nine months.
So those are employees that are getting 170 million dollars in compensation in the form of shares.
So they get those shares, they can then sell those shares and get cash for them on the public markets and pay their bills.
So when a company like this goes private, for those employees to just remain at their baseline comp, that stock based comp needs to be replaced with something else or else they're seeing their salaries reduced.
So there's this balancing game when these companies go private in terms of how do you give them the comp that they're earning to keep them engaged in the business?
The answer is you don't.
No, but you let them quit because you want to do a riff anyway.
Right.
But for the people that stay, right, so there's a balance because it's not just, hey, cut the OPEX.
You have to cut the OPEX including stock based comp.
And this company generated about a hundred million dollars, sorry, $210 million of free cash flow or operating cash flow in the last 12 months.
So if you take out the stock based comp, these guys are actually break even or losing money roughly.
Yeah, break in.
Yeah.
And growing.
Yeah, break even roughly.
So there's a real question mark on this business and businesses like this that go private where if you actually cut the OPEX and you cut the salaries and you cut the head count, but you have to find new ways to pay people because you've been paying them with stock in the

past.
How do you kind of bridge that gap?
And I think that's probably a little bit of the balance and the art of what these guys do well.
All right.
Jamath, if I may, can you explain to the audience what a private equity firm's expectation is in terms of return when they buy a company like this and then Sax, I saw your tweet that you want to feature and you'll go next.
Good, Jamath?
Well, I think it's changed over time and this is what's so powerful about the private equity industry, look, you have to think about what their incentive is because it kind of guides the office.
Early on, they were very much like venture capitalists.
They were out in the, you know, edges of risk taking, doing all kinds of very difficult gnarly deals.
So if you look back in the history of private equity, you know, these huge crazy deals like RGR and Ibisco or TWA Airlines were the first of the industry and they reaped enormous returns, but there was a lot of risk and it required very heavy handed management.
Oftentimes, what that meant was firing a lot of people.
Over time, private equity has gotten institutionalized and they don't generally feature themselves as a place to get the best necessarily returns, but they are places where you can put, you know, enormous amounts of money where the likelihood of loss is extremely zero and you generate very good rates of return.
Now again, this depends on whether you want to look at IRR or DPI, right?
So a lot of people will market IRR, which, you know, I think is kind of like a gameable metric, but, you know, those IRRs can be 20, 25%.
If you look at DPI, which is really how much cash you get back, you know, private equity firms can generate one and a half to two X of the money you give them, but they do it consistently and they very rarely lose money.
So all of that is important into understanding what's going to happen in this cycle.
These folks are going to buy a ton of these private software companies.
I think that they are going to fire lots of people.
I think they are going to make these companies run hyper efficiently and they will make sure that they generate that 1.2 to 1.7 X that has been historical.
Very rarely will they lose money in these things.
By the way, that's going to mean that a lot of these other companies will have to reset valuation.
So you saw yesterday, checkout.com went from a $40 billion valuation down to 11.
You're seeing some companies only go down 10 or 15%.
It's a process.
Isn't it Chamath?
Isn't this just like what happens in real estate where?
Beginning of this process.

Yes.
Because in real estate, my understanding, having lived through these Bhubma cycles is the person living in the home still believes their home is worth this incredible valuation.
And then the people who want to buy it are like, that doesn't match reality.
And then the real estate brokers go back and forth trying to get people to go through this messy middle and come to true price discovery.
A private company, it's hard to get true price discovery until they're on the brink of insolvency.
They don't have the money.
Right.
We just got some data on that.
Actually, can we bring this Cooley data in?
Let's do it.
Yeah.
So Cooley looked at...
A law firm in Silicon Valley.
Yeah.
They're a prominent Silicon Valley law firm.
They looked at 1,000 deals over the last three quarters of this year.
And what they saw is that the later the stage, the bigger the valuation correction.
So series D rounds went from $3.5 billion to $527 million.
That's an 85% drop.
Series C went from 502 million to 130 million, that's a 74% drop.
Series B went from 164 to 90, that's a 45% drop.
And then series A went from 58 to 45, that's only a 22% drop.
There's just less room to compress there.
But the point is that series B, roughly a 50% drop.
Series C, roughly a three quarters drop.
And series D, roughly a 85%, yeah, one seventh drop.
So I think founders right now, they're just a little bit delusional about this money they raised last year.
They're still way too anchored on last year's valuation.
And if only they would think in terms of this capital they raised last year, in terms of its real dilution, in terms of what the company is worth now, I think they'd be treating it more precious.
So for example...
Yes, sex.
So for example, hold on.
It's like they won the lottery and they don't realize they won the lottery.
I had this conversation with the founder.
This is the only money they're ever going to see is the bottom line.
And they're spending it like they're going to win the lottery every year.
So for example, let's say you take a company that raised 200 million last year at 2 billion.
So it was 10% dilution.

So in their heads, they're thinking, oh, well, this isn't that expensive, like 10% dilution is a rounding error.
But really, probably the company is worth maybe 400 million now, right, because it's gone down 80%.
This 200 million of your 400 million is half the value of the company.
Yes.
So you're squandering it.
You're squandering it at a rate of 100 million a year.
So you're basically burning up 25% of the value of your company this year and then next year.
And then by the way, you're going to be in crisis after that because you're probably...
Like a lottery winner buying like a giant super yacht.
I had an observation that a lot of the investors that sit on the boards of these companies, they have an incentive to not see those valuations come down too quickly.
Do they not?
And so there is this interest in, hey, I don't want you to have to go reprice the company or do a down round because then my portfolio gets written down and then I'm in the middle...
Everyone's always in the middle of a fundraising cycle with LPs.
And then I'm going to have a tough conversation with my LPs about my values.
So do you not see VCEs and investors playing an active role in trying to keep the valuations propped up to some extent, particularly where they have big markups 100% either by extending bridge rounds or doing other sorts of...
Look, nobody likes to go through a down round and that includes founders and existing investors in the company.
That being said, we're not talking here about new financing conversations.
We're talking about is advice that is happening in board meetings.
And maybe other VCs aren't pushing as hard as we are, but the advice I'm giving in board meetings is what I'm telling you publicly today, which is this is the last money you may be able to raise on attractive terms, if at all, you need to treat it much more preciously.
The world has fundamentally changed.
And by the way, we haven't even gotten into what's coming, the demand contraction that's coming next year.
Explain what demand contraction is for the audience, please, thank you.
Okay, look, there's going to be three major sources of slowdown for software companies next year.
Number one, new business is going to dry up.
Companies are just going to be spending a lot less money next year because they're all cutting costs.
So you should expect your new business to be roughly 50% of what it was.
Next year, it'll be 50% of what it was last year.
That's my rule of thumb for most companies, new business down 50%.
Number two, churn is going to be higher.

We haven't seen that much logo churn yet, but next year, a lot of companies are going to start going out of business and it's going to happen over the next two years.
So you're simply going to see logo churn rates, say, among small businesses go from like a historical norm of 15% to maybe 25 or 30.
In other words, your customer, the logo, goes poof.
That's what a logo means.
Yes.
The actual entity.
Yes.
Logo churn means the entity doesn't exist.
Then you've got seat contraction, which is these companies are not hiring as fast.
In fact, they're doing layoffs.
So they're simply not going to buy as many seats of your software as they needed to in the past.
For the last decade, we've had a tailwind, an enormous tailwind for software companies of seat expansion, which is every year your existing customers would buy more seats of your product for their new employees.
Now they're actually going to have fewer employees or maybe headcount freezes.
So they're actually buying fewer seats.
By the way, if you take all those three things, the deal of the century was Figma selling to Adobe for 20 billion, because if you take those three things, I mean, oh my God, they just absolutely top tick before any of this stuff was known.
So today Adobe could probably buy this thing for like 7 billion instead of 20 billion.
So does that mean they try to do a breakup thing and get out of the deal?
I don't know, but if I was Figma, I'd try to close this thing ASAP and get that money back.
Yeah.
Yeah.
You're right about that.
One of the founders is that they still want to grow 100% plus over the next year.
The problem is that the headwinds are going to be intense.
So if you're flying a plane and the headwinds are extremely intense and you try to maintain your speed, you're going to burn an enormous amount of fuel.
You're going to be incredibly inefficient.
It's better to basically just moderate your speed, let the headwinds basically pass.
We're going to have major economic headwinds for the next four to six quarters, call it year and a half.
It's okay to have a slower growth rate, preserve your cash, don't burn up your fuel.
Yeah.
Bunker down.
So what we're trying to do is we're trying to give permission to our founders to grow at a slower rate because they feel this enormous pressure from their VCs to grow at insane rates.

Can I build on this?
I think Friedberg said it very well.
The scam in venture capital is demonstrated in the following chart.
This is using Cambridge and our friend Brad Gerstner helped put this together.
So what is this?
This chart goes back all the way to 1997 and the gray bar is what venture capitalists share with their limited partners as to how well they are doing.
The top quartile of venture capitalists.
And this is the top 25%, okay?
So this is a venture capitalist and our returns have been consistently top quartiles, so instead of cherry picking anybody else, I'll just use us, but it could be Sequoia, Benchmark, you name it.
We're in there.
We'll launch.
You would go back to folks, craft.
We'll go back to folks and say, hey, guys, the total value of our portfolio is three times your money in 1997's vintage, okay?
It was four times your money in the 2010 vintage.
Feels really good.
But again, the job of the venture capitalist is to convert the gray bar into the purple bar.
And historically, there's been a decay.
So for every dollar of gray bar that you show, you typically only get 73 cents actually returned to people.
Okay?
The paper value, the book value versus you.
The valuations that you get when you sell your company or it goes public end up being 73% of what you marked at the peak, what you said they were worth it.
Exactly right.
And the actual value of this purple bar going back 30 years is 1.7X.
So just to put numerical numbers on this, if you were a venture capitalist, you would raise $100 fund.
At the peak, you would actually show that that $100 became $200 and about $28.
But when push came to shove and when it was all said and done, you would return $170 back to your investors.
That's the rough equation.
So what's the problem?
Well the problem as you can see in this chart is right around 2015, which is all of a sudden what we've started to see are these continually elevated gray bars.
Yes, this stuff is worth seven times, six times, five times.
But we have not seen the purple bars catch up.
Now some people will say, well, yeah, but you have to give it time and you know, this is how we work.

It has to bake.
That's reasonable.
And all you need to do is do what's called a regression.
And you need to regress these things to the mean and make the following assumption.
Assume for a second that this time is not different.
Assume that these historical averages, 2.2X, 1.7X holds, well, that's what the black line here shows.
You can calculate the area above the curve as the value at risk, right?
The amount of money we will destroy because of all these shenanigans that Friedberg just talked about, propping up marks, not willing to look at actual market clearing prices.
Well, if you do the math, the sum of the area above this black line is almost a trillion dollars around the world, and it is about $600 billion for US venture capitalists.
This is the dynamic that the private equity industry is going to prey on.
So if you saw Tom Abravo just close the $32 billion around, you know, Vista's raising a $20 billion around, everybody's stepping into tech, they are going to destroy those gray bars.
Would you describe that as bottom feeding?
No.
No, by the way.
They are the rational actor who is finding the true market clearing price.
The true market price.
I think the private equity industry is unbelievably precise and talented in being dispassionate and telling us what these things are worth.
They're cutthroat.
They're logical.
They're not cutthroat.
They're just smart.
That opportunity for the private equity industry is going to be created by profligate founders.
And look, you could blame VCs for the high marks last year as well.
They were profligate too.
But look, if you're a founder, if you don't start acting in a more capital efficient way and preserve your cash, your company is ultimately going to be owned by a private equity firm, and they're going to make all the money.
Well, here's an important...
Because when you sell to them at a low price, all you're going to end up doing is paying back the liquidation preference.
And then that private equity firm that was willing to do or less, but that private equity firm will be willing to do what you were not willing to do, which was simply cut your burn, cut your costs, and acted in a more capital efficient way.
And they will end up making all the upside for your decade of hard work because you got basically addicted to venture capital and the high evaluations and refused to, again, adjust to the regime change.
I agree with that.

I'll give you an alternative.
The alternative is that the majority of acquisitions made by private equity firms are not actually pure acquisitions.
They're bolt-on acquisitions, meaning that these are companies that are added to existing platforms that they own.
So this acquisition they're doing of Koopa, I think it's very likely over the next couple of years, you will see like the playbook in private equity includes not just cost cutting, but also synergy building.
And they typically do bolt-ons and add-ons.
And this happens across all private equity platform deals of new products and services that can be sold through the existing sales channel, the existing customer base, and as an add-on to the existing service or product that's already offered.
So one of the things that I think you may see in Silicon Valley over the next couple of years is a rationalization away from funding feature companies and thinking much more carefully about what can be true standalone product companies.
And many of these companies that have raised a ton of capital and have gotten crazy valuations, at the end of the day, they're more likely better equipped to be a feature of another platform than they are to be a standalone platform company of their own.
And that's where the majority of these acquisitions will likely end up going in the private equity landscape and they will be vacuumed up and attached to existing platforms that these private equity guys are building out.
And by the way, just look as an example at what Oracle did over the years, what Salesforce did over the years, what Google did, so many of these companies.
Built on acquisitions, built on acquisitions, by building a sales channel, building a platform, and then adding on top of that.
And I think that's what a lot of these guys are going to try and mimic.
Two critical points.
Number one, what about the bottom 75% of VCs?
If you show that chart just for one more second, I just want to remind everybody that is the absolute cream of the crop VCs.
Top 25%.
This is the best of the best.
These are folks, I mean, again, I'll just say us, Sequoia, Benchmark, we've consistently been part of.
Launchcraft.
Thank you.
That's how return streams.
Thank the Lord.
What about the bottom 75%?
They're not going to be able to raise funds, man.
It's over.
A lot of these people who raised first time funds in the last three or four years.
It's also the companies that Saq said because like, today is the moment, now is the moment

for the sober founder and the sober venture capitalist to sit and say, what is the real valuation?
What do we need to do to make sure that this company has a chance?
Because what Saq said is so true, otherwise, all these profit dollars will be made by the private equity.
In order to win today, you're going to have to grind.
You're going to have to work 50, 60 hours a week.
You're going to have to be absolutely embrace the age of austerity and you're going to have to focus on your customer, your product and your bottom line.
The age of excess is over.
If you're not working 50, 60, 70 hours a week, you're not going to cut it in Silicon Valley.
Also key second point, profligate.
Extravagant are wasteful in the use of resources just so we get the word of the day from David Saq's, that's David Saq's word of the day.
After a very powerful bull weevil.
Bull weevil?
That went crazy.
Did you see the Tremont?
Bull weevil went viral.
This is, I think, Elon's biggest non-obvious impact in this moment.
Jay Tau, here's your one answer to your question about what happens to the bottom 75% of venture firms.
It's equivalent to what happens with the kind of, this is the bottom of the top, the slide that I just shared, it's the one we looked at a few weeks ago.
I keep referring to it because it's just such a staggering demonstration of what people call the power law, which is how excess returns accumulate to minority of investments.
Just a few investments make up the bulk of value that the market cap of 43% of companies that have gone public since 2020 is $750 billion.
The market cap of the other $300 is only $26 billion.
The cash that went in to the $750 billion is $136, and the cash that went into the $26 is $107.
The cash that went in to generate that $26 billion, that $107, that's your bottom 50%.
The top 50% put in $136 to make $750, and I think it gets even narrower as you move further up to that top quartile.
I can tell you what LPs are saying because it's a hard business to try to shift.
This is the companies that went public.
This is also of the top company, of the top funds and the top companies that were actually able to IPO.
It highlights how much of a power law actually plays through.
The majority of these companies, Chumath, even in your chart, you show the top quartile.
The bottom 75% or the bottom 50%, I've looked at this data as well of those various vintages are below 1.0.
They lose money for their LPs.

Consistently.
Consistently.
It's a cycle.
What ends up happening is the next generation comes through, and LPs, they make a portfolio of bets, and they hope that they make enough bets in the right VCs that their portfolio generates greater than market returns, greater than, call it 15%, 20% target, 15% target, but they're going to expect that the majority are not.
LPs, I have an LP of report.
I'm out there raising launch fund for right now, and I moved from the accredited, the individual investors.
Oh, yeah, because you're in the Rochester.
So I'm publicly raising it.
And I've moved on from individual investors, $45 million in commits after five webinars.
Amazing.
Now I'm talking to...
No, it was amazing.
It's just 5060 is going to change the entire industry, letting the masses have some access to this capital and this opportunity, accredited and QB is going to change the world, I believe.
Do you have to deal with every one of them, or is it easy to administer?
It's incredibly complex because you have a large number of people, and they all want to talk to me.
So I did webinars, five webinars, and it resulted in hundreds of commits for $45 million per side.
But you'll be able to get all those capital commitments drawn down when you need to.
Like you have to go ping a couple hundred people and get them all the wire money, or every time you get out of this.
You need to have more operations people, and we only do four.
We let them...
Jason, one thing you may want to do is like for these smaller slugs, is you can pre-wire, you can set up an escrow can, where you pre-wire 100% of the capital.
Yes.
And then you also don't have to...
You take it down when you're going to deploy it, so you keep your IRR correct.
So we're actually looking into those solutions, I'll talk to you offline.
But I just did my first two meetings with endowments, et cetera, fund to funds.
The entire discussions right now are around, what is your secondary strategy?
How are you getting in earlier, not later?
And how are you building a larger position?
It is...
And even like some of the QPs who are sophisticated and are in over 10 venture funds.
The entire discussion, governance of these companies.
Are you taking board seats or not?
How early are you getting in and building a larger position over 10%?

And what is your secondary strategy?
When are you going to start taking some chips off the table?
And I got to say, if you're an LP who didn't sell into the upmarket at all, and you're on your first fund, and you had all these great marks and they're coming crashing down, they're not going to deal with you.
They just have too many options of top funds in the courtroom.
I don't think they've started to come down yet.
I don't think we know what the top quartiles were they going to look like over these last few years.
I think that's going to take four or five years to really sort out.
Of course.
Yeah.
So I think...
Explain why, Chamath, just so people understand.
Yeah.
I understand.
Well, I think that there are lots of valuations that have supported huge TVPIs, these paper gains that have allowed venture funds to raise enormous amounts of incremental capital and new funds.
And so they are going to try to wait as long as possible before they're held accountable for that.
And the best way to do that is to not change the valuation.
And so it will happen slowly.
It'll be a trickle of these things.
And I think that takes probably four or five years for it to really sort itself out.
But in the meantime, companies will still need to get financed.
Companies will still need to get built.
That's why I think the public markets, I think what Saac says is true, giving us a signal of what these true market clearing prices are, will eventually slip into these Series D or E companies because a venture capitalist who has now taken some big write downs in one part of their portfolio, I suspect will now be very open to selling to private equity for another part of their portfolio so that they can return capital.
Totally agree.
Yeah.
It's going to be rough out there.
You guys watch White Lotus?
Yeah.
I just started Season 1.
I'm the third episode in.
Okay, we won't say anything.
What a treat.
We won't say anything.
But how great was Season 2?

The wrap was awesome.
It's just incredible.
The last two episodes were extraordinary.
Yeah, let's not say anything.
What a great show.
Nat and I just finished watching All of Handmaid's Tale, which I will tell you is that is a fucking stressful show.
It's like you're putting in work when you're done those episodes.
It is emotional labor.
You know when they said this emotional labor?
Watching that show is like, it could not be more sadistic and insane.
It is brutal.
But you can't look away.
Incredibly well done.
All right.
Listen, this has been an amazing episode and this is news for the other besties.
Friedberg and I have been secretly collaborating.
We have come to a plan that we're working on a joint plan for All in Summit 2023 because we are both helping each other out on secret projects.
I'm ready to tip, guys.
I love it.
The tip.
Oh, the tip.
I don't even know.
That's it.
We don't need you, Saks.
I'm a permanent no.
That's all.
That's fine.
We know that.
I know.
I love that I have Saks as my anchor on this one.
I can always float back that way if I need to.
This thing can flip.
But Friedberg and I.
I'm like the octopus floating in the ocean right now.
In this case, but power and influence is something that Friedberg and celebrity.
Friedberg had so much of a good time at All in Summit 2022 that his hatred of my producer fee is less than his joy from the event.
And we are collaborating on Super Gut.
Super Gut.
I have made up for my producer's fee by using Super Gut and becoming a big proponent.
I have an answer to make that.

Use the promo code.
How much has he paid you for that?
That's the quick, real quick.
Oh, yes.
Yes.
No conflict.
No interest.
No conflict.
No interest.
That's what's going on here, Saks.
Super Gut bars.
Amazing.
I mean, the only the only person that you haven't taken money from is SBF.
I mean, pretty much your relationship with anybody else, by the way, can I point out on the most lonesome person in tech, uh, bracket.
Oh, wait.
Can we go through it?
How about it?
Do not name the podcast.
Do not name the podcast.
I'm eliminated already in the first round.
This is bullshit.
No, I thought you win.
No, I thought you won.
No, he lost.
He lost.
He was.
Okay, let's pull up the bracket.
Do not mention the podcast.
Come on.
How did Andy Jassy get on your, do not, I only want the bracket.
Do not mention the pockets.
We're not giving them any.
Just black out that, um, in post.
I want you to black out the logo.
Take it easy.
I don't want to give these guys any credit.
So here we go.
Okay.
The worst person in tech.
This is great marketing.
It's Chamath and Saks.
We wouldn't say it's a B podcast.

That's run by literal socialists.
Oh, well, look, Chamath got a very tough draw.
I mean, of course you lose to SBF.
Of course I'm going to lose to SBF.
Yeah.
That's ridiculous.
That's just, you know what?
You went up against the Warriors with KD.
It is no way to win.
That's tough.
That's a tough draw.
You had no shot.
You guys should have been on that.
What about Saks?
Easy draw.
Saks is in the most hated person in tech by 1%.
That's bullshit.
Nobody even knows who Andy Jassy is.
I don't get it.
Andy Jassy is a complete gentleman.
Andy Jassy is delightful.
I got to be honest with you.
David was human compared to Andy Jassy.
Just in spite.
That is, I want to recount.
Saks.
No, I want it to win.
Saks.
I want to recount.
This is election interference.
They mentioned union busting.
This is election interference.
Hold on a second.
I guess it's worse.
Something you're a specialist in.
You could be a union busting Amazon CEO than a reactionary conservative investor.
Yeah, I don't get it.
This is ridiculous.
I just want to point out that the biggest travesty here is that I did not make the list.
There are, and you know what?
These guys are trolling me.
These guys, shout out to producer Nick who just retreated.
You basically picked the, what is it, the 30 most relatively well-known people in tech.

That's what tilts J.K.
This is terrible.
Worst person in tech.
I don't make the list.
I'm going to double down this year.
Yeah, because you're constantly cowtowing to the media.
You're right.
You're right.
I need to be horrible.
Stop with that.
Stop.
I need to be a worse human like you, Saks.
I'm going to try my best this year to work against humanity and society and be more lonesome than you.
I'm really going to redouble my efforts.
You're botting me, exactly.
Obviously, I can't catch up with you.
You buy into all their phony narratives.
I'm too kind.
I got a big heart.
I care.
I have empathy.
You're doing it right now.
But here's the problem.
These guys left me off on purpose.
Who can pull up the replies between Andreessen and Bill Gates?
Oh, Andreessen.
That's a lock.
That's Andreessen.
Of course.
Andreessen crushed him.
A-16, co-founder and man of terrible g-year-old.
I mean, Mark Andreessen is a world-class shit-poster.
Bill Gates is hiding somewhere.
Nobody, Bill Gates doesn't tweet.
Mark Andreessen blocks, unblocks.
He shit-posts with the best of them.
He's up there.
I mean, that guy's a dark meme lord.
Any other?
I mean, I really sympathize with you, Chamath.
You got your ass handed to you there.
That's just, that's like going up against the dream team.

Hold on.
Hold on.
Slow down, bro.
You're not even letting us read these things.
All right.
Give me an example.
Okay, wait.
Don't look at this one.
Twitter, former idiot CEO versus Airbnb CEO making, I'll say more, I'll say more.
Oh, God.
It's so brutal.
Oh, my God.
That's so well written.
Brian.
He's a great guy.
So guy, guy who really tried to make us believe Web3 was going to happen versus Worldcoin and open-
Of course, critics and wins.
Much more lows than Sam Altman.
Of course.
Guys, this has been fun.
All right.
Listen, Freiburg, you didn't even come.
I want to just congratulate Freiburg on an amazing, the best science corner ever.
An amazing product in SuperGut that has helped me lose weight.
I feel great.
And four, you know, recovering from whatever illness you had.
All right, everybody.
I love you besties.
Shout out to David Sacks.
Love you guys.
And we'll see you all next time on the All In podcast.
Love you besties.
Love you guys.
And we'll see you all next time on the All In podcast.
Thanks a lot.