

Twitter Thread by Shaan Puri



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@ShaanVP



Elon Clubhouse summary for those who are locked out:

Q: When are we going to get to Mars?

@elonmusk (says some smart space stuff)... I figure... idk.. ~5.5 years.

Q: What will it take to go to Mars?

@elonmusk You need a fully & rapidly re-usable rocket. Rapid is imp.. can't take months between flights. Needs to be like airplanes where the biggest cost is fuel.

And be able to send 2nd rocket to re-fuel

And be able to make fuel on mars

Q: Why does being able to have humans on other planets matter to you?

@elonmusk - I was trying to figure out what the meaning of life is. Why are we here. Got kinda depressed.

What broke me out was reading Hitchhiker's Guide to the Galaxy.

Inspired to explore the galaxy

(I'll keep tweeting the convo in this thread)..

@elonmusk - all civilizations fall. Romans, Mayans, Babalyonians etc..

Most likely we will too.

So I think for the first time in 4.5B history of earth. It's now possible to make life multi-planetary. Let's take advantage

Q: When we get there ... you have to setup civilization there. How will that work? Rules? Clothes? Internet?

@elonmusk - yea..all those things need to happen

I won't assume how we do it. We just have to get people there, and make it self-sustaining before earth ends

@elonmusk "It's a race. What comes first. A self sustaining civilization on mars, or World War III"

Q: what do you see 10 years, 20+ years out?

@elonmusk it will start as just a remote outpost. Not a fun, luxurious place.. Gotta go there, build a propellent plant. Get food production going.. iron ore refinery..

build the fundamentals until it's self sustaining.

@pmarca Do you think the mars civilization will turn out differnetly than earth bc of how hard it was to get it started?

@elonmusk - yea. probably will.

the fact that you can only go every 2 years.. that time gap will mean that there's a new cohort arriving every 2 yrs.

@elonmusk as far as we can tell. Live conciousness is only on earth. Maybe it exists elsewhere. But we only have evidence here on earth.

If we had any evidence of aliens. I would be the first to jump on it. But I have seen no such evidence.

Q: Do you think we will ever run into aliens? How should we think about them?

@elonmusk I try to be scientific. I'm not saying there aren't aliens. Just saying so far nothing meets scientific burden of proof.

The pics need to be at least "7-11 ATM good"■

Q: When will you let your kids go to mars?

@elonmusk after maybe 3-4 succesful landings..that's probably good enough. But I've asked them, none of them seem to want to go

Q: You said "he who controls the memes, control's the universe"

@elonmusk : it's just a pun from Dune. But there's some truth. Who control's the zietgiest. Meme's are interesting. If a pic is 1,000 words. A meme is like 10k.

idk - I love memes. So .. yea.

Q: How did you get so good at memes?

@elonmusk - I was one of the first 10k users.. then stopped... a lot of people said he's gone crazy on twitter. No no.. I

STARTED crazy on twitter

I make some. Some are sent to me. I have some pretty kickass meme dealers ■

Q: Why should we care about Neuralink? what is possible with it?

@elonmusk it answers a concern I have, if AI is super powerful..how do we go along for the ride?

We are already cyborgs. We carry a phone in our limb.

But the speed between brain<> phone = slow. 100 bits/sec

computers communicate at trillions of bits/second

A computer talking to a human would feel like a human talking to a tree.

Neuralink connects your brain to your computer. So that it speeds up the communication between those two by ...1000x?

It will be like telepathy. Instantly just thinking and it resulting in action.

You can probably also "Save state". Like saving your brain at a moment in time.

It'd be like saving your game in a video game.

That's long term stuff. Short term .. the idea is just to address brain injuries and spinal injuries.

Make up for lost capacities by implanting a chip.

First thing is to help paraplegics control a computer/mouse just by thinking. Massive.

"It's like a Fitbit in your skull with tiny wires that go to your brain"

Then he said something about a monkey who is playing video games with the chip in its head at their office. Or something.

The early implants will come with risk. So we need to go with cases where the good outweighs the bad. And explaining the risks clearly.

Plus being able to take it out.

We've tested implantation and removal. "works great".

Q: What is the best way to think about educating a 5 year old in today's world?

@elonmusk: hmm.. my kids were mostly educated by YouTube and some classmates. But they spent most time online.

I think generally you want to make it as interesting/exciting as possible.

One thing a good video game does to keep someone engaged/interested... do that for education.

Also, explain the WHY. why we are teaching you this. why is it relevant.

We are evolved to forget stuff that's irrelevant. Unless relevance is clear. People will forget.

And some kind of narrative of problem solving.

It's better to teach someone how an engine works by taking it apart, and putting it back together.

And what tools are needed. Wrenches, etc..

Much better than getting a lesson on Wrenches

Teach ppl what tools do by using them

Q: How do kids become a polymath (good at lots of stuff) like you? Why doesn't the world have more Elon Musks?

@elonmusk - I might be getting too much credit here.

I did these companies bc I felt strongly compelled to do them. Nobody pushed me to do it.

Elon - There have been stretches of my life that have been very painful and difficult. I'm not sure people would want to do that.

If someone wants to be me or do what I've done. Most probably, you don't want that. It's like having a demon in your skull

Elon - People ask me - what encouraging words do you have for people who want to do a startup?

My answer is - if you need words of encouragement, don't do a startup.

Q: Let's talk Bitcoin. You just changed your bio to Bitcoin. What's your take on the whole thing?

@elonmusk " I gotta watch what I say here. Some of these things can really move the market."

My friend had a bitcoin cake in 2013. He fed me a slice of cake with it. I should have bought some.

I was a little slow on the uptake. My apologies.

I had to think about it.

I do think bitcoin is a good thing. I am a supporter of bitcoin. I'm late to the party.

I think it's on the verge of getting broad acceptance by finance ppl.

I don't have a strong opinion on others. I joke about Dogecoin. The currency was made as a joke... but fate loves irony.

Arguably the most entertaining outcome is Dogecoin becomes the currency of the future

Q: Where do you see the future for Tesla, when it comes to battery tech & self driving?

@elonmusk - we need to make ~20M cars/trucks a year. You can't really change the world without making at least 1% of the fleet on the road

Limited currently by battery cell production

Self-Driving makes any car way more useful. Typical car driven ~12 hours a week (~1.5hrs a day)

there are 168 hours in a week. 7% usage.

Self driving could take that to 35%? And good for the environment.

Need fewer cars & parking garages to get same transport done.

Q: You made headlines a while back by criticizing (shitting on) LIDAR - why?

@elonmusk - ya know, sometimes I'm just talking smack.

■■■

Elon - long answer. LIDAR good in some cases. But self driving can be solved with passive optical. 8 cameras on a car.

Humans are like 1 camera, that's often distracted (or drunk)

No question you can get super human driving with cameras

Radar can help.

Q: People are very interested how you work. It's monday morning, you wakeup. What is a typical work day.

@elonmusk I wakeup and see if there's any emergencies. Often there are.

A ton of what I deal with is not fun or interesting. It's chores.

"I do enjoy in person meetings more than email.

Texts are way better. In person much better. Even zoom.

Anything is better than email." - @elonmusk

Most of my meetings are engineering & design. But of course you have to deal with finance, sales. Things a company needs to function.

Lots of context switching. Which is a mind killer.

I try to do less of that. Switching between companies, personal stuff, memes..

Q: Do you have open times/open space?

@elonmusk I do not have a lot of open space. It's back to back meetings. And it's kind of insane. waves of information.

I don't recommend it.

How long can I keep this up, don't want brain to explode? Maybe i'll take a week off sometime

Q: Do you still sleep on the floor at the factory?

@elonmusk only if there's like a crisis situation. And when we're asking other people to work really hard. They come to work at 4am and walk past me sleeping on the floor.

Ok if he's willing to take this much pain. I can too

Q: did you sleep in the conference room?

@elonmusk No I slept on the floor outside the conference room so people can see me. Seeing is believing. It was rough. But I was asking people to really go all out.

I can't expect them to go all out if I'm not doing the same thing.

Q: If you had an extra 5 hours a day magically what would you work on?

@elonmusk - I think there's massive opportunities in tunnelling.

I said that for 5 years and nobody did anything. So I created the Boring Company (as a joke), and then it became real.

Also - mRNA. The digitization of medicine.

Where you can literally just create a RNA or DNA sequence like a computer program. Multiply it millions of times. Put it in a capsule.

And literally do anything. This is absolutely the future of medicine. - @elonmusk

"You could literally turn someone into a butterfly.

Cells are just tiny biological computers that do what the code says, and now we can write the code.

Big eye opener. Seeing potential of RNA." - @elonmusk

Q: Let's say tomorrow you were running the vaccine distribution effort tomorrow - to get it done better?

@elonmusk - I don't have good insight into the situation.

Seems there's too many requirements of who can get it.

I would just say first come first serve. Use CVS/Walgreen

Instead of worrying is the exact right person getting it. Just accept, ok maybe it won't go in the right order.

But let's get as many as we can, as fast as we can. Get a hell of a lot more out there.

Don't worry about second dose. Get the 1st dose out first. - @elonmusk

The US ordered like 900M doses or something.

We're going to have so much covid vaccine, I guarantee a lot will get thrown away at the end of the year.

Vaccine availability will grow exponentially. + Herd immunity. Which is better than the vaccine. (antibodies > vaccine)

Q: What do you think of the future of california?

@elonmusk - I love california. Lived half my life here. Built companies here. Came here as a summer intern to work on energy storage for electric vehicles way back in '92.

Tried to get a job at netscape btw (he tells @pmarca

Q: can you tell that story

@elonmusk I thought the internet was gonna be big. I could do a PhD and watch the internet get built right in front of me...or put it on hold and go help build it.

Netscape - Sent resume. No feedback. Lurked in lobby, too shy to talk to anyone

Q: time for light/fun stuff. What are you watching on TV? What are you reading?

@elonmusk - Just finished watching The Last Kingdom. And Cobra Kai ("it's such a sick burn, that show!")

Gotta watch stuff on the treadmill. Otherwise I won't workout. hate working out.

Q: Any final thoughts?

@elonmusk - do you wanna hear the real story from Vlad about what happened with Robinhood/Gamestop?

Vlad (CEO of Robinhood) comes outta the audience.

@elonmusk spill the beans man. what happened w/ Gamestop. The ppl demand answers!

Vlad starts with PR shit, "a little background, I'm the ceo of Robinhood"

@elonmusk - yea we know! go!

hahahah

"So basically, wednesday we had unprecedented volume. load on system. These so-called Meme stocks were going viral on social media.

A lot of net-buy activity"

Thursday morning. I'm sleeping. At 3:30am PT, our operations team receives a file from the NSCC.

As a clearing broker, we have to put up money to the NSCC based on factors. Eg. volatility. concentration. etc.

The request was ~\$3B. 10x more than typical.

now @elonmusk is the interviewer. "That sounds like a lot more capital than usual. How did they calculate that?"

It's kinda opaque. One component is VAR (value at risk). Not a public formula.

+ a discretionary component.

Elon - discretion? their opinion?

. @elonmusk what people want to know. Did something shady go down? Why did they demand so much money

Vlad - I don't think it would be shady. It was unprecedented demand.

@elonmusk - "is anyone holding you hostage right now? Blink twice."■

Let's call up the higher ups at NSCC and see if we can work with them.

Ended up lowering it to \$1.4B (down from \$3B).

So we had to propose a plan to manage risk on those stocks.

We said marking them sell only. Before market open, they said OK. deposit \$700M.

. @elonmusk - sounds like this org held a gun to your head. Give us this money or else. Did you sell your clients down the river? Or did you have no choice? If you had no choice, then ppl want to know why.

This is the most I've ever liked elon musk. He's loose & sharp asking Qs

Elon - alright. I guess if you had no choice. you had no choice. That's understandable. But whoever put that gun to your head should have to answer to the public. - [@elonmusk](#)

Vlad - continues to waffle/bullshit. Not gonna type out his PR speak

Elon - to what degree are you beholden to citadel. If citadel is unhappy - what happens?

Vlad - there's a rumor that they pressured us. That's just false.

This was a clearing house decision based on capital requirements. From our pov, citadel not involved.

Elon - wouldn't they have a strong say with the NSCC?

Vlad - I don't know, I don't get into conspiracies

Elon - alright...

BRUH I GOT MY MONEYS WORTH

Did you have fun?

[@elonmusk](#) this is awesome. didn't even know this existed a week ago.

Alright - that's all.

Hope that helps anyone who was asleep or on android and missed the interview.

Based on Vlad's terrible Robinhood apology, I'm going to do a breakdown next week of Louis CK's masterful apology in my newsletter --> <https://t.co/hyXkTjKWS0>