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Peter Thiel on Stagnation, Innovation, and What Not to Call your Company (Ep. 1 — Live at Mason)

Mercatus Center

65-82 minutes

In the first episode of this series, Peter Thiel talks with Tyler Cowen about stagnation, the Bible, company names, chess, favorite TV shows, and even the “Straussian Christ.”

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TYLER COWEN: Just a minute on the premise of this series. It’s been my view for years now that Peter Thiel is one of the greatest and most important public intellectuals of our entire time. Throughout the course of history, he will be recognized as such. I thought Peter would be absolutely the perfect person to inaugurate this series.

Peter himself doesn’t need an introduction; he has a best-selling book. His role in PayPal, Facebook, Palantir, many other companies, is well known. Peter is a dynamo. There is no one like Peter. But the purpose today is to focus on Peter’s views as a public intellectual.

The way we run these dialogues are a bit different than usual. It’s not going to be chatty and drawn out. We’ll try to replicate a kind of conversation Peter and I would have with each other. Get right to the point, a lot of quick back and forth, and we’ll see how well we can do that in public. But I’ve watched a lot of interviews with Peter online and we’re going to try to make this different from all those.

Let’s start with some questions about stagnation, Peter. At any point, if you care to add other topics of your own, please do so. You’re well known for arguing, well, “they promised us flying cars and all we got is 140 characters”; “technological progress has slowed down.” How is it you think that we’re most likely to get out of the great stagnation, when that happens?

PETER THIEL: Yes, I think there are, those three separate things. There’s the question of stagnation, which I think has been a story of stagnation in the world of atoms, not bits. I think we’ve had a lot of innovation in computers, information technology, Internet, mobile Internet in the world of bits. Not so much in the world of atoms, supersonic travel, space travel, new forms of energy, new forms of medicine, new medical devices, etc. It’s sort of been this two-track area of innovation.

There are a lot of questions of what has caused it and I think maybe that’s a good part to start in terms of what gets you out of it. On a first cut, I would say that we lived in a world in which bits were unregulated and atoms were regulated.

If you are starting a computer software company, that costs maybe \$100,000, to get a new drug through the FDA, maybe on the order of a billion dollars or so. If the FDA were regulating video game technologies, and you had to do a double-blind study to make sure that the video games weren’t addictive, damaging to your brain, etc. These things are very overdetermined. It’s driven by many different factors. My narrow attempt to get out of it is not necessarily to come to DC and beg the regulators to be more reasonable. It is just to try to find ways for people to succeed at the margins.

Because I think the other thing that has driven the stagnation is the hysteresis. When you have a history of failure, that becomes discouraging and so failure begets failure. No halfway sane parent would encourage their kids to study nuclear engineering today, whereas there are a lot of people going into software.

The history of success in software is encouraging more people to go into it and drive more innovation. Then the history of failure in these other areas has been very discouraging. What I think would start, if you got some signal successes in other areas, that can then set a precedent and you can somehow get what’s been a vicious cycle into a virtuous cycle.

TYLER COWEN: Then if you have to make a prediction, which breakthrough in particular will get us out of the stagnation? What's your pick?

PETER THIEL: I still think there are — probably the most natural ones are all these things that are at the boundary of information technology on atoms, of bits and atoms.

TYLER COWEN: Artificial intelligence? Biotech?

PETER THIEL: AI feels slightly overhyped. Biotech, a lot could happen. It feels heavily regulated. But if you've got self-driving cars, that would be a significant innovation which would change a decent amount at the margins. There's some regulatory challenges with it, but it's sort of right at the intersection of the kinds of things that could happen.

I think the most natural hope is that information technology starts to broaden out and starts to impact this world of atoms. Then we're going to have this question about whether the technology outpaces the politics or vice versa.

TYLER COWEN: What number should I keep my eye on? Let's say you're going to take a long nap and I need someone to tell me, "Tyler, we're out of the great stagnation now." What's the impersonal indicator that I should look at?

PETER THIEL: I disagree with the premise of that question. I don't think the future is this fixed thing that just exists. I don't think there's something automatic about the great stagnation ending or not ending. I think — I always believe in human agency and so I think it matters a great deal whether people end it or not.

There was this sort of hyperoptimistic book by Kurzweil, *The Singularity Is Near*; we had all these sort of accelerating charts. I also disagree with that, not just because I'm more pessimistic, but I disagree with the vision of the future where all you have to do is sit back, eat popcorn, and watch the movie of the future unfold.

I think the future is open to us to decide what to do. If you take a nap, if you encourage everybody else to take a nap, then the great stagnation is never going to end.

TYLER COWEN: Is there a chance that intellectually we've become so complacent that our worldviews have so changed? [Some writers have suggested](#) the decline of mainline Protestantism has intellectually changed America forever. The sense of what can be accomplished, our unwillingness to repeat, say, the Manhattan Project, or Apollo. Is it possible we're simply in that forever, and it's a downward spiral and the longer you're in it, the harder it is to get out? It's not really about bits.

PETER THIEL: It's certainly possible that it's something like that. But I do think that there's certainly, at the margins, there always are things that we can do.

I am somewhat pessimistic about the possibility of government being a key, a place where the great stagnation gets reversed. There is a sense in which a letter from Einstein to the White House would get lost in the mail room today. You could not even do Apollo.

I am somewhat pessimistic about the possibility of government being a key, a place where the great stagnation gets reversed. There is a sense in which a letter from Einstein to the White House would get lost in the mail room today. You could not even do Apollo.

Even something like the SDI program in the 1980s. The debate in the '80s was, it's a dangerous first-strike weapon versus a great defensive technology, whereas today, people would say that SDI was just this fictional thing that would have never worked. Again, this very odd way that our expectations have been dramatically reduced.

But I do think there's sort of a question about where in the private sector can you coordinate things on a big enough scale. Silicon Valley start-ups have been a way to do it, and maybe there's some class of somewhat larger companies.

My PayPal colleague Elon Musk started both SpaceX and Tesla, which are extremely charismatic businesses, because it involved somewhat larger-scale complex coordination, getting a lot of different pieces together to work. Not as big as we could do, perhaps, if you had a well-functioning government. But I think that's not really that realistic.

TYLER COWEN: Given that energy prices are now so low, are you more optimistic about peak oil than you used to be, or do you think that's a temporary blip on the horizon?

PETER THIEL: I'm surprised by how much they've collapsed. I would say, they are still higher than they were in 2002, 2003 on the oil side. The jury is still very much out on how well it's going to work. I think the big question is, what's the equilibrium price at which fracking is really going to work?

We've had something like \$450 billion has gone into the fracking industry in the last four or five years, and there's a question whether at \$50 a barrel oil, can you actually get a positive return on that money?

The striking thing, even as of summer 2014, when oil was still at \$100-plus a barrel, was even though you had these two boom stories: you had the Silicon Valley IT story, and you had the fracking, mid-US growth story. The striking thing was always how much smaller the fortunes were that were being made in the fracking industry, which led me to think that somehow, it was not as great an innovation as was happening on the IT side. Or more marginal, harder to get to work. I think if it barely worked at \$100, it'll be very interesting to see how it works at \$50.

[Editor's note: The recording was briefly interrupted here.]

PETER THIEL: The intellectual question that I ask at the start of my book is, "Tell me something that's true that very few people agree with you on." This is a terrific interview question. Even when people can read on the Internet that you're going to ask this question to everybody you interview, they still find it really hard to answer. And it's hard to answer not because people don't have any ideas. Everyone has ideas. Everyone has things they believe to be true that other people won't agree with you on. But they're not things you want to say.

TYLER COWEN: Peter, tell me something that's true that everyone agrees with you on.

[laughter]

PETER THIEL: Well there are lots of things that are true that everyone agrees with me on. I think for example even this idea that the university system is somewhat screwed up and somewhat broken at this point. This is not even a heterodox or a very controversial idea anymore. There was an article in *TechCrunch* where the writer starts with "this is going to be super controversial" and then you look through the comments — there were about 350 comments — they were about 70 percent in my favor. So the idea that the education system is badly broken is not even controversial. You know, the ideas that are really controversial are the ones I don't even want to tell you. I want to be more careful than that. I gave you these halfway, in-between ideas that are a little bit edgier.

But I will also go a little bit out on a limb: I think the monopoly idea, that the goal of every successful business is to have a monopoly, that's on the border of what I want to say. But the really good ideas are way more dangerous than that.

TYLER COWEN: Let me give you my take on how I've tried to fit different parts of your thought together. And again, for all you listeners, this doesn't have to be true. It's just my mental model of Peter Thiel. That you're one of a lot of thinkers who takes the idea of original sin — it doesn't have to be a theological commitment — seriously. Tocqueville wrote in the 19th century that America eventually would evolve to be a land of complacent people who were going to stop believing in original sin and stick to a kind of conformist mediocrity.

So you have taken this to heart. The world out there is deeply weird. Even though there appears to be free entry into ideas production, because of René Girard-like ideas, the people who deviate, someone comes down on them pretty hard. So there's excess conformity, the original sin in people's motives gets magnified at the social level. So basically, there are distortions out there. And everything we can see, it's a gnostic theology, and a relatively small number of people who can see through those distortions can be great entrepreneurs, or can tell the truth about politics.

And it's all ultimately some kind of bundled, implicitly theological, but not necessarily involving belief in God, but theological perspective about the nature of people. And it ends up spreading to all the different parts of society and that, to me, has been what ties your thought together. But that's a hypothesis; let's hear your reaction to that.

PETER THIEL: Let's see. I think the way original sin normally works is that it resides in individuals, in one way or another. And so theologically, I would place it much more in society. And so I think society is both something that's very real and very powerful, but on the whole quite problematic. We always run the risk of losing sight of that.

I don't know if it's strictly the awareness of it that solves it. Certainly, there probably are some people who are just vaguely oblivious to it, so in Silicon Valley, I point out that many of the more successful entrepreneurs seem to be suffering from a mild form of Asperger's where it's like you're missing the imitation, socialization gene.

TYLER COWEN: And that's a plus, right?

PETER THIEL: It happens to be a plus for innovation, and creating great companies, but I think we always should turn this around as an incredible critique of our society. We need to ask, what is it about our society where those of us who do not suffer from Asperger's are at some massive disadvantage because we will be talked out of our interesting, original, creative ideas before they are even fully formed?

We'll notice that's a little bit too weird, that's a little bit too strange. Maybe I'll just go ahead and open the restaurant that I've been talking about, that everyone else can understand and agree with, or do something extremely safe and conventional, and therefore hypercompetitive, and probably not that great as an idea.

I'd say a lot of these people may not understand this larger theory about society, but they are somewhat oblivious to it, and it pushes progress. Now, certainly my own experience would have been a little bit more where — I grew up in Northern California. It was this hyper-tracked process, where my eighth grade junior high school yearbook, one of my friends wrote in, "I know you're going to get into Stanford in four years."

Four years later I got into Stanford, then I got into Stanford Law School. You won all the conventionally tracked competitions; you ended up at a big law firm in Manhattan. From the outside, it was a place where everybody wanted to get in. On the inside, it was a place where everybody wanted to get out.

You ask one of the people down the hall from me, said that it was great to see me leave. I left after seven months and three days, it was great to see me leave. It was like "I had no idea it was possible to escape from Alcatraz."

TYLER COWEN: What did you learn there?

PETER THIEL: I learned that I was incredibly prone to this problem of social convention. If you want to give it a religious terminology, the psychological terminology would be that I had a rolling quarter life crisis in my mid-20s. The religious terminology, I had a quasi-conversion experience where I realized the value system was deeply corrupt and needed to be questioned.

I do think that one of the ways of challenging convention, one way, the Asperger's way, is just to be vaguely oblivious to it all, and continue apace. Then I think there is another modality where you just become aware of how conventional our conventions really are, and then that becomes sort of an indirect route of trying to start thinking for yourself.

TYLER COWEN: In your view, perhaps the contemporary world is becoming, I don't know what the word would be, stranger, or weirder, or more shaped by individuals who are different, precisely because conformity is being piled on other places. So if the movers and shakers would be people who are in some way neuro diverse, then overall, the world is becoming more surprising in a way, right? That's what we expect at different margins, at different corners. This will accumulate. It may not ever feel like we're getting out of the great stagnation, but each bit of change we get is in a way a more different change than we would get, say, in 1957, where everything was done with guys with white shirts and starched white collars, hoping they would be able to buy a little pocket calculator someday.

PETER THIEL: I think the innovation that we are getting is driven in strange ways.

I worry that the conformity problem is actually more acute than it was in the '50s or '60s, so that the category of the eccentric scientist, or even the eccentric professor, is a species that is steadily going extinct because there is less space for that in our research universities than there used to be.

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I worry that perhaps, if anything, it's a little bit the other way. It's very hard to measure these things or calibrate them, but I think that in politics, the conventional approach is to simply look at pollsters. What are your positions going to be? You just look at the polls, you figure this out, and it works fairly well.

At the end of the day, that's probably not how the system really changes. It probably will be changed by some idiosyncratic people who have really strong convictions, and are over time, able to convince more people of them. But whether this means that we have more or less change is hard to evaluate. It always comes from these somewhat nonconventional channels.

TYLER COWEN: Let's say you're trying to select people for your Thiel fellowships, or maybe to work for one of your companies, or to start a new company with. Just you, Peter Thiel, as a judge of talent, what trait do you look for in that person that is being undervalued by others? The rest of the world out there is way too conformist, so there must then be unexploited profit opportunities in finding people. If you're less conformist, which I'm very willing to believe, indeed would insist on that being the case, what is it you look for?

PETER THIEL: It's very difficult to reduce it to any single traits, because a lot of what you're looking for, are these almost Zen-like opposites. You want people who are both really stubborn and really open-minded. That's a little bit contradictory. You want people who are idiosyncratic and really different, but then who can work well together in teams. And so, this is again, maybe not 180 degrees opposite, but like 175 degrees.

TYLER COWEN: This is why you like Hegel?

PETER THIEL: I don't like Hegel that much.

[laughter]

PETER THIEL: I think if you focus too much on one or the other end of it, you would tend to get it completely wrong. I like to get things where you get these combinations of unusual traits, so if you have people with some really interesting, very different ideas, that suggests we're in the idiosyncratic category.

Then the important question becomes, OK, would they actually be able to function socially and execute? Then maybe the teamwork question you'd ask would be, what's the prehistory of this company? How did you meet, how long have you been working together, and if there's a long prehistory, that would be good on the other side. I think it's always getting these combinations right.

TYLER COWEN: There's an interview with you when someone asks, "What's the Straussian reading of your book, *Zero to One*?" You say something like, "The Straussian reading is don't be an entrepreneur." Yet at the same time, society has this problem, which many of us would recognize, that too many people go down tracks of conservative career choices.

You work for a consulting firm, or you go to finance if you come out of a top school. It's now become a new kind of conservative choice, maybe, to go to Silicon Valley in certain ways. Given the difficulties of becoming an entrepreneur, and the pull of conformity, how is it actually, socially? What kind of intellectual or ideological reconstruction do we need to get people out of so many of these conservative career choices?

PETER THIEL: It's hard to say. I think "entrepreneur" is one of these very odd terms people will say — where you'll ask somebody, "What do you want to be doing in five, ten years?" "Oh, it's very clear, I want to be an entrepreneur."

It's just this vague, empty term. It's like "I want to be rich" or "I want to be famous."

I am actually quite skeptical of that as a term, so yes, I think I did say the Straussian reading of *Zero to One*, was that *perhaps* — I had the adverb in — but perhaps you should not be an entrepreneur.

It was because on one level, the book is advice about how you would go about building a business, but then on some level, you could also read every single chapter as discouraging people from going into business potentially as well. If you give the core advice that you should start a business that's going to be a monopoly, and then you say, well that's really discouraging a lot of people who don't have an idea for a monopoly, so maybe they shouldn't be starting businesses.

My view is we should be starting more good businesses and fewer bad ones. Not more businesses in the abstract, not more start-ups in the abstract. Yes, there is always this psychosocial bubble question. I don't think we're in a tech bubble today, like we were in '99, 2000.

I actually do not think the public, as a whole, is involved in quite the same way, and so I'm not worried about it like I would have been in '99, 2000.

TYLER COWEN: I had some[one] email me a question; let me read it off and tell us what you think. This is a quotation. "What do you think a well-educated but zero marginal product worker in his mid-30s should do to remake himself for the next 30 years?"

PETER THIEL: I'm always super hesitant to answer questions that are so abstract. If there was some general answer to the question, it would almost certainly be wrong.

TYLER COWEN: Correct.

PETER THIEL: If I give you some general answer, and everybody could follow it, then if everybody followed that answer, it would be the wrong thing to do. Certainly, there still seems to be strangely a shortage of people in IT, broadly.

If you're reasonably talented, you can get training in software and coding in a fairly short period of time, and get in an employable job. It's sort of an odd cultural thing in our society where we still think of computer programming as such a geeky, bad career choice for people that even after a decade in which it's worked surprisingly well, there probably are still far too few people going into it.

I think that's a safe general one. Petroleum engineering, that's the other amazing one that has not yet attracted more people into it, in spite of a decade-long boom.

TYLER COWEN: If you think of the cultural achievement of mankind, or at least the United States, or maybe just your own California, and you asked the question, has that too seen a great stagnation, or is artistic creativity still reaching new and higher peaks — what's your view there? Just how general and pervasive is this phenomenon of stagnation? If it's intellectual in its roots, you might think that it's applying to everything.

PETER THIEL: I think it's very hard to measure in a number of these dimensions. I think artistic things, things of a very qualitative nature, are hard to measure.

I certainly think Hollywood is producing fewer great movies relative to 20, 30, 40 years ago. On the other hand, there are a lot of good TV shows.

TYLER COWEN: What's your favorite TV show?

PETER THIEL: It's all sort of this crazy schlocky stuff like *Game of Thrones*. I don't watch that much TV, but I think there are a lot of things like this that work. It's hard to measure that. I think the technology and science questions are ones that I find very interesting. I think they are somewhat more measurable than a lot of the qualitative social ones. I suspect we're not innovating as much in those dimensions, either, but I think that one, you'd just end up projecting your own biases onto society.

TYLER COWEN: In the back room, we were talking about Japan, and a recent trip of yours to Japan. Maybe you would like to relate some of what you were saying?

PETER THIEL: They always want you to say things that are sort of contrarian and surprising, and so they asked me at this discussion I was giving in Japan. And the answer that I came up with, which was both flattering to the audience, but somewhat disturbing from our perspective, was I think we always think of Japan as this hyper-imitative, noncreative culture of extreme conformity.

My suggestion is that perhaps at this point, Japan is the least conformist, the least imitative country in the world. There's actually a lot of interesting aesthetic cultural stuff going on, there still is a lot of very successful types of businesses. There's innovation in food production, all sorts of interesting areas.

My suggestion is that perhaps at this point, Japan is the least conformist, the least imitative country in the world. There's actually a lot of interesting aesthetic cultural stuff going on, there still is a lot of very successful types of businesses. There's innovation in food production, all sorts of interesting areas.

But then it's an indictment of the West, where I think Japan is no longer the Japan of the Meiji Restoration of the 1870s, or the Japan of the cheap plastic imitation toys of the 1950s. It's a country that no longer thinks it can get that much by copying the West. There's probably still some narrow interest in IT and software. Outside of that, I think they are copying the US and Western Europe less and less.

People aren't even learning English that much anymore. They're speaking less English than they were 15, 20 years ago. The golf courses are all getting shut down and converted to solar farms or something; people don't even want to play golf anymore. I think we need to take this as a real critique of our society, very seriously, that they're finding less that's desirable to imitate in the US or Western Europe.

TYLER COWEN: I'll name a few items, and you tell me, just if you think this is overrated or underrated. John Maynard Keynes, overrated or underrated?

PETER THIEL: Still massively overrated, but perhaps not as much as he used to be.

TYLER COWEN: New York City, overrated or underrated?

PETER THIEL: That's massively overrated.

TYLER COWEN: Why?

PETER THIEL: We had a 25-year boom in finance, from '82 to '07. I think that's slowly ebbing, slowly abating. It's going to be increasingly regulated, and so if you want a long/short blue state trade, you want to be long California, short New York. The long/short red state trade, by the way, is you want to be long Texas, short Virginia.

If you ask, what do Virginia and New York have in common, and what do Texas and California have in common? Both Texas and California are very inward-focused places. California, both the Hollywood version and the Silicon Valley version, are very focused in on themselves. Texas is also a very inward-focused place.

What Virginia and New York, or let's say DC and New York City, have in common is that they're centers of globalization. Finance is an industry that's fundamentally leveraged to globalization, and DC is fundamentally leveraged to international geopolitics.

I would bet on globalization slowly being in abeyance. I think with the benefit of hindsight, we will realize that 2007 was not just the peak year of the finance boom, but also the peak year of globalization, like maybe 1913. Happily, it hasn't resulted in a world war, at least not yet, but I think we are in this period where globalization is steadily pulling back.

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And so you want to be in places or industries that are levered to things other than globalization.

TYLER COWEN: I tend to agree with that. As you may know, before 2007, trade is going up at a rate three times higher than world GDP. Post the crisis, trade and world GDP are going up at about the same rate. I think in rate terms, that has peaked. So you see California and Texas, in a way, as being like Japan. You're long Japan, also, but that's underrated.

PETER THIEL: I'd be relatively long Japan. I wouldn't be long France, but maybe that's even underrated because it's probably still somewhat antiglobalization, and the marginal tax rates probably will go down in France at some point. But yes, I'd be long the things that are not as levered to globalization. I would be skeptical of London, New York City, places like that.

TYLER COWEN: How about China?

PETER THIEL: China is hard to evaluate on this globalization metric, because on some level, the growth story is linked to exports and globalization. Then at the same time, it has these capital controls and all of these ways that it's somewhat separate. I find it always very hard to evaluate. I do think it's interesting that the questions about China are being asked less often in the US today than they were a decade ago.

In 2005, it was a very widespread question, in what year will China overtake the US? A decade later, it's reasonable to think that it's a decade closer to when this will happen. It's a much less commonly asked question. At the end of the day I suspect we are underestimating China, but it may be very hard to invest.

I've always thought that you could only participate in the Chinese boom if you are a well-connected, card-carrying member of the Chinese Communist Party. I'm not, and so it's not been a place that I've really focused that much.

TYLER COWEN: Think of a place like Brazil. I tend to think of Brazil as fairly inward-looking. If you're on a bus in Brazil, you hear Brazilian music typically, not American pop music. You think Brazil is underrated, or overrated, economically? Do you agree with my characterization of it as relatively inward-looking, and if it's an exception, what would account for that?

PETER THIEL: It's relatively inward-looking. Actually, one other metric for inward- versus outward-looking is which countries were first taken over by Facebook, how Facebook spread all over the world. It started with the US, other English-speaking countries. Then it went to all the small European countries where people spoke English: Switzerland, Holland, Scandinavian countries.

The ones that were the hardest to break into were the ones with the very separate language groups. Brazil was much harder than the rest of Latin America, it sort of had this Spain to Latin America aspect, whereas Brazil is a self-contained country where most of the people in the world who speak Portuguese live, and Portugal barely counts.

I do think it qualifies on the inward-looking piece. If you look at the history over the last 150 years, I think there have been four points where people were hyper-bullish on Brazil. I'm not going to get them exactly right, but there was one in the pre-World War I. There was one in the '60s, in the '50s, in the '70s . . .

TYLER COWEN: That's right.

PETER THIEL: . . . there was one, again, in recent years, and they all turned out to be false dawns. They were all linked to Brazil being tied into globalization. The optimism about Brazil, was always from all the potential that will happen, when it became linked to globalization, and then the disappointment happens when it turns out it doesn't work.

There was this giant energy company called OGX. The guy who started it was worth \$30 billion in 2011. He's now worth -\$1 billion. You met with him in Rio de Janeiro. He had a McLaren parked in his living room in the villa, on a pedestal. He had just divorced his wife. He told me, "I can now park my car wherever I want."

[laughter]

PETER THIEL: They had all these offshore oil concessions they'd gotten from the government, in relatively shallow water. It seemed like a fantastic investment. Then, it turned out you could only get Brazilian oil service companies to develop it. There were no Brazilian oil service companies.

Maybe the oil didn't exist at all. Maybe the whole thing was a giant fraud. Very hard to tell. These things work when people are bullish about integration, and globalization, and then the reality sets back in. It could be the case that it's fairly decoupled, and the excess optimism came from people thinking it wasn't.

TYLER COWEN: You mentioned Facebook a few minutes ago. In the back, we were talking about good and bad names for companies. If you could tell us your view on this, how important is the name of a company? What are a few good names, and why, and what are a few bad names?

PETER THIEL: A slight aesthetic thing I believe in very strongly is the names of companies are often very predictive of future failure or success.

PayPal was a very friendly name. It was the friend that helps you pay. Napster was a bad name. It was the music sharing site. You nap some music, you nap a kid. That sounds like a bad thing to be doing.

[laughter]

PayPal was a very friendly name. It was the friend that helps you pay. Napster was a bad name. It was the music sharing site. You nap some music, you nap a kid. That sounds like a bad thing to be doing.

PETER THIEL: It's no wonder the government then comes in and shuts the company down, within a few years. You want to be very careful how you name companies. In the sharing economy context, I like

Airbnb, way more than Uber. Airbnb sounds like this very innocent, virtual bed and breakfast. It's [a] very light, nonthreatening company. Uber, it sounds like a bad name from Germany sometime in the 1930s.

[laughter]

PETER THIEL: What are you exactly above? Maybe the law?

[laughter]

PETER THIEL: This is probably something that, again, from government regulatory perspective, Airbnb is a vastly better name than Uber. On the social networking side, I would say that I actually think Facebook was a very good name. MySpace was a more problematic name.

You can say that all these social networks involve both reading and writing. Unlike real life, you have to write, before you read. You first have to write some things about yourself, then you read more about other people. Over time, reading dominates writing.

Facebook was about learning about people around you. About the real identities at Harvard. MySpace started among wannabe actors in Los Angeles, and it was about them coming up with fictional narratives around themselves, and then a lot of other people in LA, who are generally like that.

Because reading dominates writing, Facebook would ultimately dominate MySpace. There's a certain version where the whole product arc was implicit in the names.

TYLER COWEN: How about United States? Overrated or underrated? And consider the name.

[laughter]

PETER THIEL: It's hard for us to have good intuitions about this, because we are so used to it, and so embedded in the history. Certainly, this is all atavistic and way too old-fashioned, but I'd be sympathetic to the 19th century spelling, where the U was lowercase.

TYLER COWEN: In chess. First move. E4 or D4. Which is better?

PETER THIEL: It's probably the case that D4 is marginally better at this point, because it looks like there are certain defenses to E4 that are very hard to break, like the Berlin defense. But I still always play E4. It's what I've gotten used to.

TYLER COWEN: Because it's the attacking move, right?

PETER THIEL: It's the attacking move, and if you're short of world champion level, I always enjoy increasing the risk involved and volatility in the game.

TYLER COWEN: You were born in Germany. You are fluent in German. That's part of your background. How do you think that's influenced your worldview, what I would call your implicit theology, how the different pieces of Peter Thiel's ideas fit together? What's the role there, and do you still sometimes dream in German?

PETER THIEL: We spoke German at home. We moved to the States when I was a year old, and we spoke German at home for the first 12 years. My parents didn't have a TV set. We got a TV set at age 12, and then the English language overtook everything.

It's hard to generalize. California and Germany are extremely opposite kinds of places, in certain ways. I think of California as both very optimistic and somewhat desperate. You have 20,000 people a year move to Los Angeles to become movie stars, maybe 20 of them make it. All of California has a super-optimistic, but somewhat desperate . . .

TYLER COWEN: It's like Beach Boys music. Sounds optimistic on the surface but it's deeply sad and melancholy.

PETER THIEL: It may be something like that.

[laughter]

PETER THIEL: I think of Germany as always incredibly pessimistic, but very comfortable. It is this very big contrast. I'm not sure pessimism is generally that helpful an attitude to have, but the German pessimism is probably a helpful corrective, in the midst of the hyper-optimism that permeates Silicon Valley.

If you are a mildly pessimistic person, you might do well in a place where people are insanely optimistic. If you are a mildly optimistic person, you would do well in a place where people are insanely pessimistic, like say Germany.

TYLER COWEN: So maybe you are this mix of German pessimism and California optimism. Just like you said for Thiel fellowships, you look for people who embody these Zen contradictions. Maybe that's one of yours: that the extreme pessimism has to do with the weirdness of the world, and the difficulty of breaking through the conformity, but at some level, you think it can be done — right — and you've done it.

PETER THIEL: I always think extreme pessimism, or extreme optimism on their own terms, are not terribly healthy attitudes to have, because extreme pessimism tells you there's no point in doing anything. Extreme optimism tells you there is no need to do anything. They converge on doing nothing.

A healthy attitude is always either something that's milder. Mild optimism, mild pessimism. I average out to a mild version, even though maybe the components are extreme. On average, it comes out somewhere in the middle.

TYLER COWEN: I was emailed this question. What is your maximum likelihood estimate of when you will die? At what age?

PETER THIEL: It depends a lot on what we do about this stuff. Again, it's not as though the future exists on its own . . .

TYLER COWEN: But you are forecasting you.

PETER THIEL: It depends on what I do, and what I get other people to do in the next few decades. These things can go in very different directions. Whenever I look at the signs on these areas, I think there are many innovations that could happen, and then I think it's incredibly slow.

If I had to make a straightforward forecast, I would do a straight-line extrapolation, where life expectancy has gone up something like, 2.2 to 2.5 years per decade, since 1840. That would probably get me into my early to mid-90s.

Then, you add maybe 10 years, so somewhere 100 to 110. That would be a pretty good upper case. There's a lot of variability. If things end up stagnant, it'll be not much more than what people would expect today. If things accelerate, it could be a lot longer.

TYLER COWEN: A lot of those gains in life expectancy have come from people younger than 80. People who reached 80 in, say, 1870, did only marginally worse than people who reach 80 today. That's since I tend to be more pessimistic about many people reaching 100, though I would give you, in relative terms, perhaps the best chance of anyone in this room.

PETER THIEL: That was true in the first half of the 20th century. In recent decades, more of the gains have come from somewhat older people, not necessarily from people who are 80 and up, but say people who are 60, 65, 70, of being able to live significantly longer than they were in the past.

But you are right. We are not going to get that many gains from reductions in infant mortality, or things of that sort. It will come from people who are somewhat older, hopefully living both longer, and hopefully healthier, lives.

TYLER COWEN: What's your favorite novel?

PETER THIEL: The classic one I always give is *Lord of the Rings*. If you want something a little more intellectual, it's probably the Bulgakov novel *The Master and Margarita* where the devil shows up in Stalinist Russia, and succeeds, and gives everybody what they want, and everything goes haywire. It's hard, because no one believes he's real.

TYLER COWEN: New Testament, or Old Testament? Which has influenced you more, and why?

PETER THIEL: I'd have to go with something like the New Testament. These things are always subject to so much interpretation. I don't think something like any of these holy books stand on their own. If they did, that's always an antireligious argument at the end of the day.

TYLER COWEN: The Hebrew Bible, to me, has more of this dialectic that we found in a lot of the other topics. Mix of optimism and pessimism. Much more irony, multiple voices, varying perspectives. My

answer would be Hebrew Bible has influenced me much more than the New Testament, which has hardly influenced me at all.

You are different in that way, but what is it in your character, intellect, or background, do you think accounts for that difference, given some of the other things you've said?

PETER THIEL: I would disagree with that characterization of it. I think Christ is a very complex, very ambiguous figure in many ways, which makes the interpretation quite difficult. I think almost everything that Christ said could be described as an answer to something that's true, that most people did not agree on.

And I think for the most part, it was necessary for Christ to be very careful how he expressed himself. It was mostly in these extremely parabolic, indirect modalities, because if it had been too direct, it would have been very dangerous.

It was John Locke, in *The Reasonableness of Christianity*, said that Christ obviously had to mislead people, since if he had not done so, the authorities might have tried to kill him.

TYLER COWEN: There's a kind of Straussian Christ here?

PETER THIEL: That's the Straussian interpretation of Christ. It didn't end in a particularly Straussian way, but it was at least true for most of his ministry.

TYLER COWEN: What do you hope to spend the next year thinking about, ideas or questions you haven't thought through already, that will be your focus in the next year or two to come? Things that we haven't talked about already.

PETER THIEL: I don't know if it's ever really this top-down agenda that I try to set. A lot of what I end up doing is somewhat serendipitous. You talk with a lot of interesting people. You try to figure out what are some great technologies, great entrepreneurs to work with in different ways.

That's how you end up getting very interesting perspectives, and how you change your mind on things. The overarching agenda is always to try to figure out some way to get out of the stagnation by literally helping people to start companies that will change the world.

TYLER COWEN: Before we get to audience Q&A, final question from me. You've done many start-ups, funded many others, you've written *Zero to One* on start-ups. If you think of the Institute for Humane Studies and Mercatus Center as a kind of start-up: we are together in one location. We have a critical mass of people here, studying notions of liberty and individual responsibility. We have, more or less, a common intellectual background in some ways.

I wouldn't say we have a monopoly, but the space of doing liberty-oriented ideas in a university setting is by no means what everyone is jumping at doing, to say the least.

If you think of us as a start-up, embodying at least some characteristics which have something to do with what you've praised, what advice would you give us at the margin, for being successful in the future?

PETER THIEL: All those elements are quite good. I think that it's always a mistake to be too focused on prestige and status. This is always the great temptation in many areas. Academia is one that's extremely prone to this.

I would always be long substance, short status. The temptation is to try to get more respectability within an academic setting, or within some sort of a broader audience. If you try to get respectability, it will always come at a price of softening the edges, modulating what you say. You want to always put substance over status.

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If that was a single overarching theme, that would be a very, very healthy one to maintain.

Q&A

AUDIENCE MEMBER: You talk about vertical progress versus horizontal progress. I'm wondering, how does one create vertical progress? Do you have any tips for doing that?

PETER THIEL: There's no straightforward formula for innovation. It's much easier to do horizontal progress, which I describe as globalization, copying things that work going from one to n , versus vertical progress, technology, doing new things, going from zero to one.

Globalization, I think there is actually a formula. You can copy what's working, try to mechanically apply it. There's something scientific about globalization. There's something deeply unscientific about the history of technology itself.

Science starts with the number two, whereas every moment in the history of science, technology, business, I believe, happens only once. The next Mark Zuckerberg won't start a social network, the next Larry Page won't start a search engine.

It's always some idiosyncratic thing. It's good to be passionate about something that you are good at, that other people are not doing. If you get those three things lined up, that's a very good start.

AUDIENCE MEMBER: In order to go from zero to one in a nonprofit organization, or a political advocacy group, what would one have to do? What would be a key differentiator, or angle, to approach with it?

PETER THIEL: The contrarian business question is what are great businesses no one has started, the contrarian investor question is what great investments does nobody like — the contrarian nonprofit question is what great causes are deeply unpopular? This is how I always deflect requests for money, is I ask people, "Why is your cause popular? Why is your cause unpopular?" Because I only want to fund unpopular causes. I assume popular causes are funded relatively well. Relative to good, unpopular causes.

If you are able to push unpopular causes, that's very good. Then, the Zen-like problem, the paradox, is that you have a lot of impact, if you are able to push a good, worthwhile, but unpopular cause. The Zen paradox, is that it's very hard to market it and get money to do it.

That's the tension that it's worth thinking through really hard. I think most nonprofits fail at this, where they end up supporting things that are super conventional, they can get funding for them, but if they didn't do it, there'd be 100 other people doing it.

Always having a counterfactual sense of mission is important. If we weren't doing this, nobody else in the world would be doing this. To the extent that's not true, you want to make that more true. Maybe it's a spectrum, but you want to always tilt more in that direction.

On the business side, on the nonprofit side, I always differentiate mission-oriented businesses, which have this counterfactual sense of importance, from social entrepreneurship. Anything that has a social element to it — the word social is very ambiguous. It can mean, number one, good for society. It can mean, number two, good as seen by society. In practice, the second meaning always ends up dominating the first. Then, you end up with the "me too," lemming-like, sheep-like clones, where you lose every *raison d'être*.

AUDIENCE MEMBER: In an age increasingly dominated by intellectual ability, what should a person of modest cognitive ability do with his life, to find meaning or make a contribution? Related to that, what person of average, or modest, intelligence do you admire most?

[laughter]

PETER THIEL: I'm not going to answer the second question, because I'm always nervous that I'd be insulting people if I did. There are a lot of things that people can do, that are strikingly underexplored. There are certainly all these vocational careers where people can do quite well.

They are somehow considered not cool, not prestigious. The average plumber makes about as much as the average medical doctor. I do think this idea of what's unfashionable is very important as an initial anchor. There's no reason that people of average ability are going to be more pushed towards what's fashionable than people who are very smart.

I think often the smarter people are more prone to trendy, fashionable thinking because they can pick up on things, they can pick up on cues more easily, and so they're even more trapped by it than people of average ability.

AUDIENCE MEMBER: I'm going to take you on in your challenge about sharing something we know to be true that everyone disagrees with, and then ask you a question about it. The truth that I know to be the case is that the future of human evolution and how we think about how we structure society lies in privately funded, managed, for-profit cities built in partnership with, but independent from, governments today in the world.

My question to you, and then also I have a follow-up for Dr. Cowen, is "What do we need to do to enlist your powerful support in that view, in addition to getting introduced by someone in your inner circle?"

Dr. Cowen, my question to you is, "What do we need to do to be on that stage, having a similar conversation with you and the crowd that you have managed to get out here?"

PETER THIEL: I think there are many things that would be incredibly terrific to do. The business version would be "Is this important?" If we could reopen the frontier in geopolitical terms and find a way to really innovate on society, I think this would be a terrific thing to do.

Then the question "How does one actually do this?" is very tricky. All the surface area on this planet is occupied. It seems very hard to get this to work. I know Romer had this experiment with these city-states in Africa. I think it was prohibitively expensive. It could never really quite get started.

You need to have some version of where this would work and you could get started with a budget of let's say less than \$50 billion. If you could give me a convincing way it would work for \$50 million instead of \$50 billion, I'd be interested.

TYLER COWEN: Your question addressed to me. I have a graduate student and also a colleague who are working on the economics of private cities. Not private cities being completely separate from larger political units, but largely private cities with mostly private infrastructure nonetheless. If you're talking about private cities truly independent of government, I would call those "cruise ships."

[laughter]

TYLER COWEN: We do have many of them. I think they work fine, but I don't view them as a significant blow for liberty. In fact, when I go on a cruise ship, I actually worry about some of the liberties I'm signing away. I know I do that voluntarily. It's fine. I don't object to that.

I tend to favor larger political units and to think that human freedom will be found by the wealth and diversity within larger political units giving people pockets. I'm not sure we'll ever have a bottom-down creation of a lot of micro-units which compete very intensely and through exit give people true liberty.

I'm more optimistic about the larger political unit vision, but maybe that's a matter of taste. In terms of these events, you or anyone else feel free to write me.

AUDIENCE MEMBER: In a 2009 [Cato Unbound article](#), you discussed your disillusionment with democracy as a source of innovation and change in government and politics and expressed your interest in cyberspace, outer space, and seasteading. Is there a 2015 update on how you're feeling about government and politics and innovation?

PETER THIEL: Writing is always such a dangerous thing.

[laughter]

PETER THIEL: I remember a professor once told me back in the '80s that writing a book was more dangerous than having a child because you could always disown a child if it turned out badly.

[laughter]

PETER THIEL: You could never disown anything that you've written. The *Cato Unbound* article, it was a thousand-word essay. It was late at night. I quickly typed it off. I sent it to someone else to review, who said, "There's nothing controversial in here at all."

My retrospective was that if you actually ask someone to double-check things for whether or not it's controversial, you already deep-down know that you should double-check it yourself.

My updated version on it would be that — I made the case that I thought democracy and capitalism weren't quite compatible — the updated version I would give is it's not at all clear that we're living in anything resembling a democracy.

We're living in a representative republic, but then that's modified through a judicial system. Of course, that's been largely superseded by these very unelected agencies of one sort or another, which really drive most of the decision-making.

I think calling our society a democracy, whatever may be good or bad about democracy, is very, very deeply misleading. We're not a republic. We're not a constitutional republic. We are actually a state that's dominated by these very unelected, technocratic agencies.

The very difficult political question is, "How can you get an advanced, technological society to function in any way that's more republican or more democratic at all?"

Not at all sure how that is, but I think the challenge is that a lot of these agencies have become deeply sclerotic, deeply nonfunctioning, even though the alternatives to them, politically, often seem to be even worse. The Federal Reserve — lots of things they do, I don't like, but then once you get people in Congress involved in dictating Fed policy, that always seems even worse.

TYLER COWEN: A follow-up on that, Peter. New Zealand arguably is the most democratic country in the world, I would say, or very close to the most democratic. Given that, New Zealand, overrated or underrated?

PETER THIEL: Again, I think it's more like a representative democracy or republic.

TYLER COWEN: There's no constitution. There's close to only one branch of government, very little federalism.

PETER THIEL: I think a lot of these smaller countries are somewhat underrated generally because you have an adaptability, an ability to change things that can move a lot faster. Again, I don't think it's the form of government that matters so much. I think it's often the culture . . .

TYLER COWEN: The size.

PETER THIEL: . . . how well things work, to some extent the size. I think those are elements that are very positive. In a world where globalization is going in reverse, one rough approximation is you want to go on a place on the planet that's as far away from the Middle East as you can get.

If you do that on a physical globe, it's somewhere in the southern hemisphere. It's basically halfway between New Zealand and Tahiti. If you had to pick them, I'd go with New Zealand over French Polynesia, which is where the people in France go, who find the work hours in France too onerous.

[laughter]

TYLER COWEN: Tonga.

AUDIENCE MEMBER: How would you evaluate the government of the United States as an investor in innovation and technology? Perhaps you would consider referring to rockets to the moon, the transcontinental railroad, drug development, and solar energy. Or any other innovations you care to stress.

PETER THIEL: These are all obviously quite different. There's a libertarian perspective which I have, which is that it's extremely bad, but that's present tense. I think the nonlibertarian perspective that I think we always should think about a little bit harder is that there's also been a tremendous decline.

I think in the 1930s and 1940s you had a degree of technocratic competence that was quite significant. Today, a letter from Einstein would get lost in the White House mail room. The Manhattan Project would be unthinkable. Apollo would be unthinkable.

I think the first signal one that really went wrong was Nixon's war on cancer. I always do think the 1970s were this decade where many of our institutions, especially our governmental institutions, started to work much less well. That was perhaps the signal one where things went badly wrong.

In terms of investing in science and technology, it seems to me that the minimum criterion for doing it is to have some understanding of these things and some ability to evaluate them properly.

In a government in which two-thirds of the representatives are lawyers and in which . . . Again, just using the House and Senate as a proxy for our government, by generous count, no more than 35 have degrees in engineering or science or anything like that, or any technical field, very generously defined, both the House and Senate.

Perhaps these are not the right people to be driving these investments. I think we, again, should have much more of a focus on substance, much less on process. I always use the Solyndra bankruptcy as an example in this question of what went wrong.

There's a Republican process critique. The process was screwed up. There were kickbacks. Somehow, there was this corruption. They could never quite prove it, but that was the intuition. The Democratic defense was, "We had a process. We had a portfolio, a financial process where we gave money to lots of different things." You let 100 flowers bloom or something like that.

A mathematical objection to it was that a cylinder has $2\pi r$ the surface area of a flat panel, which would be $2r$ and therefore is, by definition, 1 over π as efficient as a flat panel. You could just use ninth-grade, high school geometry to show that this was a demonstrably inferior technology.

It was never going to be commercially viable. You have a Nobel laureate, Steve Chu, running the Energy Department who is not allowed to use ninth-grade high school geometry in evaluating what to do. That sort of a society, that sort of a government is one that should not be allowed to make any investments in these areas whatsoever.

AUDIENCE MEMBER: In the libertarian utopia that you will build, what will you use for money? Will it look more like Bitcoin or more like PayPal?

PETER THIEL: I'm not exactly sure that I'm going to succeed in building a libertarian utopia. I actually do think that there's a little bit too much of a fixation on this monetarist level, and not enough on the underlying real economy. I think that, for example, we have a lot of these debates about Fed policy. Are they printing too much money? Are they not printing enough? What should the Fed be doing? Somehow, do you decentralize that?

I think money and the nature of money is somehow much less important than all the microregulations that make up the economy. If you give me a choice of getting rid of the vast bulk of government regulations and keeping the Fed, I'd much rather do that than keeping all the other zoning laws and crazy rules we have and going with PayPal, Bitcoin, gold, any sort of alternate currency one could come up with.

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I'd much prefer to focus on the level of atoms, the real economy, than on the virtual level of bits, which I think of money as being linked to. My intuition, for what it's worth, is that you'd want money to somehow be linked back to the real, in a fundamental way. This was the merit of the gold standard, that it would at least maintain this discipline that money was not something that grew on trees and could be printed ad infinitum, and so I'd want it to be linked to something real. Maybe you link it to the equity market, or something that's somewhat more real than just fiat money. I think the much more critical thing are all the microregulations.

AUDIENCE MEMBER: I work for the Indonesian government as an advisor. I have two questions for you. The first is, do you think Indonesia is underrated or overrated, and number two, what would you recommend for my government to fight off terrorism? Because you talk a lot about monopoly in your book. Is it possible for my government to monopolize information security, yet at the same time, respect the individual privacy of our citizens?

PETER THIEL: Wow. Again, I'm not totally sure if I have a great answer on that off the top. I think that I don't know if the right question for many of these countries is what to do on the level of the country itself. Indonesia has 200-plus different islands, it's extremely heterogeneous as a place. I think that if things were somewhat more decentralized, that probably would be the direction that one would be tempted to go in.

I don't know all about the details of the terrorism issue in Indonesia; my sense is that a lot of these national security debates have involved these fake tradeoffs in many different places. It's always you do more with more, or less with less. You have more security with more privacy invasions — a more centralized, powerful state.

Versus, you have less security with more privacy. It's almost like the NSA versus the ACLU, and I think this is a very fake dichotomy. The technological solution I would like is where you do more with less, where we have more security with fewer invasions of privacy and we try to find ways to actually do things that are much smarter. That's what I would define as actual innovation in a space.

We can always do more with more, versus less with less, and that's the boring ideological debate we're always stuck with.

AUDIENCE MEMBER: Why do you have an appetite to live longer, and what's your life's mission? Have you fulfilled your life's mission yet?

PETER THIEL: I think it's somewhat independent of a life mission. I actually think life is something that's worthwhile in and of itself. Death is kind of a bad thing, in [and] of itself, so even if I was adrift and had no sense of what I was doing at all, I would still all else being equal, hopefully prefer to live a lot longer.

I always think it's very odd how weirdly strange the anti-aging, life extension idea is. I always think, "Why would people think that you would need a life mission or some extraordinary reason to want to live longer?" Part of it goes to these very strange psychological ways we deal with mortality, through a combination of acceptance and denial.

We accept that we're all going to die, and so we don't do anything, and we think we're not going to die anytime soon, so we don't really need to worry about it. We have this sort of schizophrenic combination of acceptance and denial, like extreme pessimism and extreme optimism. It converges to doing nothing, and I'd like us to just fight it a little bit more for its own sake.

AUDIENCE MEMBER: If you accept for the moment the premise that in general, the sort of free-market system we have has done a pretty fair job on the production side, but that there may be a secular threat to its success on the distributional side — in other words, increased concentration of wealth, perhaps due to technology changes — is there a way to substitute something on the distribution side without harming the effective progress performance on the production side?

PETER THIEL: I'm not sure I agree with all those premises. That would be point number one. I always think on this inequality debate, you have to always separate into three separate questions. One, is it even going up? It's probably going up in the US, not going up globally, so the Gini coefficient of the world, not even clear that's going up.

Let's grant number one. Then you have a second question, why is this happening, and then a third question, what to do about it? I think these things are very different. Why it is happening: I tend to blame it more on globalization than technology. I think it's very overdetermined by many different things that are very hard to solve, and then I think what to do about it: many of the remedies are actually worse than the disease.

If you come up with higher marginal tax rates, for example, you probably will just incent people to come up with more loopholes; maybe it hurts the middle class more than the wealthy. If you actually look at societies with officially very redistributionist policies, they seem to get more and more static the more redistributionist the rhetoric is.

You have to go very far left before you actually get to effective redistribution. Venezuela is not left-wing enough to get the redistribution. You have to go probably all the way to Cuba, Soviet Union, things like that. France, not nearly far enough.

I'd rather go in a very different direction. My sense is always that it's basically that the issue is not inequality, the issue is much more stagnation. There's a sense of people's living standards are generally not improving that much, and then, what can you do about that? What are the micro-solutions for that?

In Silicon Valley, San Francisco, where I live, I would say the single biggest variable that makes people feel the stagnation is the sense in which housing costs, rental costs, are through the roof. The political fix I would be tempted to pursue would be trying to find a way to break the unholy alliance between urban slumlords and pseudo-environmentalists that sort of prevent any new urban development. But I think it's always much more a problem of stagnation than inequality.

TYLER COWEN: Let's try to squeeze three more questions into the last five minutes. Next.

AUDIENCE MEMBER: A few years ago, I came up with a proposal that debuted a human physiological simulator after the Human Genome Project to further push the IT and the life science revolution forward.

I managed to talk to Dr. Collins from the NIH, who was the director then, and his answer was, “Great idea, but it’s too hard to do.” I wanted to get your response to that.

PETER THIEL: Yeah, I’d probably agree with that. That seems a little bit hard to do. I generally find myself a bit skeptical of all the AI-themed discussions that we have at this point. I think it’s still quite a bit further away than people think. It feels like a bit of an extreme consensus that AI is just around the corner, it’s about to happen.

It would take a lot longer to explain all my misgivings about it, but I think it fits a little bit too much into this conventional inequality narrative, that we have rapid technological progress, and the only problem is that people won’t have jobs, they’ll be replaced by computers. I suspect that’s not quite correct. I think the whole AI story is, if anything, happening more slowly.

The data point people always give is self-driving cars. The fact that they always come up with the same example suggests that maybe there’s not that much to it. Even if you got — and I think self-driven cars would be significant — it might replace at most 1 percent of the workforce, it might increase productivity by a few percent in the economy. If you phased them in over a decade, it would not be that transformative.

AUDIENCE MEMBER: What do you see as the biggest changes in the practice of science, say, over the last 50 years, for better, for worse, from the perspective of innovation, and whether you think that the public consciousness or concept of science has matched those changes?

PETER THIEL: It’s gone dramatically for the worse. The basic narrative I would give is that we had this preexisting ecosystem of idiosyncratic scientists who were driving research in all sorts of independent ways. You could dramatically accelerate it by giving them a lot of money, which is what we did in the 1930s to 1960s, but it came at this price of suddenly politicizing the system. The problem is that a good scientist is very much the opposite — now, this may be more like 180 degrees, not 175 degrees, it’s 179.5 degrees — the opposite of a good politician. It’s like, a scientist is someone who’s interested in the truth, a politician is someone who has a very troubled relationship with the truth.

I think we’ve had this sort of Gresham’s law, where the bad scientists have driven out the good, or people who are nimble in the art of writing government grant applications have replaced the eccentric scientists who’ve really pushed the research. I think that’s sort of this deep corruption of the process.

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It’s very hard for the public to fully appreciate it, because science is so specialized. Who am I to evaluate superstring research, or quantum computing research, or nanotech, or immunotherapy as applied to cancer? Because of this extreme specialization of science, you have these self-reinforcing expert communities that have made this process of politicization extremely opaque to the broader public.

I’m very much in favor of science, but I’m skeptical of people who excessively invoke science as an incantation of sorts. When you use the word science it’s often a tell, like in poker, that you’re bluffing and that no science at all is going on. We have political science, we have social science. We don’t have physical science or chemical science. There are just physics and chemistry, there’s no debate. If you think about other areas where people use the word science excessively, I think those are areas that we should perhaps be a lot more skeptical of.

AUDIENCE MEMBER: How happy are the super-rich?

[laughter]

AUDIENCE MEMBER: First-hand experience, or all the super-rich people you know, or both?

PETER THIEL: I’m not sure this is a terribly easy thing to measure. I think it’s extremely, deeply subjective, that people probably have fewer worries about money. They have a lot of worries about how

excessive money screws up relationships in different ways. I think there probably are plusses and minuses.

But I've always questioned the premise of the question. I'm not sure whether subjective happiness should be the most important metric at which we evaluate things. There's many other metrics we can use.

TYLER COWEN: Peter, thank you very much.

PETER THIEL: Thank you very much, thanks.