EPISODE 890

[INTRODUCTION]

[00:00:00] JM: Largest software companies have become a target for criticism. Google, Facebook, Amazon and other prominent technology giants find themselves under a kind of scrutiny that is reminiscent of banks in 2008, and oil companies in the early 1900s. Across the planet, there is a growing sentiment that big tech has too much power and that they are abusing that power in order to dominate markets, sensor speech, and manipulate politics.

Tyler Cowen is the author of *Big Business: A Love Letter to an American Anti-Hero*. He's also the host of the popular podcast, Conversations With Tyler, and an economist at George Mason University. In Big Business, Tyler explores the modern relationships between consumers and businesses including the large technology companies.

Tyler joins the show to discuss his new book. In previous episodes with Tyler, we also talked about his previous books and the effects of technology on American society as well as the philosophical approaches that software engineers can bring to their careers.

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[INTERVIEW]

[]00:02:42JM: Tyler Cowen, welcome back to Software Engineering Daily.

[00:02:45] TC: Happy to be here.

[00:02:46] JM: Your book, or your recent book, is called Big Business, and there are many different forms of big business that you explore in your book. I'd like to go through a few different sectors of Big Business briefly just to get your condensed perspective on each of these industries and give the listeners a little bit of exposure to your thinking. First, the banking sector.

[00:03:08] TC: I think the American banking sector has become underrated. It's arguably the best financial sector in the world for reallocating capital to growth companies. Venture capital does this, but it's not just venture capital, it's private equity, it's our entire banking system. I fully accept the criticism that our financial sector had a great deal to do with the 2008 crash. That's correct, but one thing I tried to do in my book is to give people a balanced perspective of all of the facts. Overall, right now, the US financial system is not out of control and it's doing many good things for us. So I think of my book overall as a corrective on the factual side.

[00:03:50] JM: Healthcare.

[00:03:51] TC: US healthcare system is far too expensive. In my view, it is the sector of our economy where business and business incentives work the worst. We have too much consolidation in our hospital sector. We've very bad at cost control, and there you have the worst tendencies of inpatient American consumers overpromising American politicians, and pretty greedy American business people are working together in what is somewhat of a dysfunctional direction. So that part of American business, I'm pretty critical of.

[00:04:23] JM: "Big tech".

[00:04:25] TC: Bit tech means different things to different people, but right now we're in a world where both political parties, intellectuals on both sides, are calling big tech evil, saying it's ruining our democracies, that it's destroying families. The actual reality is from a lot of big tech companies. We get wonderful services, often for free or very cheaply. The criticisms about it destroying democracy are very much overstated or lacking in evidence.

I do think there are some problems with big tech. People might waste too much time on their smartphones. There's some evidence say that teenage girls become more depressed because of social media. But overall, the consumer and societal gains from the big tech companies have been very, very large, and I mean Amazon, Facebook, Google, Apple and others.

[00:05:17] JM: Big tech is distinctive from other industries and that it's easy to imagine these big tech companies getting into almost any other business line, and it's much harder to imagine Wells Fargo getting into a business that is not closely related to finance or imagining a pharmaceutical company getting into streaming video, something like that. Why is it that big tech companies have this quality of being able to move into such a wide range of business lines?

[00:05:47] TC: Well, I'm not sure that they do. I think a lot of the big tech companies are not very good at managing labor-intensive processes. It's one reason why they've been bad at lobbying and public relations. A few years ago a lot of people asked the question, "Well, why isn't Facebook selling us all insurance? After all, it has a pipeline to so many millions of Americans." But it doesn't seem like that's about to happen.

So services that are rapidly scalable and partly or fully solvable by software and by hiring clumps and clusters of talented software engineers and other sorts of tech workers, the big tech companies are great at. So Amazon expands into cloud computing, for instance. But I think what they can do is nonetheless remarkably limited, and even Amazon which is in some ways the most versatile of the tech companies, it's still far smaller than, say, Walmart is.

[00:06:41] JM: In our modern environment, you bring up cloud computing, and cloud computing is something that our society has come to rest on. Like if Amazon Web Services went down, our society would fall apart in in many ways to a certain extent similarly to how the fall of 2008 of the financial institutions had a too big to fail quality where it started to fracture the potential for society to function properly. Are there ways in which the ubiquity of these big tech companies gives them a too big to fail quality that's concerning to you at all?

[00:07:22] TC: Well, I think there's a national security issue with a number of tech services, including also as related to our power grid. But if you asked the question, would you rather have this issues tackled by, say, Amazon with its high levels of talent, ability to purchase the best protection that's available?

Also, they have a pretty close one-to-one working relationship with, say, the Department of Defense, or intelligence agencies, or should we split that big tech and have seven smaller companies with less talent, fewer resources, harder to monitor?

I actually would rather prefer to work with the giants. I know we are still vulnerable. We've always been vulnerable in some key ways. But nonetheless, I think put your money where the talent is essentially when it comes to national security.

[00:08:11] JM: Another issue that can emerge from the sprawl of big companies, like this was the case with finance companies. This is the case with companies like Amazon, is that when you get this very complex web of incentives, you have a widespread potential for fraud. So you have potential for fraud in the Amazon marketplace, in the Google and Facebook ad marketplaces, and we have no way to gauge the amount of fraud. Is that a concern that we need to worry about?

[00:08:44] TC: Well, if the question is simply do we need to worry about it, yes. But if you ask, what are among your most reliable and predictable experiences as a consumer? Most of them involve big business. You stand a much better chance dealing with Walmart or Amazon than, say, trying to call in a local television repair person who will tell you whether or not your set is broken and how much it costs to fix it.

So I view that as a net upgrade. Should we be more vigilant against fraud? Of course. Does the internet as a whole help us monitor fraud in many small businesses? It does. So if you have a local restaurant that makes people sick or doesn't sell them the proper products, you go to Yelp or TripAdvisor. It's actually pretty easy to find out about that.

[00:09:28] JM: These big tech companies, they often have a mythos about them. So Google is about growing the world's information, making it more accessible. It's got inspirational air to it. Facebook is about connecting the world to each other. These are ideologies that can appeal to certain people, that can appeal to consumers. They can appeal to potential employees of the company. But some of us, we can get swept up in the ideology. What's the productivity of this kind of inspirational ideological facet of businesses? Would be more realistic and sobering if we thought of these companies more like just boring utility companies? Do we really want this inspirational element to it?

[00:10:15] TC: I favor those ideologies for the most part. I've benefited from them greatly. I'm connected to people around the entire world. That helps what I do as a researcher and a writer. I'm not saying it's all upside. Clearly, it is not. You can have certain bad ideas spread too quickly. You can have certain kinds of ideological bubbles become too popular.

But the extent to which something that was only a vague dream 15 or 20 years ago has become instantiated in our world, and I can, really without any kind of effort, be in touch with someone in rural Africa, which I am on a regular basis multiple times a week and I send him money, try to help him out. That's a phenomenal development and my ability to learn about other places. The printing press, every other major communications technology, has had some downsides. Radio had some downsides, but I think the overall ledger on tech communication has been very strongly positive.

[00:11:11] JM: That individual in Africa the you're referring to, is that the person that you're sending all the money from your previous book too?

[00:11:21] TC: That's correct. His name is Yonos. He lives in Lalibela. He has mobile access to the internet and did even before I sent him any money. His family has a very low, very low annual income, and he spends a lot of his spare time on YouTube. He loves church history. So if

you ask him about like the fourth century Armenian Christian church, he knows all about it. To me, that's pretty phenomenal, that we have this in our world, and it was not the case until quite recently, and I can send him money and be in touch with him.

[00:11:51] JM: Yeah. Tell me more about what kinds of cultural reflections you've had your interactions with him.

[00:11:59] TC: I have an understanding of how fragile progress in Ethiopia is. So the country has grown at around 10% a year for 10 years running, which is phenomenal, of course. But they were starting at such a low level. I have a sense of the political problems with some of the ethnic minorities. I have a better sense of what it's like to live in a town of about 20,000 people in the Ethiopian highlands. I visited that town twice, but still being in regular touch with someone. I learn things. It gives me a greater awareness of global problems, like what's the economic potential for the town? What can it do? What can it not do?

Again, if you think of this and then people in Africa, South Asia, many other places, learning from the technocratic expertise on other locales and improving their own local policies. I think those are just phenomenal gains and they're very much underrated by current discourse.

[00:12:50] JM: How do you envision that change? Because I've had similar experiences just for from people who listen to a podcast and they reach out or want to interview somebody in a market, like interview somebody about software in Vietnam, for example. It's this really magical experience, and it's rare when you get on a Skype call with somebody in a completely different place and it feels so much more magical. I mean, speaking of inspiration, compared to logging on to Twitter in the morning, which I also love. But there's something to that, and I feel like not many people experience it.

[00:13:30] TC: Well, more and more people are experiencing it. Podcasts, for instance, are growing. We're doing this podcast at a distance through Skype, which is owned by Microsoft, which supports it. That's also a big tech.

I think, also, any new technology, we get better at using it with some time. We learn how to curb the excesses and how to regulate our own deployment of the technology. I think the benefits of

the internet are really just getting underway compared to what is likely to follow over the next century.

[00:14:00] JM: Your book is explicitly pro-business. What are the most valid critiques of big business today?

[00:14:07] TC: Well, I would say my book is pro-fact, and big business is at fault. I'm not at all shy in admitting that. We discussed briefly the American medical establishment not long ago. I'm pretty critical of that mostly on the side of cost. For-profit higher education, we've seen massive fraud there. That was a big business. It's now gotten smaller very quickly for the better.

I think rates of fraud in business transactions in general are pretty high, but I also think if you look at how individuals behave outside of a business setting, they tend to lie at least as much. But I do think you have particular sectors where the incentives and information are bad. For-profit higher ed and parts of American healthcare would be examples of that. In those cases, big business has not performed very well.

But that said, I think when you look at it sector-by-sector, company-by-company, the overall record is much more positive than what you hear, say, from Bernie Sanders, Elizabeth Warren or even Donald Trump, who loves to go after CEOs and companies.

[00:15:10] JM: I watched a debate the you had with Tim Wu, who is an author that is critical of big tech. Are there any criticisms that Tim made or has made of the big business environment that you found novel or you found that challenged your ideas in ways that you haven't mentioned already?

[00:15:33] TC: Well, I don't think anything Tim said is novel. He's written quite a bit already on these topics. Tim makes the argument that it was good to have an antitrust case against Microsoft and release their stranglehold on the browser, and this was good for tech innovation. That's hard to prove, but I think it's plausibly true.

From that, he infers, we simply ought to break up America's leading companies, which are also trying to extend their reach overseas and keep out Chinese companies. On the basis of no legal

violations that would justify such a policy and that probably would harm our national security and almost certainly be worse for customers. So I think he's taking in our very small piece of evidence and extrapolating far too much from it.

[00:16:22] JM: In that discussion, my perception, and maybe you had a different perception, I felt like Tim was sidestepping your points. He was recasting your ideas in weaker forms than you articulated them, whereas you were directly addressing his points. It made me just think about rhetoric. When someone is engaging in those kinds of rhetorical strategies where they effectively are dodging your questions, I mean, on the bright side, the audience is ultimately going to make their own judgment about who is winning this this argument. But what do you personally do in that kind of environment? What's the best course of action?

[00:17:03] TC: Well, I think, as immature debater, but one should do is stay calm and stick with the facts, and if you think you might be wrong on something, admit it. But don't try to copy what the other person is doing, you will end up the loser from that. To just try to keep intellectual discipline and go away and see what you can learn from the person. I've said a number of times, it's very important to see what you can learn from the people who offend you.

[00:17:29] JM: This was a moderated conversation, and most of your conversations, at least on your podcast, the Conversations With Tyler podcast, you do not have a moderator as a buffer. Do you think that your conversation would have gone differently if it was one-on-one with Tim?

[00:17:46] TC: I think most conversations should be two people rather than three. You have not deployed a moderator for this conversation, right? It seems to me if you think you need a moderator, there's something else wrong in what you're doing. But that said, there are many excellent moderators. I'm not completely opposed to this. But I think the audience just wants to hear from the two people themselves. So I would cut down on the number of moderators. If you have seven people on a panel, yes, of course, you probably need a moderator. But with only two, I don't quite get it.

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[INTERVIEW CONTINUED]

[00:20:16] JM: Speaking of rhetoric, you had a podcast with Julia Galef, where you were discussing some general rhetorical strategies, particularly as they relate to podcasting, and you willfully admitted that sometimes you are "trolling", and this is an interesting point, because you actually brought up intellectual merits to the practice of trolling. We can talk about different definitions of trolling, but you make an extreme case for your argument sometimes. You're making this extreme case in a way that's slightly humorous. It may subtract from the purity of

your point. But people actually end up paying closer attention to you, because you have this element of entertainment. Can you tell me about the rhetorical tradeoffs of that trolling?

[00:21:08] TC: Well, trolling is a tricky word. Some people take it to mean saying or arguing things you don't believe, and I'm not at all for that. I'm very much against it. But I think there is value to being a contrarian. So there're plenty of issues where yourself not sure or what's the correct point of view? But you know, "Oh, the libertarian think this, the conservatives think that, progressives have this opinion." To go out there and try to prod them with the weak sides of their views to get them to both improve their views and in turn teach you something back, that's what I meant by trolling, and I'm all for that. Probing the weak parts of people's views and emphasizing those in your own presentation, including the weak spots in your own views. I'm a big advocate of doing that, and I do it frequently.

[00:21:54] JM: You've been up podcast host and a podcast guest many times on various podcasts. Do you have any newer rhetorical lessons about podcasting that you've learned recently, because it is such a new field?

[00:22:08] TC: Well, I think most podcasts are very bad, in fact, that the listeners don't necessarily listen, that it's a bit like many forms of radio. They want a kind of relaxation and droning voices and a sort of vague narrative that reassures them about something or provokes them about something, but is not actually very analytical. So I don't listen to podcasts much myself.

But nonetheless, it's this fairly new and quite diverse form where you have the freedom to innovate, and my own podcasts, I try to make them as informationally-dense as possible and not very narrative- driven and not very chatty, but just as smart as possible. I get that that's not for everyone, but in this world, I have the freedom to do that.

So in that sense, I'm very pro-podcasting. But a lot of people ask me "Oh, Tyler. What podcasts do you listen to?" and very often I come up blank. If I'm interviewing someone, I'll listen to whatever podcasts they've been doing to learn about them, and that's it.

[00:23:06] JM: Let's revisit healthcare. Is healthcare a place where big business has made our lives worse?

[00:23:12] TC: No. Healthcare has brought us enormous benefits. If it wasn't for healthcare, I would not be alive today. I would've perished at the age of 10, of an inflamed appendix. But I think something has gone wrong with the cost structure of American healthcare. It seems to me for about half to two-thirds of all Americans, we probably have the best healthcare in the world. But, A, it costs too much. B, for our bottom third or half, our quality and access are pretty spotty or often disgraceful.

American pharmaceuticals are world leaders. They're probably the most effective form of healthcare. They save millions of lives at very low cost. But still, there are plenty of drugs were we don't get the price right. Insulin in the United States costs far too much, because of trade protectionism and badly written intellectual property law. There's just so much we could do to fix and improve these problems. For the most part, we're not doing it. But healthcare is a wondrous thing, and it has extended so many of our lives. We still should be grateful for that.

[00:24:12] JM: There is an effort by Amazon and Warren Buffett and J.P. Morgan to build some kind of healthcare entity, and this effort is being led by Atul Gawande, who was a guest on your show, on Conversations With Tyler. If you had to assemble a team of other Conversations With Tyler guests to work aside Atul Gawande, who would you pick?

[00:24:36] TC: You mean on health care?

[00:24:37] JM: Yes.

[00:24:39] TC: Well, I did a recent podcast with Ezekiel Emmanuelle, and today as we're speaking, he has a very good op-ed in the New York Times on how the Democrats should bring greater accountability to costs in healthcare. I agree with 80% of what he says there. So Zeke would be on my front line Atul Gawande. But I don't think the problem is lack of expertise. I think the problem is that the American people and voters want conflicting impossible things from their healthcare system. So my team of experts, your team of experts, whoever they would be. I'm not sure they're going to make a huge dent in the actual deficiencies of our system.

[00:25:17] JM: Can you go deeper on that? Do you have any prescriptive alternatives to that approach of just bringing in a super team? I mean, what would you do?

[00:25:27] TC: Well, I don't have alternatives which are popular. I would continue with the Medicaid expansion. I would have the government spend much more money on research and development at a basic level. But also shake up our underlying research system to make it be more risk-taking and less based in seniority. I actually would worry less about covering everybody, even though I would favor the Medicaid expansion going to all of the states.

The recent Trump Executive Order and policies on price transparency in hospitals, that's a very good thing. I would do much more in that direction. Just take hammer and tongs to the whole system and have more transparency, more competition, more cost awareness, better incentives. Not try to cover everything for everybody, and greater gains from a higher rate of progress on the side of innovation. But, believe me, I fully get that is not what the American voter is clamoring for.

[00:26:26] JM: There is a an author. I think his name is Eric Topol, who's been on some podcasts recently and he wrote a book called – I think it was *Deep Medicine*, and –

[00:26:35] TC: That's the AI book.

[00:26:37] JM: It's kind of an AI book, but it's also just more about how one solution he thinks that's very important to improving healthcare, and I haven't read the book, so I could be summarizing this. But based on his podcasts, what I understand is he believes there needs to be more of a humanized element to medicine, because in the current environment, you have this interaction with the doctor where maybe it's 10 to 15 minutes, or it's like 30 minutes, and then 25 of those minutes, they're looking at that the epic you know healthcare record computer screen.

They're not looking you in the eye. So you miss out on placebo effects. You miss out on kind of like sympathy and the doctor picking up on nonverbal cues, things like that. But it's hard to know. I mean, do you think that is a systemic problem or are the systemic problem is something

much different than just empathy?

[00:27:28] TC: I think I agree with this diagnosis, and I have found, say, visiting doctors in Germany, there is a much more pleasant experience, and there's less of a queue. It's more possible to get time and attention. But a lot of that comes from the wage of the doctor. So the higher the wages doctors are paid, the stingier they will be with their time. I'm not sure there's a way to fix that problem other than by seriously lowering the wages of doctors, which I really don't think is a feasible proposal.

But in France, at least about a decade ago, I think the median doctor earned about US$60,000 a year, which is remarkably low. In the United States, it's a multiple many times that. So that's an example of a case where we've gone down the wrong track, and all the talk in Medicare for all, this is going to lower prices to European levels. No one's dealing with the fact that doctors and hospitals are not going to allow their wages and payments to be cut very considerably. So I feel somewhat that we are stuck.

[00:28:29] JM: In a podcast interview I heard with you, you talked about how your personal approach to healthcare in your everyday life. I mean, the disturbing thing about hospitals is that oftentimes they actually make you less well. It's like you walk in, they stick a needle in you to do a test. Maybe you get an infection, or they give you the wrong medication. They make some kind of error. Your life can get totally derailed. I've seen this happen to many people in my life. Can you tell me more about the parameters of when you will engage with the healthcare system today?

[00:29:02] TC: I tried to stay away from the healthcare system. Obviously, at some point that will no longer be feasible, but I think exercise, moderate diet, attitude, having some degree of social status and good genes are most of the value-added in your healthcare outcomes. For purely mechanical activities, setting broken bone, which I've never needed doing, healthcare is wonderful. For more complex tasks, there's a higher rate of error and the marginal effect of the healthcare system on your life expectancy, it's not as high as it ought to be. So in my personal life, I am somewhat of a skeptic, and I've been lucky enough to be able to get away with that so far.

[00:29:46] JM: I did get similar approach, and then I mostly even avoid my checkups. I'm not sure I feel very much on the fence of even going to the dentist for a regular checkup. If I tell that to people, I sometimes get an accusation of being anti-science, and I find it's hard to even broach this subject sometimes. Is healthcare something that is like religion or politics where you have to choose your interlocutors very carefully?

[00:30:13] TC: Yes. I think there are some things we should do more of that probably we don't. So it should be evidence-based. It seems there's evidence now that getting checkups for colon cancer. For one thing, they're not as bad or painful as they used to be, but you catch a fair number of cases, and in most of those cases the person can be cured, but otherwise will die. So maybe we should do more of that.

I have a higher opinion of dentists. I think they're a bit more like Dr. Seuss set your broken leg. They do something purely mechanical, like having a plumber into fix your toilet. You may not need to go to the dentist. Fine, if you don't, but when I go to the dentist, I'm not actually so worried. I feel they're going to do something like the plumber fixing my toilet. My dentist visits have all gone pretty well as far as I know.

[00:30:59] JM: Is the food industry a success or failure of big business?

[00:31:04] TC: In the United States, I think it is a big success. So we have moved from a setting where poor people had malnutrition to a setting where obesity is a larger problem than is starvation. Now, that said, we as a nation need to do much more to have responsible eating, to have less junk food, less consumption of refined sugar. Those are valid criticisms of American agribusiness and the food sector.

Some of that may be remediable by policy, but I find it striking that if you look at data for educated people, they're eating better and better over time. Obesity for them is not a major problem. So there's some kind of sociological distinction. I suspect the way to make advances is to get more people into the sociological category of either being better educated or acting like they're better educated.

Food and harmful foods, they're not going away. You can't just X all of it at high rates. There's more healthy food around than ever before. So we have some problems there, but I'm pretty optimistic on that front.

[00:32:09] JM: In your book, you compared the job of the modern CEO to that of a successful philosopher. What is a specific example of a CEO action that taught you something about applied philosophy?

[00:32:23] TC: Well, CEOs need to understand so many different features of the human condition. They have to understand how to motivate workers. How to set a mission and vision for the enterprise? How to market products? What are people out there really want? How do global supply chains work?

So if you ask, "Who are the true intellectual generalists and polymath's of our current day?" I wouldn't say it's every CEO by any means, but CEOs of large companies as a general class are required to know and master more different things, more different skills, more different ways of thinking about our world, that indeed philosophers or even people we go around calling them polymaths.

[00:33:04] JM: One issue that you take on directly in the book is this suggestion that CEOs are overpaid. Obviously, if you compare CEO pay to something like being a professional athlete – In professional athletics, we never say, "Oh, Lebron James is overpaid."

Now, that said, I agree with you on the point of the CEO, that CEOs are not systematically overpaid. It's just you have this market dynamic where there is extreme scarcity of worthwhile CEOs or the excellent, the most excellent CEOs. But is there a potential for market failures at the lower layers of the management chain? Is it possible that there is a systematic underpayment of VPs, or middle managers, or janitors, or software engineers?

[00:33:59] TC: Well, it depends what we mean by the word underpay. It's very hard to measure the value-added by, say, middle managers or janitors. It's actually easier to measure the value of a CEO. You can look, for instance, at companies where a young CEO dies through a freak or

surprise accident and see how much the value of the company falls. Those studies seem to indicate founder CEOs are somewhat underpaid.

I think the most likely cases where labor is underpaid or in rural areas where you have a small number of dominant employers. The way to solve that problem is to encourage more people to move to cities and populous suburbs. That is our best weapon against monopoly and, indeed, monopsony, a small number of possible employers. Most Americans are moving in that direction. So I view that as monopoly in our lives diminishing, and underpayment diminishing.

[00:34:52] JM: Do you think, broadly, our society would function better if there was more pay transparency? If we knew what other people were getting paid so we could presumably arrive at market prices and prices that would satisfy employees at a faster rate.

[00:35:12] TC: I'm not sure about that. Some of the Nordic countries, such as Norway, they have free and publicly available tax returns. So everyone knows what other people are earning. There was a study that indicated this made people more depressed than cheery, and it made the more envious.

It could just be if you had full pay transparency, CEOs would demand more. They would say, "Oh, this person. He is getting this exact benefit package. I deserve that." The result might be pay inflation at the upper end where there's some bargaining power, and maybe not that much higher pay for the janitors, and just worse feelings all around. So I don't know. From what I know so far, I would not be inclined to do that one.

[00:35:55] JM: You suggest that the general population does not trust big business enough. But every business is different. Why should we have a general level of trust when it comes to business?

[00:36:08] TC: Well, it should be different in all cases. But if you look at generally posed questions about big business in general, you will find people have much higher approval rates for small business than big business. Even though it's quite clear in the data that small business is much more likely to rip them off. So it seems to me some kind of revision is needed here.

I would also stress the point that how people talk and how they behave are two different things. People spend more money on big business than ever before. That's a sign of trust with their actual dollars. So the full picture is a somewhat complex one.

[00:36:41] JM: You co-wrote an article recently with Patrick Collison about the science of progress. If you were designing an academic discipline around the science of progress, what would be in the curriculum?

[00:36:53] TC: It depends who and where you're starting with, but I think the topic of, say, East Asian economic growth should receive at least five or 10 times more emphasis than we currently give it, the topic of the Industrial Revolution. How to organize science? How we could improve the funding of science? Those are all topics that I think should receive not just like 10% or 20% more attention, but 5X or 10X more attention than what they're getting right now. Those would be some of my immediate candidates for status elevation and funding elevation.

You could even do that within existing departments, right? You don't have to necessarily have a new school, a new department. You may or may not wish to, but you can just do that right now with what we've got.

[00:37:37] JM: Tell me more about how your thesis of progress was refined while you were writing that article.

[00:37:45] TC: The first time Patrick and I wrote together, we went through many drafts. Patrick is an extraordinarily diligent and responsible co-author. Something doesn't seem right, he will turn his attention to it. He'll send me a message. I'll turn my attention to it. We would iterate. But then you go back and you revisit it five or six more times, and you'd better be ready to work on that basis. That's how I do things. I was very happy to be part of this process, but it's a very strict, rigorous way of writing and co-authoring. That's what I would say.

[00:38:16] JM: When you think about that rigor that was brought to the collaboration process there, one thing that surprised me about modern online interactions, we don't have a ton of that kind of collaborative outputs. If you think about music, for example, there's not very much music that is made with rigorous collaboration across the internet. I mean, you do have these groups

of like 1 to 2 people that occasionally are likes emailing files back and forth and they're working on a somewhat rigorous fashion. But it's sort of surprising to me.

I mean, you see this in software development, for example. You do see decentralized software development where people adhere to a certain rigor. But it just surprises me that we don't see more hi trust online collaboration. Do you have any perspective on why that is?

[00:39:07] TC: I'm not sure how much we in fact have. I feel I've done quite a bit of it myself and I've usually been happy with the process. To make it work, I feel you need to be available most of the time. It's not like, "Oh, my workday is over. I'm not going to turn to this now."

So if something pops up at 8:48 PM, you need to be on it. Otherwise, with two or three people involved, if everyone is waiting till the next person is like at the time when they can work, it just becomes too slow and it's a delay not of a few hours, but it ends up being a delay of two or three days. Then at some point, the thing is not fresh in your mind anymore. So it demands a very high degree of attention and diligence that a lot of people just aren't up for. Maybe that's one reason.

[00:39:52] JM: Did the experience make you curious about potentially doing more co-authorships or more collaborative writing processes?

[00:40:02] TC: Well, I've co-authored – I mean, I guess I could check my vita with 20 or 30 people in my life. Not blogging. Even that is co-authored blog, but the posts not co-authored. So a big chunk of my writing has been co-authored, and I don't think that will ever change. I think in the sciences, co-authorship has gone up over time a lot compared to 20 years ago, including in economics.

Now it's quite rare to see solo authored pieces. That somehow science is more demanding and more different skills are required and the work is more complex. I think we'll continue to see more co-authors, and personally I very much expect to be a part of that.

[00:40:41] JM: Is there a tradeoff for you lose some of the strength of your narrative voice, your narrative vision in exchange for may be stronger conclusions, the stronger conclusions, that

come from working with a collaborator who is going to be able to critique perhaps more subjective claims?

[00:41:03] TC: Well, it could be. So if Herman Melville's Moby-Dick had been co-authored, I pretty sure the book would have been much worse, right? It would've been less Melville, or James Joyce's Ulysses co-authored, sounds kind of crazy. They'd say like, "Jim, you can't just do stream of consciousness for 40 pages." What's the point of that kind of critical response?

But that said, if you find co-authors where you agree on vision and/or agree on voice or you're willing to delegate in the proper manner, I think it can work great. Most of the pieces you're writing, they're not intended to turn out like Moby-Dick or Ulysses.

[00:41:37] JM: What are the best books that have been written by committee?

[00:41:41] TC: The Bible, right? How about that? People dispute whether one person or multiple people wrote Homer's two works, but it's possible they were in some way written by committee. But, absolutely, I'll say the Bible, both Old Testament Hebrew Bible and New Testament written by committee.

[00:41:58] JM: What role his business historically played in progress?

[00:42:04] TC: There are multiple features of progress, but economic progress is a big part of progress and it's often a precondition for the rest, like cultural progress needs raw materials. It needs electric guitars. It needs paintbrushes, right? So businesses produce outputs. They innovate. They give people jobs. They connect consumers and producers. They make our lives happier. They help us realize our creative ambitions. All that is a part of progress, and business and big business, they really have a central – You could say the central role in achieving that.

[00:42:37] JM: Part of our society's collective frustration with the big business seems to be rooted in zero-sum thinking. Why is zero-sum thinking so pervasive in our society?

[00:42:51] TC: We're not sure, but here's an hypothesis that many people have suggested, that human beings evolved in a much poorer society and in very small groups where there was no

economic growth to speak of. In those settings, resources to a considerable extent probably were zero-sum or even negative-sum. So if that's our biological and cultural and social heritage, we shouldn't be too surprised if there's a lot of that still in us. I find that a difficult hypothesis to prove, but I think it's the best explanation I've heard so far.

[SPONSOR MESSAGE]

[00:43:30] JM: Apache Kafka has changed the world of data infrastructure, and Kafka Summit is the place to learn about new design patterns and engineering practices in the world of Kafka. Kafka Summit returns to San Francisco, September 30th through October 1st, 2019. Kafka Summit has sold out in New York and London, and the San Francisco event is likely to be just as popular.

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Join the Kafka Summit, September 30th through October 1st, 2019 and get 25% off your ticket by using promo code SED. I plan on attending Kafka Summit, and I hope to see you there.

[INTERVIEW CONTINUED]

[00:45:10] JM: One of the most painful elements of zero-sum thinking is that I thinking this gets back to envy. You alluded to envy earlier, and I think zero-sum thinking and envy go hand-in-hand, because if you think there's a limited supply of resources, then envy is actually kind of

rational, because you say, "Well, look, the only way I'm going to get this thing is if I take it from you."

But if we know that we're actually not operating under zero-sum conditions, you can actually absolve yourself of envy, which can be quite a relief. Do you have any pieces of advice that can help people move beyond zero-sum thinking or kind of get an internally actualized sense that really we should be thinking? Like the reality we live in is positive sum. You can move beyond your envy. Are there any kinds of exercises that can allow you to mentally move into that kind of frame of thinking?

[00:46:06] TC: Well, I say this to some people. I say you need to realize that most envy is local. So people who are envious, they're more bothered by how their brother-in-law's doing or their high school classmate than by Bill Gates for the most part. Maybe they're Bill Gates's high school classmate, but that another matter.

So once you realize the pettiness of your own envy, say you're even a Marxist and you're more bothered by the guy you went to high school with than by Bill Gates, then maybe you can achieve this broader perspective on your own imperfections and remedy some of that envy. If you want to act toward some political end to improve the world, fine, but you don't need to be envious about the people who were doing better.

If so much of it is the petty narcissism of small differences, not resentment of the billionaires. Often, the people who resent the billionaires of the other billionaires like, "Oh, this one is more than I do," or I found the Nobel laureates in economics sometimes are quite resentful of each other, which one gets more attention. That's crazy, right? The people at the community college are not resentful of the Nobel laureates. It's the Nobel laureates being resentful of it.

[00:47:11] JM: This, it's epidemic on social media, because when I open up social media I'm like, "Okay, this thing is fine and I don't really have much of a problem turning it off it off." Sometimes I get a little bit hooked to it. I get hooked to like a good TV show. But I find that when people say like social media makes me feel bad. Oftentimes, the root cause is something like an envy or it's a diagnosis on yourself.

It's a diagnosis on something that you need to kind of fix in your philosophical outlook. I mean, is there a problem here with how the feeds are being constructed, or some kind of features of social media, or is this the kind of envy or negative toxicity that we feel that emerges from within us when we may be are looking at an Instagram feed? Is that a critique of ourselves rather than a critique of the medium?

[00:48:01] TC: Of course. Fix your Twitter feed. Mute people, mute terms. If talk about trump depresses you or if critics of Trump depresses you, whatever, mute those words so you don't view those posts. Twitter usually cheers me up, believe it or not. I use it to follow other countries. I don't use it to follow partisan politics. It's a fantastic source of information and opinion, and you see the true diversity of what people out there in the world believe. Even if 9 out of 10 disagree with you or might even call you a name sometimes, I mean, you can revel in that diversity, right? I think, yeah, we should train ourselves to use it better and appreciate it more.

[00:48:41] JM: How do use Twitter in an environment like what happened when – When you published this article about the science of progress, I was looking at the responses to it and like there was a ton of negativity, but also you never know on Twitter these days what negativity is from humans and which of it is like a bots that are just sort of like you're drifting along this conversation and doing weird bot things. We have no idea how reflective this is of reality. What can you gain from looking at a thread like that or do you just avoid it entirely?

[00:49:16] TC: Oh, no. I don't avoid it. I read all of them. I try to learn from the criticisms. Overall, a lot of critical reaction, I thought this is great. We also had a large number of people jump in to defend us. The third and fourth waves of response were very positive. Email response I've received has been overwhelmingly positive. To me, it's a sign you're getting attention. So I celebrated. I didn't have some kind of down moment where I'd hang my head or get upset. I did try to learn from the criticisms.

One fellow who seemed to be a Marxist wrote a very insightful thread about the notion of progress studies in the history of Marxism, and I learned something from that fellow. He was critical. Again, always try to learn from the people who are attacking you are offending you.

[00:50:02] JM: You recently interviewed Neal Stephenson. If there was one issue about the future that you could ask Neal Stephenson to write an entire book about, what would that issue about the future be?

[00:50:13] TC: Well, he's written so many books covering so many topics I'm interested in. What if the world were about to end because of an asteroid coming? Well, it's the moon breaking up. It's not an asteroid, but it's the same kind of premise. Now, he's covered something like Robin Hansen's *Age of Em,* and he's covered social media getting out of control.

I guess I would like to see Neal Stephenson do more from history than the way he did with Cryptonomicon, and the Baroque trilogy, and Leibniz and so on, and Newton. I'd like to see him go back in time, not forward. But explore alternative paths that are in some way weird.

[00:50:50] JM: How does magical realism compare to science fiction?

[00:50:55] TC: If you look at the magical realism of Latin American literature, say, Gabriele Garcia Marques, it's not even the same as fantasy, but unusual events can happen without rules and they are drawn those events usually from the myths of the cultures Garcia Marques has in mind, and the degree of that fantasy is quite limited, typically to steer a few turning points in a very particular story, most of which is realistic.

I view fantasy novels as creating different rules, but without having real scientific patterns or justifications, and I view science fiction as either changing science or changing an assumption as to which technologies have been realized. But at least with a pretense to there being a logic and structure to what's going on. That's how I see those three genres as differing.

[00:51:46] JM: To go a little bit deeper on this, this question of fictions, one thing I think about sometimes is if you took the world of Harry Potter and you replaced the magic wands in Harry Potter with a smartphone or like an advanced smartphone device that also allows your broomstick to make you levitate. The books would actually become like kind of believable. If you imagine instead he goes to Hogwarts, he goes to like Google, and they're like, "Yeah, we've actually got this levitation technology. It hasn't made it out into the world yet, but we've got it." These books would become believable.

Do you have any perspectives on, I guess, the comparison between fantasy and science fiction? Are those two realms, is there more overlap to them?

[00:52:34] TC: Well, we have levitation technologies, of course. They're called airplanes.

[00:52:37] JM: That's true, yes.

[00:52:38] TC: And now drones, and even the proverbial flying car may be realized in some manner. I'm not sure how practical it will be. That may not be safe to have a levitating broomstick, but it does not seem technologically far away at all.

So I think what's special about Harry Potter is that there's an attempt to put it into the worldview of a child the way in which arbitrariness is invoked is different than would be if you simply put iPhones or flying cars into the story. So the mix of how arbitrariness relates to how the characters see the world and have internal visions, there's some kind of magical blend of that in the rolling novels that I don't think you could get by just putting in technologies that might turn out to be realistic pretty soon. So something about the willfulness of a child's worldview I think those books are capturing.

[00:53:35] JM: I wonder what the division of labor would be if Neal Stephenson and JK Rowling co-authored a book together.

[00:53:44] TC: Well, we talked about co-authorship before. I think it's maybe harder when you have two people at the very top of their respective genres, and they may just not agree enough. Neal Stephenson does have co-authored novels, as you know, and they are good, but I don't feel they're his best work. But the other writer, I can't even remember the name, but it someone not very well known. Of course, it's not JK Rowling, and that's endogenous to the nature of that kind of co-authorship.

[00:54:15] JM: When you're writing with Patrick, was there pretty natural division of labor? I mean, what were the areas where you kind of ceded seated to him and what were the areas where he kind of ceded to you or is that how it worked?

[00:54:28] TC: Well, the natural division of labor is that we each worked on every part of the piece. So we each are what we call fallibalists, that we try to defer to evidence and argumentation from the other. So I felt this two fallibalists. We work together pretty well, and the content of the piece, I don't feel it represented a compromise from either one of us, like, "Oh! I'll let you have this paragraph that way if you give me my way on this paragraph." I think we both agreed with all of it. You'd have to ask Patrick. I can't speak for him, but that was my sense at the end that we both were happy with all of it. We both worked on every part repeatedly, and that was how we divided the labor.

[00:55:07] JM: When you think about information dissemination, when you think about these different narratives, like books, podcasts, co-authoring an article, are there different mediums that are specifically better for different ideas or do you think that all ideas should just be explored in these different mediums?

[00:55:24] TC: Well, I think some media are better for some ideas than others. So, for instance, there's a lot in mathematics. I just don't see how you would do it in podcast form. There're some parts of economics that works great in podcast form. If you're doing empirical work on law and economics and what causes or doesn't cause crime, I think that's marvelous material for a podcast, and Jennifer Doleac is doing this now with her Probable Causation podcast.

But if you're doing econometrics, I don't know. Maybe someone will figure it out, but my guess is that was meant for text or may be a kind of interactive app. So, I think over time, we'll see more specialization of topics into various media, like what's narrative? What is not narrative? We have all these new media. Blogs, they feel old hat, but they're really still remarkably new in a way. Twitter is quite new. Podcasts are mostly new. Radio is changing. So I think we're just starting to sort all this out and we're going to see a lot more change.

[00:56:25] JM: Should the education system be structured to encourage more polymaths?

[00:56:32] TC: Well, in the abstract, I would like to say yes, and I believe it should be. But it's very hard to create more polymaths when you don't have that many polymath teaching in the system. So I suppose what I would like to see is more freedom in terms of time, less homework,

and more ability of, say, children in high school, having the ability to seek out mentors outside of high school. My hope is that will in some way encourage more polymaths.

But simply to sort of force more polymath through by recipe. It seems like a very non-polymath like approach to the matter. So I think we need to be very careful and not just say, "I like X. Let's have more X." That's often a recipe for trouble.

[00:57:15] JM: Do you think there's any correlation between how young somebody gets exposed to a smart phone and their likelihood to become a polymath?

[00:57:25] TC: It's a very interesting question. I've never seen data on it. It could be the correlation is negative, right? So if you grow up with, say, an iPad and a universal library of the sort Google gives you, you might specialize sooner. Whereas if you grow up in book culture, you may spend years trying to read everything to figure out how and where you fit in. So I'm not sure, but I could see it going either way.

[00:57:53] JM: Do you think young people should be restricted from having smartphones? Do you think there should be a minimum age?

[00:57:59] TC: I think there should be experimentation. I do observe that a lot of parents who work with tech have screen time quotas for their children. It doesn't mean it's a good idea, but let's have some randomized controlled trials looking at comparable groups. When Yana, our daughter, was growing up, there was no screen time quota for her. She turned out just great and taught me many things about how to use the internet. So, I think you're going to find a lot of diversity in the results. I would say, so far, we still don't know.

[00:58:27] JM: One other emergent trend is that there are more entertainment polymaths than ever. So if you take somebody like Joe Rogan, or Kevin Hart or even yourself, you're kind of an economist, but you're more of a polymath and yet there are still pressures for you to stay in the box of an economist. People want to describe you as an economist. Do we need to change? Is there some linguistic change we need to make around how we talk about prominent public individuals to encourage the notion of polymaths?

[00:59:09] TC: I'm not sure the words are going to do it. I mean, here is what I see is happening in the broad picture. The world as a whole, there's more division of labor. Adam Smith wrote about this way back when. That means more specialization, higher productivity, all that's been going on for a long time, but the more you have this extreme specialization, you open up these windows for people to be polymaths and synthesists and to step in an appeal to an audience who wants to know what's going on in a lot of different specialized areas.

So there's somewhat of a natural dynamic where there were some corrective forces to access specialization, and I've, of courses, as you mentioned, been one of the people to step into those generalist spots. But in another way, you can think of the generalists as the most specialized people at all. They've specialized in being a generalist, and that is no less of a specialization. In another funny way, that also fits Adam Smith's story. So I'm not sure there's a big institutional failure that needs fixing.

[01:00:07] JM: What character from fiction would you like to interview on a podcast?

[01:00:11] TC: I guess Ulysses. Well, a number of Ulysses in fiction, but from Homer to Joyce.

[01:00:20] JM: What would you ask him?

[01:00:22] TC: I would ask in Homer's The Odyssey, I would say, "Why didn't you just go home to Ithaca and live happily ever after with Penelope and you run around like a jackass endangering your crew getting into all kinds of trouble? You're not even necessarily visiting appealing or attractive places." I would want to call him to account. On Odysseus, "What were you doing?"

Then I would want to ask Bloom in James Joyce's book, "What didn't you tell us that isn't in the account?" Then all of the characters in Moby-Dick, I'd like to ask them, "What do you actually think about God what are your views of the spiritual and the divine? What are you doing out here chasing after whales, hunting whales, or is it really just for money or was it for the excitement? What else? What are your aspirations?" Those would be my first interviews. If you count the Bible of course, that's a whole topic of its own. But maybe that would be first in line of all of these if you count that as a literary construction.

[01:01:22] JM: Well, you'd have to interview the committee.

[01:01:24] TC: Sure, but you'd sit down with the authors of the Gospels and ask them, A, what else happened that you left out and how to reconcile the conflicts and tensions and the different accounts. The different accounts, three different accounts of the 10 Commandments and the Torah, they're quite different. The two main accounts in Exodus and the one in Deuteronomy, why did they change and what accounts for the change? To ask Moses and others, that would be pretty phenomenal. I think that podcast would get quite a few downloads.

[01:01:54] JM: All right. Well, I look forward to the very first multi-guest conversations with Tyler. Multi-guest fictional, perhaps, guests. Anyway, thank you.

[01:02:04] TC: When all you software engineers build the time machine, I'll be there to do it, right?

[01:02:09] JM: Actually, maybe this should be Neal Stephenson's next novel, is podcast interviews with fictional characters.

[01:02:15] TC: That'd be interesting.

[01:02:16] JM: Okay, Tyler. Thanks for coming on the show once again. It's always a pleasure.

[01:02:19] TC: My pleasure. Take care. Bye.

[END OF INTERVIEW]

[01:02:25] JM: When I was in college, I was always looking for people to start side projects with. I couldn't find anybody. So, I ended up working on projects by myself. Then when I started working in the software industry, I started to look for people who I could start a business with. Once again, I couldn't find anyone. So, I started a business myself, and that's the podcast you're listening to. But since then, I've found people to work with, on my hobbies, and in my

business, and working with other people is much more rewarding than working alone. That's why I started FindCollabs.

FindCollabs is a place to find collaborators and build projects. On findcollabs.com, you can create new projects or join projects that are already going. There are topic chat rooms where you can find people who are working in areas that you're curious about, like cryptocurrencies, or React, or Kubernetes, or Vue.js, or whatever software topic you're curious about.

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Thanks for listening, and I hope you check out FindCollabs.

[END]