

# Charlie Munger Caltech interview

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Questions from Prof. Jean-Laurent Rosenthal (interviewer) and students/alumni

*Career choice question –*

It's very important to pick a career. My decision to pick law, which was following in my family's footsteps. It wasn't really a smart decision in hindsight.

I had an army of children to support which was going to be difficult because of the things I saw in my law practice that were quite limiting. What happened was with my pitifully small earnings as a young man, I kept investing them fairly boldly and fairly smartly, and at the end of my first 13 years of law practice, I had more liquid investments than all the money I had made in those 13 years pre-tax. So, it was natural for me – partly influenced by the success of Warren Buffett. I figured if I could do that in my spare time, what will happen if I did it full time?

*What have been the biggest changes over the 75 years that you've been connected to us (Caltech)?*

Huge booms and huge busts which have been very interesting. And of course, the government has tried things to dampen down the fluctuations and make recoveries happen faster and of course this has caused a lot of inflation. What has happened in the investment field is that so many people have gone into it and made a lot of money. When I was young there was almost nobody in the field and nobody was smart. And now there is a ton of people in it and almost everyone is smart, including good Caltech graduates. There have been so many people sucked into finance, by the money. So that's been a hugely important development that I don't welcome at all. I don't think we want the whole world in investing by trying to outsmart the rest of the world by buying securities, but that's what happened. And there's been frenzies and speculations, etc. So it's not been all good.

*Question about technology...*

I didn't make his fortune on the cutting edge of technology. My first investment was a company right in Pasadena called William Miller Instruments and I almost lost all my money as we just barely squeaked out with a substantial outcome. And what did them in was the oscillographs that they invented that they were so proud of – someone had invented magnetic tape without telling me and by the time that we got the product about ready to go to the market, we had sold three, THREE total in the whole country. This technology is a killer as well as an opportunity – and my first experience had damn near killed me (laughs).

*Question about how one should think about these processes over the long term...*

Overall the long-term, companies behave more like biology than they do anything else. And in biology, all the individuals die and so do the species – it's just a question of time. And that's pretty well that happens in the economy too. All the things that were really great when I was young have receded enormously and new things have come up and some of them have started to die. That is what the long-term investing climate is and it does make it very interesting. Look at what's died – all the department stores, all newspapers, U.S. Steel, John D. Rockefeller's Standard Oil the (indiscernible) a pale of it's former self. It's just like biology. They have their little time and then they get clobbered.

*So how does someone deal with change, etc.?*

Well, some people try to get on the cutting edge of change so they're destroying other people instead of destroying themselves. And those are the Googles and Apples and so forth. Other people like me, do some of that – joining things like Apple – and in some ways we just try to avoid big change by things that are gonna hurt us. So, Berkshire for instance owns the Burlington Northern railroad. You can hardly think of a more old-fashioned business than a railroad business. But who in the hell is every going to create another railroad? So it's a very good asset for us. And we made that success not by conquering change, but by avoiding it. But Burlington Northern has been very clever adapting technology to their railroad. Imagine the good luck of being able to take an existing railroad and double deck all the trains and raise the heights of all the tunnels and so forth....and all of a sudden you've got twice the capacity.

Everybody uses new technology, but it really helps to have a position that almost can't be taken away by technology. How else are you gonna take goods from the core of Los Angeles to the rest of the country without our railroad?

*So its innovation within an economy that continues to follow certain sets of rules rather than looking for the economy, is that another way to think about it?*

There are different ways – all successful investment is trying to get into something that find something that is worth more than what you are paying. That's what successful investing is. There are lots of different ways to try to find something that's worth more than you're paying. You can look for it betting on the cutting edge of technology the way Sequoia does. The most remarkable investing firm in America is probably Sequoia – that venture capital firm, which absolutely, fanatically stays on the cutting edge of modern technology. They've made more money than anybody and have the best investment record of anybody. It's perfectly amazing what Sequoia has done.

*How does one guard against mental biases in decision making?*

I've spent a lifetime trying to avoid my own mental biases. A) I rub my own nose in my own mistakes. B) I try and keep it simple and fundamental as much as I can. And I like the engineering concept of a margin of safety. I am a very blocking-and-tackling type of thinker. I just try and avoid being stupid and I have a way of handling a lot of problems – I put them on what I call my “too hard pile” and I just leave them there. I'm not trying to succeed in my “too hard” pile.

*And do they sometimes come back and require you too....*

Oh, I sometimes get things that are “too hard” and when that happens I fail.

*So, one has to accept limitations. Is that one of the important pieces of avoiding these biases?*

What I would say is the single most important thing if you want to avoid a lot of stupid errors is knowing where you're competent and where you aren't. Knowing the edge of your own competency. And that's very hard to do because the human mind naturally tries to make you think you're way smarter than you are.

*Question on innovation in finance – how much of it is helpful to the markets vs. How much of it creates instability?*

I have a very clear opinion on that. I think the early innovation that Bank of America did under Giannini, where he helped all these immigrants – I think that was all for the good. That brought banking help to all the people that deserved it. It helped the economy, it helped everyone. But once banking got so they wanted you to be on (indiscernible) hands, and make zillions as speculators – I don't think those developments have been a plus. I like banking when they are trying to avoid losses prudently.

*I have one more question that I think a lot of people have on their mind. COVID has been extremely disruptive to American society and the American economy. How do you think the economy is going to emerge over the next 12 months from this period and how much of the change is going to be persistent?*

Well, my opinion on that is no better than anybody else's. But, I think it's quite likely that a year from now, the worst of it will be very thoroughly behind us. It's amazing – I watched polio get totally killed by the vaccinations and I think they will spread these vaccines across the world so fast it will make your head spin. So I think that this horrible COVID thing is very likely to shrink to insignificance over the course of the next year.

*And what about the transformation of retail?*

Well, I don't think retail is going to go away – after all it's been around for thousands of years. But certainly, it's been a very difficult place to make money because of what the internet has done. I recently had a friend send me a blue blazer made in China, bought on the Chinese internet and it cost \$42, delivered. And it may have not been a perfect blazer, but it was an amazing blazer for \$42. The person that created that blazer, gave some little factory and order for 100,000 at once and those had been pre-sold using the internet.

So, it's the most extreme, kill-all-the-competitors type of retail you've ever seen. Of course retailing hasn't coped with something like that. How good is it for Brooks Brothers that someone could deliver a blazer from China for \$42? Retailing has gotten VERY tough and I think this online stuff is here to stay and will get more and more efficient.

*So that could actually be good for the consumer, but more difficult for certain sets of investors?*

The changes are always bad for some investors and good for others. But when they're bad, they're very bad. I don't (indiscernible) the changes that are coming in terms of this online shopping.

I'm a director at Costco and the last reporting period, their online sales were up 86% over the same quarter last year. Now, that is a significant development. Is it good for other retailers? No, it's good for Costco, but it isn't good for them.

*But how much of it is people that would have shopped in Costco in the stores?*

Their brick and mortar stores are already doing well, but they have been enormously destructive to other retailers because of their low prices and efficiency. And now they are doing this internet thing. The last thing I would want to do in retail is compete with Costco.

*So, we've talked a bit about retail and the reorganization of the labor force – do you think that is going to be more a transitory phenomenon where once we get vaccinated, the jobs will return? Or are we more likely to see a slow return in the same way that we saw in 2001-02?*

I did not make my fortune – such as it is – by predicting macroeconomic changes better than other people. What Buffett and I did, is we bought things that were promising and then we just – sometimes we had a tailwind from the economy and sometimes we had a headwind – and either way, we just kept swimming and that's our system. After all, that's the system Caltech has too. Caltech just gets up in the morning and keeps swimming and pretty soon they're eminent. They're not trying to play the game of getting big advantage out of the booms and busts. We're just like Caltech.

*Well we do hope we are committed to our path of discovery and not the victims of the current fashion and that we have the....*

Yeah, I mean you're trying to get the right answers, but you're not trying to predict what the economy is going to be like 18 months from now.

*So we have a bunch of really interesting and imaginative questions from the audience....first one is that really smart people see the future better than others and so we can ask what did you think about that and his second is question is did you ever make a bad business decision?*

Well the answer to the second one is of course I made bad business decisions. You can't live a successful life without doing some difficult things that go wrong. That's just the nature of the game and you wouldn't be sufficiently courageous if you tried to avoid every (indiscernible)

*And the first question?*

Well, that is a very interesting question....you could argue that both ways. A lot of smart people think they are way smarter than they are and therefore, they do worse than dumb people. And, it is very common to be utterly brilliant and think you're way the hell smarter than you are. I think Warren and I have been pretty good at avoiding that one. We're pretty modest about – I know about what my mental capacity is, and it's pretty low compared to the best that it could possibly be.

When I was at Caltech I took this course in thermodynamics from Homer J. Stewart and one thing I learned – by the way a lovely human being and gifted beyond compare – and one thing I learned is that no matter how hard I try, I could never be as good at thermodynamics as HJS. And that is a valuable

lesson – I knew what I could do and what I couldn't and I never even considered trying to compete with the HJS of the world in thermodynamics.

*How did the study of meteorology influence your thinking?*

Well, not much, but you learn something from anything you do. It was a very empirical science in those days – we just made weather maps which laid out the weather on the map. And then we stacked up those maps and as one followed another, you could see whether weather systems were moving. And that's the way we were predicting the weather and, of course, that's a lot better than nothing, and we did have some tricks like predicting icing and so forth. But basically we were just doing two things – we were trying to prevent a pilot from going somewhere and not being able to land and, therefore, having to crash and die, or we were trying to prevent a pilot from going into icing that so tough that he couldn't handle it. And if I did that in my Army Air Corps, I knew I wouldn't kill a pilot. Now that's not very complicated by Caltech standards...

Yes, there is a lot of uncertainty, but sometimes it's pretty easy and when it's likely to be bad you can tell them not to go. I was in the ferry command, so I didn't have any bombing runs or anything like that. So, if it was going to be dangerous I just told them not to go.

It was such an empirical science I never wanted to be in it. They threw the meteorology department out at Caltech and I think it was a correct decision. It was too empirical for CT.

*So we're back in climate science...*

Well, climate science is different from meteorology. That's a very interesting subject of which there is a lot of disagreement

*Well we're actually trying to make some progress in having better predictions on the long-run predictions of the climate and of the globe...*

Everybody is, but it's proven very difficult. It's better than nothing – don't misunderstand me – but it's proven very difficult. My attitude on that is, that the worst that can happen – in terms of global climate – can be coped with by the advanced civilizations. If you had to erect sea walls to protect the entire present United States, that wouldn't take that much of GDP per capita for that many years and it could be done quite safely if we had to. So I don't see that as the worst tragedy that man could get.

*What is one critique of Caltech or its alumni that we ought to pay attention or how should Caltech evolve in the future?*

I think Caltech is doing very well just the way that it is and one of its great advantages is that it doesn't change too much. I think it was very smart to keep the undergraduate department pretty small and keep the graduate department so outstanding. In other words, I think the whole idea was pretty sound and it hasn't changed very much. Remember, I was there when Milken was there and I knew him – but not well – and it hasn't changed that much. And I think that's been its strength.

*Question about the importance of talking to people from different disciplines – in thinking about those investment opportunities and other situations where you are trying to be smart, how much of this is accepting information from a variety of different sources, to cross check the decision you want to make?*

Well, I'm a big fan of knowing the big ideas in pretty much all the disciplines – the ones that are easy to assimilate – and then using those routinely in your judgements. That's just my system. I don't believe in just constantly consulting with experts and doing things that way – I might do that if I were building a chemical plant or something. Investment decisions, I think it's very helpful to be able, yourself, to be very comfortable with the big ideas in all the disciplines. And I think also, life is more fun if you do that.

What I find is though that academia is not very good at the multidisciplinary stuff. Academia rewards the researcher who knows more and more about less and less. And there are real difficulties with that approach.

*That is an inevitable part of the way we go about doing....*

I know it, (indiscernible) outside your own little field, it's dangerous.

*Do you expect the next 10 years to have lower returns than the last 10?*

The answer is yes. Yes, because so many people are in it, and the frenzy is so great, and the systems of management – the reward systems – are so foolish. That, I think returns will go down – yes. In real terms, the returns will be lower.

*What do you think about the combinations of quantitative easing and large fiscal deficit and where are they going to lead us?*

I've got a very simple answer – it's one of the most interesting questions a person could ask – and we're in a very uncharted waters. Nobody has gotten by with the kind of money printing we are doing now, for a very extended period without some trouble. And, I think we are very near the edge of playing with fire.

*It's remarkable how much money printing there is...*

“Remarkable” is not too strong a word – astounding would be more like it. Well, it's unbelievably extreme. Some European government borrowed money reasonably for some tiny little percent of 1% for 100 years. Now, that is weird. What kind of a lunatic would loan money to a European government for 100 years at less than 1%?

*We've been creating wealth since WWII at a very high rate. Have the rules changed to some extent because the developed economies are just very wealthy?*

Well of course it's changed to some extent because the developed economies are very wealthy – it's changed enormously. In my lifetime, advanced civilization has gotten ahead faster than any century that exists before and nothing else is even close. It's utterly without precedent, in real terms. It's unbelievable – I watched the whole damn things practically because I've lived so long. And it's been absolutely astounding.

I can remember having a five-course dinner in Omaha for 60 cents when I was a little boy. The world has really changed.

*Is the NASDAQ in a bubble and will it blow up, and do we know when?*

Nobody knows when bubbles are going to blow up, but just because it's NASDAQ doesn't mean it will have another run like this one very quickly again. This has been unbelievable. Again, there's never been anything quite like it. If you stop and think about it, think what Apple is worth compared to John D. Rockefeller's whole oil empire. It's been the most dramatic thing that has ever happened in the entire history of world finance.

The other thing that's really remarkable, the last 30 years in China, they have had real economic growth at a rate for 30 years that no big country has ever had in the history of the world. And who did that? A bunch of communist Chinese! Now, that is really remarkable. So, if you're studying finance you have a lot of strange things to account for.

*So how would you rate investing in China with the current tensions, or are you invested in China through American companies that do business in China?*

Well, of course I'm invested in American companies that do business in China, including Coca-Cola. But, I'm also invested very significantly in China through the management of Li Lu, who the Munger family backed heavily when he formed a little private equity firm to invest in China. He has had a very successful record and it's made me follow very closely the leading companies in China. And, of course I've had a very successful experience there. And I think it's likely to continue. The Chinese story is the damndest thing that ever happened to a big country in terms of economics. Nobody other big country ever got ahead that fast for that long.

*Now does that say that the politics don't matter so much or...?*

Yeah, that's a very interesting observation. What that shows exactly right. Who would have every guessed that a bunch of communist Chinese run by one party would have the best economic record the world has ever seen? Of course, it's extreme. And I think it proves that...we Americans would like to think our free expression and allowing all kinds of opinion, and all kinds of criticism of the government is totally an essential part of the economy. And, what the Chinese have proved is that you can have a screamingly successful economy with a fairly controlling government. All the government has to do is create a lot of Smithian capitalism and if you do that – having a sort of controlling, one party government – doesn't matter. That's not a fashionable thing to say, but I think it's true.

*How do you encourage people to take big bets on big edges and how should this be taught at Caltech?*

Well, if you asked, how could Caltech teach people to win at chess or poker tournaments, you would find that some people at Caltech are very good at that and others aren't. If you want to win on those things, you've better bet on the people that are very good at it, and not everybody is. I don't think Caltech can make great investors out of most people. I think great investors to some extent are like great chess players – they are almost born to be investors.

*And that's because of the tolerance for risk, is it the patience...?*

Obviously you have to know a lot. But, partly it's temperament, partly it's deferred gratification. Good investing requires a weird combination of patience and aggression – and not many people have it. It also requires a big amount of self-awareness in how much you know and how much you don't know. You have to know the edge of your own competency. And a lot of brilliant people are no good about knowing the edge of their own competency – they think they are way smarter than they are. And, of course that's dangerous and it causes trouble. So, I think Caltech would have a hard time teaching everybody to be a great investor.

*But could it help people discover that they have that temperament? Or is this something that you should mostly try on your own?*

I think you find out whether you've got the qualities to win at poker by playing poker.

*That's a very empirical approach Charlie...*

Yes, but I think it's right. Obviously it helps to know the basic math of Fermat and Pascal, but everybody with any sense knows that stuff, but having the temperament where Fermat and Pascal are almost as much as a part of you as your ear and nose, that's a different kind of a person. And, I think it's hard to teach that.

I have found – Warren and I have talked about this – in the early days when we talked about our way of doing things which was working so well, we found some people got it and they instantly converted to our way and did very well and some people – no matter how carefully we explained it and no matter how successful they were – they could never adapt it. They either got it fast or they didn't get it at all. So that's been my experience.

*You've talked about the search for psychological research and education on how humans truly operate, have you found it yet?*

Well no, I haven't find anything yet except how to get by fairly well and that's harder than a lot of people think. Just think of how hard it is to get far ahead in life. Imagine, suppose you want to get ahead at Caltech, you like the academic life. Caltech is very good at getting tenure – if you're very brilliant and work 80 or 90 hours a week for 10 years you get tenure. That is not what I call an easy life – and competing with the Homer Joe Stewarts. I chose to avoid it because I knew I wouldn't win big at it. I would have been a perfectly successful professor by my own standards, but I wouldn't have been a star.

*So finding your own path is something you really recommend to everyone?*

Well no – what helps everyone is to get in something that is going up and it just carries you along without much talent or work. And, so you pick a really strong place – like say Costco – and you go to work at it and you're really reliable and nice, you're going to do fine in life. You've got a big tailwind. But, in elite education, nobody wants to go work from Costco from Harvard, or Stanford, or MIT and, of course it's the one place where it would be easiest to get ahead.

*I'm 16, I want to take up investing as a full-time career, what is Mr. Munger's best advice for me?*

Well, if you pursue any career with enough fanaticism – that's very likely to work better than not having the fanaticism. Look at Warren Buffett – he had this fanatic interest in investing since an early age, and he kept making small investments, even with his paper route savings and so forth – and he finally learned how to be pretty good at it. So, if you want to succeed investing, start early and try hard and keep doing it. All success comes that way, by and large.

*What are you proudest of?*

Well, I am proudest of avoiding some things that don't like. I don't like..... irrationality and I've worked to try to avoid it in my life. And I haven't succeeded of course, nobody does. But, I've done better than I thought I would starting out at a fairly low state. And, it's been a pleasant way of going. And, by the way Caltech really stands for that, Caltech really tries to figure things out. That's the value, and having that just right in your germ plasm.

I work a lot these days with a Caltech post doc who's now a professor of physics at UCSB, and he's a pleasure to work with – he never says anything stupid. He's just so talented – Lars Bilston is his name. And he heads that visiting program for the physicists of the world at UCSB, but Lars – he's trying to figure it out right. And his graduate students are trying to figure it out a little faster and better than other graduate students. That's Caltech – he was at Caltech two or three years and Lars Bilston is a wonderful man – Caltech is full of people like that. I don't think Caltech has a lot of improvement that they can do in their physics department – it's pretty good the way it is.

*Well we are very glad about that and are very proud....*

Well, you should be. It's hard to be that smart in the liberal arts. Partly because many liberal arts professors are so leftist. It's hard to be pretty smart if your crazy leftist. Your gonna have the world a lot wrong.

*What did you get out of Caltech that was the most memorable for you?*

Well, it comes back to Homer Joe Stewart was just exactly the type of person that you want representing Caltech to the students. And I came back for my 50<sup>th</sup> anniversary and there was he was – he was just sharp as a tack. And he said what's interesting about thermodynamics is how little of it mathematically from Newtonian physics and that is such a good thing to say. And if you understood both subjects, you understand that it's correct. It's weird – you would think that you could just derive all thermodynamics from Newtonian, but you can't. In other words, as long as you have people like Homer Joe Stewart, you don't have to worry about Caltech.

*Which of your acts of philanthropy are you proud of?*

Well, I'm not that proud of my philanthropy. I regard it as the absolute minimum duty – if someone is reasonably successful, you ought to be reasonably generous. So I don't think you get big merit points if you do that – you get discredited if you didn't. I don't think I've been any record philanthropist, I've

given away more money to my family than I've given to philanthropy – I'm sort of a bad example. Now, I think my philanthropy has been fairly intelligent – I think I've done a lot of good with the money I've given away, but I don't think I deserve a lot of credit for giving away money that caused me a lot of pain. I don't want to be under false pretenses on that.

*What are you most curious about over the next 30 or 40 years?*

Well, having been an investor for so long, I'm of course interested in these weird present conditions and these weird economic conditions where they're printing money like crazy and so forth – of course that's very interesting. And, I'm interested in the fact that the world has come so far in having these underdeveloped countries get ahead like China. And, then I compare India, which has a way worse economic record even though they've got more of our political – you know, they have more free speech in India, but a way worse economic achievement.

I think the economic development of the modern world is very interesting subject and I see why so many people in economics like it because it is just so perplexing and so interesting and, of course the achievements have been so great. And technology is the same way. Who would guess that the whole world could have colloquia on Zoom? We weren't doing a year and half ago. I mean it's just amazing what's happened. Who would have guessed? A lot that's happened should surprise everybody and it's very interesting.

*Charlie thank you very much for this conversation....*

Well I liked Caltech when I was there. It wasn't on the career path I was gonna choose for myself, but I loved the detour that I got by accident having to participate in a war. It was good for me to be in Caltech for my nine months and it's been good for me to live in the same community all these decades since. No, I liked the whole thing...