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The production functions of smart and successful people

Esther Dufo Professor of economics at MIT. Nobel laureate in economics (2019).

26-33 minutes

I'm a big fan of [Tyler Cowen's](#) podcast, [Conversations with Tyler](#). Tyler Cowen is an economist, polymath, and long-time editor of the [Marginal Revolution](#) blog. On his wide-ranging interviews, Tyler speaks with various academics, authors, and generally interesting individuals - many of whom are under-recognized.

Near the end of most episodes, Tyler asks some version of this question to his guests: "What is your production function?". For those without an economics background, a "production function" is a mathematical equation that explains how to get outputs from inputs. For example, the relationship between the weather in Florida and the number of oranges produced could be explained by a production function. In this case, Tyler is tongue-in-cheek asking his guests what factors drive their success.

For a few months, I've been fascinated by the answers. Recently, I made several large changes in my life in an effort to pursue my own success. So now seemed like a perfect time to analyze and digest advice from the sort of people whose achievements I admire.

Before going further, I'd like to clarify that ***I am not in any way affiliated with the show***. I'm not being paid to promote the show nor am I paying anyone to use these quotes. All interpretations are my own.

In total, I managed to extract quotes from 56/95 (59%) of interviews. Shortly after starting, it became apparent that much of the advice was similar and could be grouped together. This didn't surprise me. What did surprise me was how popular some categories of advice were compared to others. Worth noting, not every quote is from a "production function" question, some interviews generated multiple quotes, and some quotes found their way into multiple categories.

1. Learn broadly and have a lot of diverse experiences

Many people spend their whole lives thinking about things in the contexts of their jobs or their areas of study. With so many people in such narrow boxes, the interesting things within those boxes have largely already been done. Relatively fewer people venture into multiple areas. With fewer people, it's easier to do interesting and novel things. While I'm not surprised that this is advice, I am surprised by how common it is.

"Spend a year or two in a developing country, working on a project. Not necessarily inner city. Any project spending time in the field ... It's only through this exposure that you can learn how wrong most of your intuitions are and preconceptions are. I can tell it to them till they are blue in the face to not let themselves be guided by what seems obvious to them. But until they've confronted what they think is obvious to something entirely different, then it's not clear."

"Say yes to everything. You don't know what's going to lead to what. So when you're 24, say yes to every opportunity. I was a movie critic, I was a foreign correspondent. That was a very useful thing to have. I wrote about El Salvador. I've still never been to El Salvador. Just somebody asks you to do something, say yes."

David Brooks NYT op-ed columnist. Author of *The Road to Character*.

"Learn a lot of the other stuff about life. And the preclinical stuff is not that important. We put a lot of emphasis on that microbiology, that pathophysiology. Learning it is important, but don't overemphasize it. There's a lot of other life that you need to really understand to understand American medicine and to understand your patients and provide optimal care."

Ezekiel Emanuel Senior fellow at the Center for American Progress. Oncologist. Bioethicist.

[Show all \(14 quotes total\)](#)

2. Be disciplined, organize your day, and get it done

Discipline is underrated. Nothing is produced without actually taking the time to produce it. Regular habits, organization, and persistence are essential to actually getting things done.

"Mornings I write, and I write from this time to that time. Even if it's hard, I don't give up. I'll produce some crap that day, but I'm going to sit there and do it till lunchtime. I just stick to my routine."

Michael Pollan Author of *The Omnivore's Dilemma* and *In Defence of Food*.

"Keep [writing] every day. I don't, but you should. Because if you're a starting-out writer, that's good for you. But the main thing to remember is, nobody's going to see it until you let them. So you need not be inhibited when you're actually writing. It's just between you and the page. And if you don't like what you wrote that day, the wastepaper basket is there for you."

Margaret Atwood Author of *The Handmaid's Tale*. Inventor of the LongPen.

"But there is a sense in which writing a column is — it's like you're a plumber. The toilet has to be fixed, so you fix the toilet. The column has to be written, so you write the column."

Ross Douthat NYT columnist. Author of *Bad Religion: How We Became a Nation of Heretics*.

[Show all \(12 quotes total\)](#)

3. Think audaciously, don't accept the status quo, and take risks

Nothing new was ever created by taking the safe route. Many ideas and institutions we take for-granted today are likely to be updated and replaced in the future. Iterative development might have its place but progress can be made faster by trying new things.

"Don't shoot for something that somebody else has already done. Shoot for something that no one has done yet."

Sam Altman Chairman of Y Combinator. Co-founder of OpenAI.

"Curiosity, as opposed to intellectual complacency, is the big thing. If you don't feel that the explanations you're being given of something — whether it's international trade patterns or the Japanese slump or something — if you don't feel that the explanations quite hold together, then worry at it. Try to find something. Scratch that itch. Don't let it go away."

Paul Krugman Professor of Economics at CUNY. Nobel laureate in Economics (2008). NYT op-ed columnist.

"[Ask yourself], what problems are around me that are really calling me? And then, one, is it a big problem? You got to fall in love with a big problem because if you have some human capital, you might as well go for the big problem. Two, is it a problem your life history has made you uniquely qualified to serve? ... [Find] something you intrinsically love doing and match it with some deep problem that's out there."

David Brooks NYT op-ed columnist. Author of *The Road to Character*.

[Show all \(9 quotes total\)](#)

4. Surround yourself with smart people, good books, and quality inputs

You are the average of the five people you spend the most time with. Similarly, you are a function of the books you read and how you spend your day. Change your environment to improve results.

"The best things in your life will come from the people that you hang out with. I mean the people that you love to work with, and the people with whom you have passionate talks all night about and that kind of stuff. And if you can find those people, sign yourself up on their ship. That has worked incredibly well for me."

Eric Schmidt Former CEO of Google and Novell. Original co-author of the *Lex* program.

"I've always tried to surround myself and be around extraordinarily able young people. They probably do learn some things from me, but I learn a lot from them, both from things they say and know that I don't, and from the questions they ask, which keep me on my toes."

Larry Summers President Emeritus at Harvard University. Former Treasury Secretary under the Clinton administration.

"If you don't have good input, you cannot maintain good output."

Ted Gioia Music historian. Author of *The History of Jazz*.

[Show all \(7 quotes total\)](#)

5. Read a lot

We all stand on the shoulders of giants. By reading prolifically, we can leverage the organized knowledge that others have already painstakingly compiled. We can also get new insights into the world and allow ourselves to make the connections we might have not otherwise made.

"Before I go to bed, I read a novel every night. I read several pages of really good fiction. That's because you do a lot of work in your sleep, and I want my brain to be in a rhythm of good prose."

Michael Pollan Author of *The Omnivore's Dilemma* and *In Defence of Food*.

"Get a degree from school, but become an autodidact. Don't waste time trying to get an A because you're not going to remember all that shit. You always remember what you try to read by yourself."

Nassim Nicholas Taleb Professor of Risk Engineering at NYU. Author of *The Black Swan*.

"I read everything from fiction to philosophy and sometimes just the dictionary. I'd read Malcolm X's book, when he talked about him reading a dictionary from A to Z. I was really curious about the etymology of words, so I would study words and figure out where they derived from and how they applied. I also structured my days in solitary as if I was at a university. I would get up and get my workout in, and then I would study a subject each hour."

Shaka Senghor Director's fellow at MIT Media Lab. Formerly incarcerated individual (19 years). Author of *Writing my Wrongs*.

[Show all \(5 quotes total\)](#)

6. Sometimes progress is slow and difficult. Have the grit to get through it

Most of us have faced road-blocks before. The trick is to not view them as insurmountable obstacles but as problems that require some combination of creativity and grit to get through.

"I began to go back and try to unravel the big questions of why and how. Through that process, I began to realize that I had never accomplished anything in my life. So I set out on this journey to write a book and to write that book in 30 days. So I did that, wrote a second book, and started a third one. Then I fell into a deep bout of depression. I probably had about three years in at that point, maybe two and a half, three years. I was depressed for a few months because I realized this dream that I was discovering — I didn't have a way to give birth to it. Because I was in an environment where it was just hard to really get my words out into the world."

Shaka Senghor Director's fellow at MIT Media Lab. Formerly incarcerated individual (19 years). Author of *Writing my Wrongs*.

"If you can get through the pain in the moment, you can come out on the other side of anything. For me, it was just about moment-to-moment existence and being fully present in those moments for what they were."

Shaka Senghor Director's fellow at MIT Media Lab. Formerly incarcerated individual (19 years). Author of *Writing my Wrongs*.

"I had been told over and over again that I was too stupid — no other way to put it — to understand autism research. I tried other avenues. I was in a very difficult situation legally . . . everything, really. Because I had to address these legal issues and questions, I did actually look at the autism literature, and suddenly I had information I could really work with"

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7. Limit opportunities for distraction

We live in a post-boredom world. There are no limit of the things that want our attention. Even worse, a lot of people make a lot of money off of this human weakness. Identify and eliminate distractions from your life to be more productive.

"I would've said I never read blogs or anything like that on the internet, and that saves a huge amount of time ... Try to protect your time. When it's time for work, I do the work rather than goof off on the internet"

Daron Acemoglu Professor of economics at MIT. Co-author of *Why nations fail*

"I don't go to meetings. And unfortunately, academia is replete with meetings. One of the reasons for living in Amherst is that they don't request me to come and talk to people. So there's a huge amount of the overhead of, say, an academic job, that I'm very lucky not to have to do."

Charles C Mann Journalist. Author of the books *1491* and *1493*.

"I'm pretty clear about my goal, which is I'm trying to have impact and to try to do stuff that feels cool along the way. My team knows that my mantra is "I want to do cool stuff that lasts, and let's see if we can do that." So I think that from early on, I was always iterating against that set of goals, and that I more or less organize my life around it. I don't watch that much TV. I get enough sleep."

Atul Gawande Surgeon. Public health researcher. Author of *Being Mortal: Medicine and What Matters in the End*

[Show all \(4 quotes total\)](#)

8. Other people can help. Take care of important relationships

Nothing good was ever built without the help of others. Invest in your community even if they are not in your field and even if they are not working at all. You will probably need them someday.

"I have helpers to help me. They want to pick me up from nothing, and my assistant editor — I really couldn't write when he saw something I'd written and believed in me. He still believes in me, and he has to tell me that — every week — what I'm doing is interesting, what I'm doing is good, and that he believes in me. And he has done so for 20 years. Without him, I wouldn't have been a writer. I also have friends who do the same thing. They said, "Okay, this is good. Don't give up. Keep on writing." And they did because if not, I wouldn't have the strength to do it. Maybe I would, but it makes my writing life much easier to have helpers."

"Building up social capital is a big part of it. I have developed friendships with people, sort of loose affiliations with people over the years, being able to draw on those affiliations when a certain news story come up."

"If somebody with a plausible interest in what they're doing calls them up or writes to them, nine times out of ten, they're very happy to talk to you about what they're interested in"

Charles C Mann Journalist. Author of the books *1491* and *1493*.

[Show all \(4 quotes total\)](#)

9. Do what you're interested in

Your ability to stay disciplined and get things done will be proportional to how much you like what you're doing. While "follow your passion" is bad advice that often prompts the question, "how do I find my passion", you also don't want to do what you hate. Let your interests be your guide and don't over-analyze.

"At some point in my 30s, I had enough of fields and waves ... I wanted to do something where I felt more connected."

Raghuram Rajan Professor of Finance at the University of Chicago. Former governor of the Reserve Bank of India. Former Chief Economist and Director of Research at the IMF.

"I didn't set out to make any kind of impact. I just was interested in the subject and wanted to do more. Wanted to write more, wanted to think more, wanted to teach more. I think that too much reflection on the effects of your work, as opposed to just on the work itself, is probably not a good idea. You should just do it and hope that it will have uptake."

Kwame Anthony Appiah Professor of philosophy at NYU. Author of *Cosmopolitanism: Ethics in a World of Strangers*.

"Follow what you really want to do and what you're really interested in ... get to a point where it doesn't feel like work."

Ben Westhoff Investigative journalist. Author of *Fenthanyl, Inc.* and *Original Gangstas*.

[Show all \(4 quotes total\)](#)

10. Embrace your subconscious

Evidence tends to support the idea that the subconscious mind is very active and makes a lot of the decisions that we might ascribe to our conscious mind. Sometimes it helps to take a step back and let the subconscious catch up.

"[Doing construction work took] my mind off of writing for several hours a day. It's an activity that requires focus and attention. You can't just drift off while you're doing it, so it occupies the front room of your brain for a while and allows interesting, creative things to happen in the back ... When I stop writing for the day, which usually happens at something like 11 in the morning ... As I'm walking around for the next 15 minutes or so, sentences will come into my head. By and large, they're the best sentences, so I've learned to carry a recorder with me."

"If you look at the literature, you'll see this completely worked-out problem, and you'll be captured by that person's viewpoint. Whereas, if you flounder around a little bit yourself, who knows? You might come across a completely different phenomenon. Now, you do have to look at the literature. I want to emphasize that. But it's a good idea to wrestle with a problem a little bit on your own before you adopt the standard viewpoint."

Hal Varian Chief economist at Google. Emeritus professor at UC Berkeley.

"I think it's sometimes good not to be purposeful in what you are doing. If you're writing, you are distilling vague thoughts into something more organized and purposeful, and I think there's a lot of merit to allowing thoughts to just meander about in your head and make weird connections with each other before you push them onto the page."

Larissa Macfarquhar Profile writer at the New Yorker. Author of *Strangers Drowning. Impossible Idealism, Drastic Choices, and the Urge to Help*.

11. Put substance over status

Status, credentials, and titles are common goals. While correlated with actual substance, it is not itself actual substance - especially for those who pursue these things at the cost of actual substance. Another way to say this might be, "Never let your schooling interfere with your education".

"Some students will come up to me and say, 'I want to be America's ambassador to the UN. How do I go about doing it?' And I'll say, 'Well, not that way, probably.' Because if you focus on the title rather than what you want to do in the world, you're probably not going to get very far"

Samantha Power UN ambassador under the Obama administration. Professor at Harvard Kennedy School of Government. Former war correspondent in Yugoslavia.

"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."

Peter Thiel Co-founder of PayPal, Palantir Technologies, and Founders Fund. Author of *Zero to One*.

"Get a degree from school, but become an autodidact. Don't waste time trying to get an A because you're not going to remember all that shit. You always remember what you try to read by yourself."

Nassim Nicholas Taleb Professor of Risk Engineering at NYU. Author of *The Black Swan*.

12. Embrace change

The world will change and you can either be with it or against it.

"We're all for change, except we don't like change. We're all conservative. We would prefer no change. But I do think, if you can go with the change, this is a super exciting time when lots of things are changing, and you can have a real positive impact in shaping the future, probably for at least half a century."

Ezekiel Emanuel Senior fellow at the Center for American Progress. Oncologist. Bioethicist.

"Write out your clearest set of investment theses about what it is you believe the world is and is becoming, what your strategy is at making it happen, and why you can have a rare or unique position in so doing."

Reid Hoffman Former Co-founder of LinkedIn and COO of PayPal.

13. Teach to grow

There are few things that can give you a better grasp of the material than teaching it.

"I had a job for a few years in Berlin in a very unusual university where I could decide the courses that I would teach. So I taught Darwin. I taught Copernicus. I taught economics, even though I don't have a PhD in economics ... those three years were the three years I learned the most in my life, just being forced to teach something where you are completely uncomfortable."

Bruno Macaes Former Secretary of State for European Affairs in Portugal. Author of *The Dawn of Eurasia*.

"Teach the young, and yes, that's the advice. Because what teaching is, is learning to converse with others. It's to experience a topic as it grows richer and richer under the attentions of a community. That's what a classroom that really works is. It's a community that's ever rewarding."

Elisa New Professor of English at Harvard University. Host of *Poetry in America*.

14. Be lucky

Sometimes, it's just about where our stars have aligned. I assume this is a factor in the production functions of most successful people but it's not something that is brought up often.

"This idea that you graduate from a Western university at the time of decolonization — this gives you an opportunity. When I arrived in Chandigarh, I was 23. I had taken a year off from the École des Beaux-Arts, and I arrive at the office of Pierre Jeanneret in Chandigarh, and I say, "Oh, you know, I'm looking for a job." He gives me a job right away. Okay, it was 60 rupees a month, but it was a job. Now a Frenchman going to Hyderabad and saying, "I'm looking for a job. I am 23 years old" — nobody will take him seriously. He'll be kicked out of the office right away."

Alain Bertaud Urbanist. Former principal urban planner at the World Bank. Author of *Order without design: How markets shape cities*.

"I happened upon a combination of things that worked well together, without doing the proper experimentation to find it in advance."

15. Organize your thoughts before putting them on paper

This is more of a technical piece of advice but is nevertheless important. What we produce is better when we have spent the time planning it out first. This was also part of Neil Stephenson's advice but it was not easy to get into a quote.

"if I write a very long piece, I don't notice how much I jump around when I'm writing on a computer. You can't do that on paper. You have to keep going. Then it poses a narrative structure that is unbreakable. One sentence has to follow the previous sentence. You can't go back and reinsert it. It keeps me very focused, I find. The other thing it does is that when I'm typing it up, I'm reading it on paper, and I think that there's a difference. When the book is ready, I will then print it out and edit it again on paper. But every time you read, when you're reading on paper and you're reading on screen, you're seeing completely different things."

Masha Gessen LGBT+ activist. Outspoken critic of Vladimir Putin. Author of *The future is history*.

"The lesson for my students, which they ignore, is that your paper should be 80 percent done by the time you sit down and type it because writing is about structure and traffic management. If you don't get that right, everything else will flow badly."

David Brooks NYT op-ed columnist. Author of *The Road to Character*.

16. Never stop growing

Once we think we know everything, we stop trying. Always try to get better.

"Part of it is insecurity, so I want to keep producing always ... As soon as you start to be pretty confident that anything you write is great, then you're going to suck in any creative field, I think."