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Stanford University President Marc Tessier-Lavigne tells students that life is long and lived in chapters. Some of his include being a pioneering neuroscientist, head of research at Genentech, a co-founder of two startups, and president of two leading research universities. He shares what he's learned about how to lead organizations that turn discovery into real-world impact.

Transcript

- It's really great to be here, and to have the opportunity to share a little bit about my background and a few of my thoughts about entrepreneurship.. I thought that maybe what I'd do, we have a limited amount of time, just maybe give a little bit of background on myself, my trajectory, and then, you know, try to pull out a few of the lessons that I've learned about building and leading organizations that might hopefully be of some use to you, to some of the members of the audience.. So, by way of background, as Tom said, I've been very fortunate to have experiences both in academia and in the private sector.. I started my career as a scientist, a neuroscientist, working on how the brain develops during embryonic and fetal development, and also what goes wrong at the other end of the spectrum in neurodegenerative diseases like Alzheimer's and Parkinson's disease, where nerve cells die.. I was a faculty member at UCSF in San Francisco and then recruited here to Stanford, where I focused on understanding fundamental mechanisms of brain development and degeneration.. But in the course of this, I was also very fortunate, being here in the valley, to interact with people in the private sector, and got involved in a start-up company as a scientific advisor, learned something about that, saw the power of a private sector, and then co-founded a first company in 2000, Renovis, focused on neurological disease, where I learned a lot about applying scientific knowledge to difficult problems, like developing therapies for poorly treated disorders.. And that gave me exposure.. It gave me some experience.. It got me interested in applying fundamental knowledge.. And then I was very lucky and fortunate to be invited to go to Genentech to oversee about 2/3 of the research organization..

Eventually, I was in charge of the entire research organization, directing about 1,400 scientists in disease research, translational medicine, and drug discovery for neurodegenerative disease, but actually primarily for cancer and immune disorders, and also infectious diseases, in addition to neurodegenerative disorders.. It was an extraordinary experience there, where I really got my first taste of executive management, working with just astonishingly inspiring leaders, starting with the CEO, Art Levinson, and the other members of the executive team, so I learned a huge amount about working in the private sector and harnessing the power of the private sector to tackle major problems.. A number of the drugs that we worked on in those days have now been approved by the FDA for previously poorly treated cancers, and also some immune disorders, so it was incredibly exciting and incredibly fulfilling also.. But then after I was there for eight years, I was again pride with a wonderful opportunity to return to the academic sector as president of a small research university in New York, called Rockefeller University, just biomedical research, just a PHD program, no undergraduates, PHDs and post docs, but a remarkable place in terms of the accomplishments of the university and the discoveries that have been made, the Nobel Prizes that have been won.. So I felt very fortunate to go there and be back in the academic sector.. And I was excited because I've always loved both the fundamental research and also applying that to the other side.. And there I reconnected with the startup scene, getting involved on the boards of some startup companies, and then eventually co-found, three years ago, Denali, as Tom mentioned.. And then about two years ago I was approached about this position.. I couldn't believe my luck, and again, felt very fortunate to have the opportunity to return to Stanford, where I'd been on the faculty in the early 2000s, and to rejoin the community here, with a passion both for supporting our faculty, our students, in learning and also in research, both fundamental and applied.. Again, I love both, and I believe in the importance of both..

And also, to be able to help the members of our community who are interested in taking their discoveries and applying them to solve real-world problems.. So that's some of the background.. Just briefly, maybe I can go through this quickly, so we can open it up to questions.. As I think about the lessons that I've learned, in my career about how to accomplish what I hope to accomplish, there are several, maybe five, elements that are important.. And by the way, I'd say, if I had to summarize it,

what really drives me it to try to do great things with great people in great institutions, would be the short summary, that's what really excites me.. The five elements.. First and foremost, people.. And given time, I'll just say a few things.. Everything always starts with the people, the people you hire, the people you work with, the people you retain.. It's essential, of course, to have a high bar to recruiting and retaining people..

You want to work with the best of the best, and you have to work at that.. But every individual has their strengths and weaknesses, and one of the things that I've learned in my job is, it's really important to try to set people up for success, to really play to their strengths, while also giving them the opportunity to develop in areas where they're less skilled.. So, really, it's about supporting, recruiting, and enabling great people to create that space for growth.. And of course, in all of this, to be fair and respectful of the people you work with.. I think that's really the single most important pillar in everything that we do.. In all of the work, whether it was in my lab, where I had postdoctoral fellows and students, or later, in my executive positions, it's first about the people, but then next it's about the team.. And it's essential with any group of people to work on building the spirit of the team through communication, and again, reinforcing the mutual respect, and encourage creating an atmosphere where there's mutual respect among members of the team.. So, setting a positive tone, establishing mutual respect, is absolutely key.. People, teams, decision making.. This is something that, again, everything I know I learned at Genentech, I like to say..

Big focus on decision making, and all of us in our lives, whether it's in the research that we do, in our teaching, whether it's in starting a company, or working in a company, we'd always like to make, at every turn, the right decision.. Wouldn't we? Anybody who'd like to make the wrong decision? No? No, I don't see any hands.. So, we always want to make the right decision, but very, very, very often, you don't know what the right decision is.. Certainly in drug discovery, where it can be 13 years from ID in the laboratory, on average, to a drug approved by the FDA, many billions of dollars, there's huge attrition.. Most of the ideas you start with turn out to be the wrong idea.. So, often you don't know what the right decision will be, and so what do you do, if you don't know what the right decision will be? What we strive to do at Genentech, and what I strive to do in my live going forward, is to, if you can't be certain that you're going to be right, then you try to make good decisions.. So I'm going to distinguish the right and wrong decisions, versus good and bad decisions.. So how do you make a good decision? The way you make a good decision is building on the team of great people who empower and whose ideas you solicit, so you have to create a environment of open exchange.. You discus the issue with the very best minds that you have, and then take the best information, and then try to have a rigorous process of decision making based on that.. Not consensus..

Often with the most difficult issues that we tackle there can be many different views about what the best decision is, so you have to hear them all, but you have to be rigorous about it.. And, importantly, once you've made the decision, provide a rationale.. If you agree with the majority, explain to the minority why it is that you're gonna go with the majority.. If you go with the minority, even more important, to tell the majority why you're going with the minority opinion.. And if you go with an opinion that's different from the both the majority and the minority, then it's really important to explain why you're going with neither of their points of view.. But consistent good decision making, bring together the best people, and providing strong rationale for why you make the decisions, tilts the probabilities in favor of making the right decision.. That's the theory, that if you work hard at making good decisions, which is under your control, you're more likely to make the right decision.. And by the way, if you have a clear rationale, and if you realize down the road that it was not the right decision, you're alert to this, and you can course correct.. So you have to be ready to course correct as well.. I went into this a little bit for a while, because it turns out, in a large corporation, we were making decisions all the time, about where to spend 10 million dollars, 100 million dollars..

And we didn't have the luxury of pausing and saying we can't make a decision.. In many cases, actually, any decision is better than no decision.. You have paralysis if no decision occurs.. So you have to strive to make a good decision and be ready to course correct.. People, teams, decision making, vision.. You need a framework for making decisions, and I'll call that the vision, a philosophy, a direction that you wanna go.. In setting up that vision, you decide we're gonna spend more time on this than on that.. We're gonna spend more time on oncology than on immunology.. Why would you do that, and being very clear about that.. In the university, we're gonna tackle these opportunities rather than those opportunities..

You have to have a vision for that.. And again, I'm a big believer in the wisdom of crowds, and surrounding yourself with great people, and being in a great community, like here at Stanford, and tapping into that collective wisdom to try to identify the great opportunities, the great challenges you should tackle, and prioritizing them that way.. We did that in the private sector.. I did that at Rockefeller, and here at Stanford, hopefully some of you have been involved in the long-range planning process, where again, we tapped into the community.. In fact, we modeled this a little bit on what happened in the school of engineering a few years before, under Persis, to tap into the community, and again, trying to get the input, and then being really rigorous about assessing it, and being very clear about why we're making decisions.. We're in the middle of that right now.. You will all be the judges in the next few months as we continue, collectively, to head towards a vision, but that is the model, and that is the approach, and that's how we are doing this here.. And I believe that, again, this is good decision making, and hopefully by making good decisions, you'll ultimately make the right decision.. Last point, people, teams, decision making, vision, values.. I should have started with values, but I think it's also very powerful to end with values..

As you approach everything that you do, you have to be clear about what your values are, and the values of your organization are.. And maybe I can just end with how people ask me, well, what are your values? And what are your top three

values, or things like that.. I like to divide them into three areas: personal values, interpersonal values, and what I call action values.. And so, in terms of personal values, what I strive for is honesty, integrity, and personal accountability, so owning that decision, knowing that you know, if I made the mistake, that I have to own up to it.. Interpersonal values, respect, collaboration, and compassion.. Again, that's what I strive to live by.. And action values, optimism, initiative, and tenacity.. And optimism, of course what I love about Stanford, is that is such a deeply entrenched value here, optimism.. Initiative, you can't leave it to others to do things, you have to be willing to step up to the plate.. And finally, tenacity, because nothing important in the world gets done easily..

Nothing of significance get done easily.. You have to keep at it.. Everybody here in this room knows it, but you can't say it enough.. You have to get back on the horse, and you have to keep going.. So, maybe I'll stop here, so we have some time for some questions, but people, teams, decision making, vision, and values are five important pillars in my worldview and how I approach my job.. And again, I feel very fortunate to have had wonderful experiences at extraordinary place with great mentors and very inspiring leaders that I could learn from, who modeled great decision making and great integrity and a real focus on serving the world, so thank you very much.. (audience applauds) - [Man] Any questions? - [Audience Member] Two unrelated questions.. What books had the most impact on you? And what made you co-found Denali? - What books have had most impact on me, and why did I co-found Denali? Well, I guess many, many books have had an impact on me.. I'd say the most important formative time of my life was when I had the good fortune to study philosophy at Oxford for two years, and there there's a range of books, both in esoteric subjects, you know, philosophy, mind, things like that, but also in philosophy, a number of writers in moral and ethical philosophy.. I think that's one of the most important formative times of my life..

In recent times, I'd say a book that I've loved, and I go back to time and again, is a book called The Art of Learning, Some of you will have read it, by a chess prodigy.. Those of you who know the movie, Looking for Bobby Fischer, it's this young man who had an extraordinary career, who really talks about the importance that his great strength was not that he could do one thing or another, but he was exceptionally good at learning.. And he talks about how to approach that, and how to constantly be learning and moving on to the next things.. So, I recommended that book very much.. Why did I co-found Denali? I'm very passionate about neurodegenerative disease, where there are no treatments today, essentially, for Alzheimer's disease, Parkinson's, Lou Gehrig's, and so forth.. I believe that the time is right, scientifically, to tackle those diseases.. Our knowledge of what goes wrong in those diseases, the genetic basis and environmental basis, has accelerated, thanks to the plummeting of the cost of sequencing, which has made it possible to identify many disease genes, and zero in on the biology that goes awry in those fields.. This is not an area that major companies are focused on, because there's so much progress being made in other areas that are nearer term and more tangible, like I'm immunooncology for cancer, for those of you who follow that, that resources are being poured there, this is being neglected.. It's a time when I think we should be focusing on this, so that motivated me to get together with some colleagues and to co-found Denali.. Yes? - [Audience Member] So I think it's very clear why Stanford University's one of the finest in the world..

I'd like to hear your perspective on, what is the single biggest sort of threat and weakness of Stanford University, and what your tactical plans are to work on that weakness? - Yeah.. So, what's the biggest threat/weakness to Stanford? So, I was on the faculty in the early 2000s, and I thought it was the most extraordinary place in the world.. And then I came back 13 years later, and it was even more extraordinary, right? It's really quite astonishing to see, which just goes to show how great leadership can take a place that's great and make it even greater, right? That said, with the success that the university has had, I think that our biggest threat is arrogance and complacency, the belief that, hey, we're the best, you know, what could go wrong? It's pride cometh before a fall, and you have to beware, we have to be constantly on the lookout for, how is the world changing? What are the new opportunities? You have to be constantly striving to improve.. It doesn't matter how good you are.. There are things that have to be fixed.. There are plenty of things here at Stanford, there are things here that are amazing, awesome, miraculous.. There are plenty of things that are sub-par and broken that we need to fix.. We're aware of them.. This long-range planning effort has been great in giving us lots of input from our community on places where we fall short and need to do more.. You have to constantly say, yeah, this is great, but let's keep going..

For those of you a certain age, we wanna be Avis, not Hertz.. Right? (audience laughs) Who here understands that? Let's see.. Okay, everybody's over above 50, I see.. You'll explain to the younger generation what that means.. But you wanna be striving, that you're number two.. You know, if you think that you're number one, you get lulled into false sense of security, and that's the beginning of the end.. Oh, another way of putting it.. In this business, there is no stasis.. You either move forward, or you fall back, and you have to work hard to keep moving forward.. Yep..

Yes, Tina.. - [Tina] So, how different is it, running an organization in Genentech ED today? Conflict, research, organization, versus a university? Leadership has to be quite different.. - Yes, so how is it different, running, being at Genentech, and again, at Genentech, I ended up being head of research, I wasn't the CEO.. So, there's some ways in which it's very similar.. The ways in which it's similar, in a great place Genentech, as in a great place like Stanford, it's all about talent management.. It's about hiring great people and enabling them to do their work.. That's true in the private sector, it's true in the academic sector.. And that's the role of leadership, first and foremost, is to hire great people, enable them to do their work, and yes, also hold them accountable, right? So that's what we do.. So in that sense, it's very similar.. In other ways, it's very different..

At Genentech, it is a hierarchy, right.. So, I was the boss of 1,400 people.. At Stanford, there are 2,200 faculty, but that means I have 2,200 bosses, right? So it's not that I'm the boss of 2,200.. But in the end, in a sense, in the private sector, we

would discus things, and I could, at the end do the day, say, you know what? I've heard you all, but we're just gonna do it this way.. You would never do that, right? People who are great don't wanna work for someone who will just be autocratic like that.. So in fact, the management style is not that different if you strive to hire great people who you want to empower and you want them to be independent and function as a team, you have to treat them the same way you would treat faculty, which is to say, you're the boss, right? I'm gonna enable you to do your best work.. Yeah, we're a team, right, and yes, I do have the final word if it's necessary, but you never wanna do that.. Yes? Oh, actually, I should say, it is, because of the team aspect in the company, you can move further along where you can assume that people will come together.. So you can, with strategic planning, for example, you can go faster than in a university.. In university, it's so important to get buy in from people..

In the company, you can get buy in more rapidly.. So I would say the rule of thumb is, if you're doing something strategic in a company, you can do it twice as fast as in an academic sector, or in an academic sector, you need to take twice as much time, because you need to, it's very important to get that buy in from the community.. So there are differences.. Yes? Oh, sorry, the young lady here.. - [Audience Member] So, you, as president of Stanford, how do you influence the culture here? You were talking about optimism, too.. - Yeah, so it's, as president, how do I influence the culture, and how does optimism fit into that? I think to influence the culture, first and foremost, you have to be a full member of the community, right? And so, you have to, first of all, you have to love the community, I think, and be part of it.. And you have to go out and meet people, and get to know them.. And then you have to set the tone.. And by the way, this isn't just me.. Again, running a university is a team sport, right? So I'm just so blessed to have a great, an amazing, team, an amazing partner in the provost, Persis Drell, who is head of your school here, and the whole executive team..

And it's really just extraordinary.. Setting the tone, so, you have to know your values, and you have to project your values.. And that's what we strive to do.. One of the things that Persis and I have done, we felt that it was important to have additional ways of communicating with the community, so we have town halls.. We had one yesterday, we're having another one tomorrow at Porter Hall.. You're all welcome, every member of the community is welcome at those.. I have office hours to meet with students.. And again, I saw some students this morning and on Tuesday who just sign up.. Please sign up if some of you wanna come.. That's for students, the office hours..

Town halls are open to everybody.. We created a blog, The Notes from the Quad.. I hope you had the opportunity, just type in Notes from the Quad into your search engine.. You can see we try to address major issues, but also minor issues, and just fun things that we've encountered in the community.. I think setting the culture's about knowing what your values are, and it's about interacting with community.. And by the way, it's bidirectional.. We hear from the community, we learn from the community, and then we try to work together to move forward as a community.. - [Audience Member] I am a proud alumni, and thank you very much for doing this.. My question is about artificial intelligence machinery replacing jobs.. Do you think it's a new model, or sustainable every ten or 15 years? That's the question..

And then for alumni, given the money, what are, from your point of view, what are the top two things that alumni can help? - So, the first question is my views on artificial intelligence and machinery.. I probably know less about that than every single person here in this audience, just to be clear, although it is very clear, this is the digital age, right.. It's been called the second machine age.. The transformation is extraordinary, and this is true thanks to advances in data science and in artificial intelligence and machine learning, of course, is powering artificial intelligence in a remarkable way.. I do think that it is different.. I do think this time is different.. I think that Stanford has an opportunity to lead in this area, not just on the technology side, but also thinking through the societal impacts of this so that we can augment and multiply the beneficial impacts and mitigate the downsides that will come from this.. And also think about the moral and ethical dimensions of the application of those technologies there, so I do think that it is different.. I think that was your question.. And I think it's more than an opportunity..

I'd say more than an opportunity.. In a case like this where there's an opportunity for us to lead, I think we have a responsibility to lead, as well.. With the great gifts that we have here at Stanford, we have a responsibility to get out ahead of these issues and do this work on behalf of society.. In terms of alumni, how can they help? Stay engaged.. Stay involved with the campus community.. And do two things.. Tell us, in leadership positions, sure, what we're doing well, we like to know that, not just so we can feel good about it, but so we can reinforce that.. And that's the real reason for knowing what we do well, so we don't walk away from it.. But equally, where do we fall short.. We need to hear that from you, so that we can try to fix that..

And also, stay engaged, not just to give advice to leadership.. Stay engaged to help the current students.. You're such and extraordinary resource for our current students.. And you were there before, right? And so you knew what it's like.. So, please stay involved with them as well.. Yes? - [Audience Member] In a research organization the size of Genentech's, how did you maintain the inaugural fervor and intensity with 1,400 people? And are there any lessons from that experience applicable to Stanford University? - That's a great question, how do you maintain that? And there are a few things, there are sort of the positive actions and then the things you just try to beat back.. There're lots of things when you have something that large.. Working to reduce bureaucracy is really important.. And actually, in an organization that big, with a lot of teams, there would be so many meetings.. Meetings, meetings, meetings, right? So, we actually had to deliberately have rules about meetings..

You can't have a meeting unless it's clear what you're gonna achieve, and who the decision maker is.. No decision maker,

no meeting.. Because otherwise you could just spend your whole day in meetings.. So we had to do things to try to prevent bureaucratic creep, on the one hand.. On the other hand, a combination of bringing in new blood, young people are always sort of really stirring things up, on the one hand.. And so it's really important to do that.. That's why Genentech maintained a post doc program, very unusual in the private sector.. 100 post docs, you know, to the 1,400 employees? Very unusual, certainly in the biopharma sector, to bring in that fresh blood, those new ideas and so on, and also maintained a culture of discovery and publication, the same thing as in academia, that scientist were evaluated not just by what they did on our projects, but by what they published.. So those were some tools we had to maintain and academic entrepreneurial kind of, so those are academic tools.. In terms of doing it at Stanford, the same rules about really try to push back on bureaucracy and enable, free people up, so they can focus on things..

We have a very entrepreneurial spirit here.. We recruit people who are entrepreneurial, the whole system, so I think that's one thing here that we just have to, in some ways, enable it, take away the shackles, you know, make it possible for people to do their best work.. And I think that we don't need a lot of stimulating, going to give people pep talks on being entrepreneurial.. That's in the DNA of the people we recruit here.. There's a question back there.. - [Audience Member] I am a student and I was like walking down the street at University and you see the homeless on the street, and they've been through medical, painful process, and it just feels like, it's like a display, I find it.. Everyone seems super wise and and super smart but if you really wanna change something that is something I'm not sure of.. Should I start in public policy or something? I'm not sure how to change that and what's your recommendation? - Yes, so if you want to have a social impact, how do you go about it? So a few things, you bring that spirit to whatever you do, and be respectful of that fact that whether someone is doing fundamental research that it's not obvious what the impact is gonna be, or is directly, you know, working to help homeless people or working with patients in intensive care unit, that all of those are doing good in society.. So we have to be respectful of the fact that all are possible.. That's number one..

Number two, there's the opportunity for multi-tasking, so if you are doing fundamental research and you want to have something more tangible, there's so many service opportunities.. There's so many people who could benefit from your direct activity.. You know, go work with Habitat for Humanity on the weekend.. There are many, many opportunities here in the community.. And then the third point is, life is long and lived in chapters.. So you can do something for a while and then you can change and do something else, and then change and do something else.. And you don't have to always try to do everything in each chapter of your life.. So I think, bring that spirit of service to the community, to the country, to the world and try to have it infuse everything that you do, but don't feel that you necessarily have to do it all at once.. Maybe we can take two more questions, and then I will have to go.. So, sorry, there's one back there and then we can come to the font..

Yes? - [Audience Member] I would love to hear about your view on hierarchies, especially in a place like this, where lots of young people with ideas and inspirations.. Yeah, just some of them may want to share them with you and how do you approach that and try to maintain a certain level of hierarchy maybe.. - Yeah, so what's my view of hierarchy.. Hierarchy in certain types of organizations is necessary just for the proper functioning of them.. But it should really just be to grease the wheels and should never get in the way of the flow of information up and down.. Right? It just should be sort of just to make things easy, so you know who the decision maker is and stuff like that.. It's really important, whether it's in a big company, or in a university, to be constantly reaching out to all layers of the organization.. You know, the management by walking, as it's often described.. And so I hope that it's petty clear that I'm not big on formality, and you know, so I hope that if you something you want to ask me, you wouldn't hesitate to just come up and ask me.. And by the way, sign up for my office hours, and be happy to talk to you about it..

So very important to not have hierarchy in interactions.. Very important to listen to people.. There's so many brilliant people and there's so many people that have great ideas.. And so many people that have so many experiences that it's important to hear in our community.. You need to be open to all of that.. Tina.. - [Tina] Final question.. - Final question.. - [Tina] So project yourself back to decades, and you're now back as a student.. What do you wish you knew when you were 20? - That's a title of a great book, isn't it? - [Tina] (laughing) I know..

- What do I wish I knew when I was 20.. And if it's not been written, maybe I should write it.. Oh damn, it's already been-- - [Audience member] 21.. - Oh, there's so much I wish I knew.. So I was a first generation student.. I went to college and I didn't know anything.. I had never met a scientist, but I thought I wanted to be a scientist.. And so, the only thing I knew was, boy if I work hard and get good grades, probably good things will happen.. And as a result, I didn't broaden my experiences as much as I should.. I wish someone had said, you know, actually getting a broad experience and learning lots of different things would be really valuable to you in the future..

Just learning more physics, you know, might be useful to you as a physicist but your life is long and you may not end up being a physicist.. Check, you know, I didn't end up being a physicist.. So I wish that people had told me that.. I wish that I had known what I said earlier, life is lived in chapters.. I was the most hyper-anxious undergraduate you'd ever meet about my future.. Oh my god, I have to plan out the next 50 years of my life.. Do not plan out the next 50 years of your life, okay? You do have to think out.. You have to be intentional about it but you know, you're gonna almost certainly, what you think you're gonna do for the next several years is not gonna be doing 15 years from now, probably not even ten years from now, possibly not even five years from now.. And that happened to me.. I was certain I was going to be a physicist, but then I got exposed to biology, and I had the opportunity to study philosophy, so I studied philosophy and biology, I became a

neuroscientist..

When I started at UCSF, I always wanted to be a research scientist.. I was so happy, if you told me 12 years from now, you'll be biotech executive, I would have laughed.. When I started an Genentech, you said, eight years from now, you'll be president of a research university, I would have laughed.. When I started at Rockefeller.. if you've said, five years from now, you'll be head of a comprehensive university with undergraduates and professional schools, I'd said, forget it, you know.. Because I was not thinking about those things.. As I had the great good fortune of working with amazing people and getting great experiences, it opened my mind to things I didn't know I liked.. I changed, the world changed, I gained experience.. Things that I was excited to do for while, I realized that I was now excited to try something else.. So keep an open mind..

And by the way, the pace and change of the world is just accelerating, so this was true for me in a career that started, you know, 30, 40 years ago, it's even more so for the students that are gonna set out today.. The pace of it changes rapidly, so keep an open mind.. Watch how the world changes, listen to yourself, right? Listen to your heart, listen to your soul.. And what's exciting today to you, 10 years from now, you may feel that you're ready for something else.. Be open to that.. (audience applause)..