



Guest

For many of us, the last time we learned a new skill was during childhood. We live in an age which reveres expertise but looks down on the beginner. Upon entering adulthood and middle age, we begin to shy away from trying new things, instead preferring to stay nestled firmly in our comfort zones.

Beginners asks the question: why are children the only ones allowed to experience the inherent fun of facing daily challenges? And could we benefit from embracing new skills, even if we're initially hopeless? Bestselling author Tom Vanderbilt sets out to find the answer, tasking himself with acquiring several new skills under the tutelage of professionals, including drawing, juggling, surfing and much more. Witty and often surprisingly profound, *Beginners* is an uplifting exploration of the science of brain plasticity and how we can learn how to learn anew.

Context to the conversation

Welcome to the 76th conversation at the Play to Potential Podcast. I am your host Deepak Jayaraman. This podcast is a labour of love for the long term where I have conversations with leading practitioners, thinkers, authors, artists, sportsmen and other leading professionals to decode insights around leadership, transitions and careers.

When I am not podcasting, I am working with leaders as a Trusted Sounding Board helping leaders and organizations play to their unique potential. To know more about what is in the podcast archives and the advisory work I do, you could just visit www.playtopotential.com.

We have an exciting update at the podcast. Several listeners have told us that we should be sharing some of the nuggets from the archives given we have 750 odd nuggets in the library and we continue to build on it. We have started doing that through WhatsApp where we share a couple of nuggets a week. If you wish to receive these, do note the number +91 85914 52129, add that number to your contacts and send us a WhatsApp message stating Interested. We will add you to the list. I repeat the number is +91 85914 52129.

My guest this time is Tom Vanderbilt, the author of the book *Beginners*. For many of us, the last time we learned a new skill was during childhood. We live in an age which reveres expertise but looks down on the beginner. Upon entering adulthood and middle age, we begin to shy away from trying new things, instead preferring to stay nestled firmly in our comfort zones.

THE BOOK Beginners asks the question: why are children the only ones allowed to experience the inherent fun of facing daily challenges? And could we benefit from embracing new skills, even if we're initially hopeless?

Inspired by his young daughter's insatiable need to know how to do almost everything, and stymied by his own rut of mid-career competence, Tom Vanderbilt begins a year of learning purely for the sake of learning. He tackles five main skills (and picks up a few more along the way), choosing them for their difficulty to master and their distinct lack of career marketability—chess, singing, surfing, drawing, and juggling.

I personally learnt Juggling for a couple of years about 20 odd years back and continue to be passionate about learning new tricks. Truth be told, that was what drew me into reading the book and having the conversation with Tom.

Without further ado, let us dive into the conversation with Tom Vanderbilt about being a Beginner!

Transcription

Deepak Jayaraman (DJ): Tom, excited to have you at the Play to Potential podcast. Thank you so much for making the time.

Tom Vanderbilt (Tom): My pleasure, great to be here, thank you.

DJ: And in this series, we talk to people about their journeys and about their insights on specific themes, I would love to dive into your recent book *Beginners*. But before that I am curious about your journey over the last 20 odd years Tom, specifically your arc of curiosity. You wrote about *Sneakers* in 1998; you wrote about *Atomic America* which was around the architecture of the Cold War in 2002. Then you wrote about a book on traffic, *Why We Drive the Way We Do* in 2008, then you moved to writing about taste and now you have written a book on being an adult Beginner. So, walk us through, connect these dots for us.

Tom: Well, I wish the dots were a bit more closely linked than they actually are, but I am a person I think with a chronically short attention span. I was headed for I thought headed for graduate school and I determined that I wasn't sure spending X number of years in political science was actually what I wanted to do. So, I sort of moved away from that and worked on something else that was working better for me and that attention span I alluded to which was writing and, you know, so it is obviously sort of a wayward path you have laid out. And I think in regards to my new book *Beginners*, I think, journalists are actually consummate beginners in a sense because we are always sort of parachuting into new worlds that we might not know that much about and having to very quickly gain a sense of who the player who the key players are, what the stakes are, what are the good sources of information, the bad sources of information and then sort of doing that for a few weeks inhabiting this world which may be sort of robotics one month and then I am just making something up, food science the next month and then sort of moving on from there and then and then restarting every month. So, it creates a strong sense of let's say intellectual humility, I think, which is this notion that I myself either don't feel like I possess a great amount of knowledge about any one thing but I use that sort of that insecurity or that fear to, you know, that attracts me to people who do know what they are talking about and I sort of try to get the stories from them. But I think, what I do have is just a willingness to listen and openness to new ideas, a penchant for keeping my eyes open, and I think that is... so, I think there are many obvious stories that are out there in the world in terms of journalism, I mean anything to do in the United States with politics over the last four years has been, you know, those are very obvious stories that are out in front of us but to my mind there is a lot of very interesting stories that are sort of hidden right in front of us in broad daylight. And just to give

one example of a story that springs to mind that was something I was sort of fond of was I wrote a story about the shipping pallet and how it was sort of the under-heralded superhero of the global economy and these are these things these wooden sort of platforms that we ship goods on and it is a sort of a simple device that really helped move into containerized shipping. And once you start to look for these things you see them everywhere and it was sort of, I looked into this and it is something that the average person would not think anything about nor probably care anything about until you find a way to try to convince them that that actually is interesting. So, I think that is just to sum up that that has sort of been a lot of my work is looking for those interesting things that are hidden in plain sight and then trying to tell people why they should care.

DJ: Very interesting. And even there how much of it is just purely driven by your curiosity, Tom and how much is it driven by would there be an appetite or market for this kind of a story I was curious? As a journalist do you think about the latter?

Tom: Very good question, I mean, I think generally it is my curiosity which often is tied to what the market wants although it is an inexact science; one never is fully sure. I will say with that pallet story was actually rejected by the idea was rejected by a few publications and then published by an online magazine called Slate and it became an incredibly popular piece and I got quite a bit of feedback on that. So, in some cases you are never quite sure what will catch the public's fancy. But it is very intuitive, it is not like you are really doing market research about what readers want. You are just going with your gut instinct of what might make a good story and that can also go the wrong way and you write something that turns out people aren't that interested in.

DJ: Got it. And just as you look at your journey as a journalist and a writer over the years Tom, how have you thought about staying relevant and what are some of the choices you have made in the context? You know, in a lot of ways people's attention span, they are just much, much more sort of hitting at people, demanding their attention. How have you stayed relevant amidst this whole changing dynamic in the content space?

Tom: Yeah, it is good. I mean, I guess one of the challenges is simply keeping up, staying on top of things, moving with the changing times and journalism has had a number of changes where maybe 20 years ago I was simply asked to write a piece for a magazine and then we might get some letters the next month in the magazine. I mean now people are asked to produce a podcast to take their own photography as technology has changed and there's been more sort of a... and this is an interesting case where amateurism has kind of combined with professionalism and the advent of something like the iPhone I have actually had publications print my photographs shot on an iPhone X which is sort of amazing given that 10 years ago 20 years ago this this was only the job of a professional photographer that that is where you got the images from. So, just sort of staying nimble in that regard certainly helps and I just think that I have always been an infovore, tried to just devour whatever information was available and going back a number of decades this was not as easy as a thing as it is now. And I remember even in college having a subscription for example to a publication that was The Guardian Weekly, Le Monde and the Washington Post combined and an Airmail edition and this was sent to you weekly and it wasn't particularly cheap, but it just goes to show information was not as widely available then. So, I went out of my way to sort of look for other perspectives that I wasn't getting at home or in my local sources. So, of course, now we have as you say with the attention economy the opposite of the problem; there's more information than we could ever digest and it becomes now a sifting thing how to find what is really important, what is undervalued or overvalued but relevancy at the end of the day I think just having that internal compass of what you think again makes a good story, what readers might like and then just trying to produce quality work is all I can really say to that.

DJ: I guess maybe just sticking with it before we dive into the book Tom, if you really looked at somebody who's embarking on a career in writing today versus someone like you who started this journey maybe a couple of decades back, are there any elements that have changed in terms of what it takes to stand out and succeed today versus maybe a couple of decades back?

Tom: Yeah, good question. I mean, the market has obviously changed tremendously and it is there are yeah, it is not something I have thought rigorously about, I am sorry, but I think again finding ways to generate attention without being gimmicky. I do think in the end quality will win out but writing from the day I began was just it is just one of those careers where you have to do the leg work, you have to do the work that is not paid, you have to sort of do the grunt work to put it that way and build up sort of a reputation slowly. There are those people that erupt onto the stage immediately but it is a job that a lot of people would like to do and thus it becomes their sort of the pay scale can be pushed down because of that, due to the law of supply and demand. So, it is a Darwinian profession let's say but yeah. Sorry, go ahead.

DJ: No, the reason I ask is that I was reading a sports magazine some time back which spoke about the greatest athlete ever and the greatest sports person ever and it sort of drew a comparison between Michael Phelps and Usain Bolt. And the crux of the argument was anybody with two legs can run but to swim you need a swimming pool. So, by definition someone like an Usain Bolt is competing with seven billion people or whatever while Michael Phelps is competing with a small fraction; that might be an over-simplification of the argument but where I was coming at was writing is something that all of us are taught. So, in a way everybody, you know, like you said can click a photo on an iPhone, can write a piece on a certain day, so that just makes it interesting in just in terms of supply. So, I was curious how that impacts people who want to do writing as a career?

Tom: Yes, and there are certainly venues such as places like medium, for example, the website publication that you will find a lot of people submitting articles there that are not "professional" writers and that is just one of the many venues or blogs or I mean, so it has been completely de-marketized in that regard where you don't need traditional gatekeepers of an editor or a publisher and you can sort of go to market yourself but yeah, I mean for much of us in the existing traditional industry it is still a question of, you know, it is the same as in any business, people come to me because they like what I am saying, or they know that I'll produce something that they can, it won't cause them that much work on their side, that I can produce a quality product, I mean, it is this personal relationships that because often this is deadline-driven work that you need something brought to you that is in good shape. So, yeah its... but as you say it is a funny thing where thinking of beginners writing might be something that people dabble in on the side as a sort of hobby and hobbies have a strange existence in our lives and there is a sociologist who described it in a funny way. He said, hobbies turn work into leisure and leisure into work and some of us fall on one or the other side of that, but there often comes a tipping point where you are doing something as a hobby and then it becomes you decide to sort of commodify it, or vice versa you have taken on something in your spare time that you have put such energy into it, it is almost as much as a job, but perhaps you are not being compensated but it just kind of shows this dual nature we have in with our interests and sometimes we might not find that reward or gratification in our job so we might look for something on the side called a pursuit or a hobby but... and sometimes people, you know, entrepreneurs have been born because something they were doing just for pleasure actually clicked in some way and... but we can talk about that later.

DJ: Lovely, let's segue into the book *Beginners*, Tom, you know, before we get into the specifics of the book, give us a sense of how this whole thing came about? You went around learning five totally new skills: singing, surfing, drawing, juggling and making a ring. Give us a sense of the origin of this whole experiment shall we say?

Tom: Sure. I was basically in my mid-40s and had had a daughter with my wife obviously, but I was sort of we were both later parents and this whole experience was very it sort of upset our lives. We had had a lot of time and experience in not being parents and suddenly we were parents and so our own learning curve was accelerating greatly and we were suddenly, there's a lot you can try to read up on ahead of time about how to be a parent but a lot of it is just learning by the seat-of-the-pants so... but as part of this process I then, you know, a parent then is entrusted to try to teach their child all these things and children are such natural eager learners. One day I was with my daughter in a library and we were playing a game of checkers and she saw a chessboard nearby. She was about four-years-old and she said can we play a game of chess? I said, I would love to but I actually don't know how to play and this was an incredibly awkward thing to admit to your child because you want to be the picture of authority and competence, but I just never, I had probably learned the basic rules of chess a long time ago, but it had never stuck, I had forgotten it. So, I quickly tried to learn the game online and I got to a certain point where I sort of had gotten the basic rules down, but it is such a complex game that obviously, you know, after five moves the cliché is that there are more possible moves than there are atoms in the universe so it is an infinitely complex game. So, I felt a little bit over my head. I decided to hire a coach to give her lessons and then the coach came to the house and I suddenly had this realization why should I pay this person to teach my daughter this thing that I would also like to learn and so rather than hide out in the other room why don't I simply join the lesson. He thought well, this is a bit unorthodox, you have a four-year-old beginner and a 46-year-old beginner or whatever I was but yeah, I was so struck by the experience that number one it was a very exciting and sort of gratifying thing to be engaging in this learning process with my daughter and then the second thing that I sort of holding up mirror to myself I realized I was constantly telling her how important it was to learn as many things as possible and to just be open-minded and don't worry so much about your age, about whether you are actually good or how good you get, just do it for the pleasure of it. And sort of looking at myself, I realized, I am giving this advice but what was the last new pursuit or skill I had actually tried to take up. So, I was not being a particularly good role model and that was just sort of an internal alarm went off that I felt this was a part of my character or personality psyche that I was neglecting. I had focused so much on a job that I really enjoyed but to the exclusion of any other types of pleasures or even growth that might be out there via this thing that we might call hobbies or pursuits or skills or passions or there's a variety of ways. So, that was the basic genesis.

DJ: Got it. Got it. And you do you want to talk a little bit about how you picked these five things, five different things Tom of the various choices?

Tom: Yes, sure, I mean, at first, I thought, well, maybe I should do these things that I keep hearing about that people should learn like coding and I thought well, I like computers, coding is interesting to me, but it felt a little extrinsic to me that I was taking this lead from other people about what I should learn and I thought what are the things I actually that are sort of a secret list in my head of things I might have wanted to learn at some point. So, I think, this was an important part of the process for me because this wasn't mandatory training for a job or something like that or I wasn't... there was no reason other than my own interest and pleasure to do these things that I needed them to have sort of an element of enjoyment to them as much as other things because that is an essential part of providing, I think, the necessary motivation to keep at these things which may end up being frustrating to you or time-consuming. So, yeah, I just had this sort of internal list I drew up and the things were basically singing, surfing, drawing, juggling and then I wanted a making component, making a thing. Because I felt like a lot of people do I think in our sort of information age that I was a little bit divorced from working with my hands in any measurable way that I was simply on a computer all day pushing electrons around and I thought it would be interesting to plunge and so the thing I decided that was to I had actually in the process of learning to surf I had

lost two wedding rings because of the cold water and my finger had shrunk and the ring had fallen off into the depths of the ocean. So, I needed a wedding ring and I thought well, perhaps I could make that ring, that would be the thing I would make and so it was just a little kind of curriculum I had come up with on my own in a liberal arts fashion I thought I had covered it, I covered a number of different bases sort of a physical activity and an artistic activity, a pure sort of motor skills activity and the only other criteria that they were things I could learn close to my home in New York City at the time. I didn't have to travel to do or nothing too exotic and skills that wouldn't be too all consuming obviously, you know, like becoming a commercial airline pilot or something like that, that is a different sort of prospect. So, on the flip side though I wanted them to be substantial skills not the sort of skills that one might go to YouTube over the course of a weekend to learn how to briefly fix a plumbing issue in one's home or how to do something in the kitchen the right way. And there's nothing those are, you know, they are a form of micro mastery as it is called, it is a very human thing to do and we all do it a lot I think but those didn't have the narratives I was looking for or the challenge or the sort of lifelong aspect where I think the things, I ended up choosing were all fairly open-ended. I could still be trying to improve singing 10 years from now and not be at the top of my game. So, perhaps a bit too ambitious.

DJ: And did you give yourself a certain period of time? At the outset did you say you would learn for X period of time or was it reasonably open-ended when you kicked off this journey?

Tom: I thought maybe a year but I think that was just, I was telling the publisher that to be convenient. Of course, what happened is I really became enamored with the things I was doing but I didn't really want to rush anything and there are certainly ways you could rush it more. But I really wanted to just savor the learning process at each stage. Even the failures and of course I was trying to do all these things at the same time, which often meant I was simply feeling guilty for neglecting one thing at the cost of another. But I felt I would know when I was ready to sort of start writing about it. So, there was a strange period of research where I was just doing all of these things which was different from a usual book project for me but also talking to people along the way that I met and coaches as well so...

DJ: Got it. And at the outset, Tom you say it is a why to do book and less of a how to do book and you also... I like the distinction you make between two types of knowledge, right, a declarative knowledge and procedural knowledge. Do you want to shine the light on the distinction here?

Tom: Sure. Yeah, I mean, I said why to do rather than how to do because reading this book will not necessarily make you a better singer, surfer, drawer, juggler or maker of things but what I really wanted to do is to get people past the initial hurdle that many of us feel as adults in simply trying something new because of this internal self-talk that it is not important to our job, we are too old, I might be bad at that thing in front of other people, why would I want to invite that into my life. So, that was sort of the motivation there and you mentioned procedural and declarative knowledge and these are interesting things because they sort of speak to the role of skills in our lives and skill learning and that procedural learning is knowing how to do something and declarative is knowing about something, knowing that the knowledge that how to do something. There's a famous case here which is very interesting of the amnesiac patient in United States named HM who was written about by many psychologists and he was undergoing some interesting experiments where he was being taught this sort of a motor skills exercise in a lab setting and he was an amnesiac. So, every day he would actually forget the next day that he was learning this thing, but he actually was making improvement in the thing itself. So, it just sort of showed that skills operate in this different part of the brain than the knowledge we have about things. He might have forgotten that he knew how to ride a bike, but he actually could still ride a bike, which was sort of a very odd thing I think and just speaks to a, you know, skills have a sort of automatic presence in our lives that many of us don't

think much about these things because once you know how to do something well you stop thinking about it. We don't... if you go for a walk this afternoon, you are not going to look down at your feet and wonder if you are walking correctly or could I walk better or, you know, it is just you have made that a fully automatic behavior and if you actually did try to think about it, you'll make it worse. So yes, right that...

DJ: This reminds me of the book, *The Inner Game of Tennis* which read some time back which talks a little bit about, you know, not letting your thinking coming in the way you are playing.

Tom: Yeah, which is a hard lesson because we are very analytical as adults and we tend to overthink things and this is one element where being an adult beginner is a little bit more of a challenge because children will sort of plunge into trying to learn an activity simply by sort of inviting it and not really knowing what the rules are, often not having a lot of experience with other things like that. For example, learning a language, kids just are they do things like babel or they mimic and they constantly go back and forth with their parents, they are not thinking about grammatical structures. If I tried to learn a language today, I have this entire history of five decades of speaking English. So, English and my brain is very well tuned for English; if I try to put another grammar form on top of that it is going to be very difficult. There's this process of interference that psychologists call it so, you know, and then sort of a vicious cycle that happens here, once I start struggling with that language, I'll be aware that I am struggling with it; that will cause embarrassment, tension, I will really start thinking about how I am speaking and then that just makes the whole thing go worse. Yeah, so Gallwey was right in that. Sometimes the key to effective skill learning is to stop thinking and often just try to put your body into this pure sort of autopilot mode, and I had a jogger instructor who used the instructions to be the robot and the robot was just my hands moving in this robotic fashion and not trying to think that how they were moving but just to simply move them. So, it sounds I don't know sort of counterintuitive I guess or something but just to bring the point back home it shows how these processes live, exist in different parts of our brain and that even if you forget, even if you forgot that you knew how to do something you could still actually do speak to the old cliché about riding a bicycle is that you never forget how and we really don't.

DJ: And you speak about the roles of fluid and crystallized intelligence in the way children and adults learn Tom. Could you talk a little bit about what these two types of intelligences are and therefore what does it mean in terms of how we think about learning as adults?

Tom: Sure, I mean fluid intelligence is the sort of rapid-fire, quick, puzzle solving intelligence, solving problems very quickly, spotting things. To use the game of chess as an example, my daughter was very good at spotting potential checkmates, playing very well in blitz games which are five minutes per player because her brain was just operating very quickly. And crystallized intelligence refers more to these things that are built up over time like wisdom and metacognition and the way it sort of looks in the human brain is that the adult brain draws on sort of a wider area of the brain in cognition than the young brain does and this comes at a certain cost, we have sort of have to work harder to achieve the same result but it also gives us a certain larger sense of bandwidth. In everyday life this exhibits itself in things like wisdom or... so, in the game of chess she would be good at those other things I mentioned, quick puzzle solving and things like that, but I would have an edge in let's say the slower, to think of Daniel, the psychologist Daniel Kahneman's book *Thinking Fast and Slow*, so fluid is the thinking fast, crystallize is to thinking slow and there are many moments in the game of chess when you want to think slow, you might want to think about your strategy, you might want to think about does this game remind you of another game you saw, having the patience to... another thing is my daughter was always guilty of not doing in the beginning was she would play her

game as if she were playing by herself, basically never thinking what the opponent why the opponent was doing what they were doing. And this is something that as adults I think we have more of a sixth sense here of sort of looking out for things like that; okay, he just moved his queen there, why did he do that and then... so, that is sort of the...

DJ: I understood.

Tom: And it sort of breaks down that adults are sort of more oriented towards the crystallized wisdom and children the fluid although we of course both sets of people have both of those capacities but yeah.

DJ: Got it. And moving to a different theme Tom you talk about specifically your experience with biking, where you say you tried it for a while and at some stage you stopped having fun and it started feeling like work and you alluded to it the beginning of this conversation and you also link it to the way we think about identity, right? Somewhere, I would love for you to talk about the link between some sort of a satisficing mindset and our approach to these pursuits on the side. Can you talk a little bit about specifically maybe relating to your journey with biking?

Tom: Sure. Yeah, when I was around 40, I started road cycling which is a very common thing for middle-aged men to do. In fact, there's an acronym the word is MAMIL which stands for Middle-Aged Man in Lycra because you often see, you know, because cycling is one of these lifetime sports that you can do without hurting your knees or things like this.

DJ: Low impact as well, yeah.

Tom: Yes, exactly. So, but I sort of got plunged into this world, I became very excited and sort of intoxicated by it and at first it was just sort of riding for pleasure, but then I met some people that were a bit competitive and I ended up joining an amateur racing team. And the way this is structured is you start out as a category 5, then you work your way down to category 1, if you are amazing you would get on to 1, but it was all very good in the beginning and I was investing large amounts of time but it was satisfying and I was gaining fitness and having new relationships and having interesting conversations and it's just getting out of the house and seeing nature and just nothing but good but because of that sort of progressive nature of competition where what happens if you do pretty well in a Cat 5 race is eventually you get sort of bumped up to Cat 4 and then you are back at the back of the pack again because you are in a harder zone of competition. So, to me this began to feel like because this wasn't, again it wasn't my job, it was starting to feel like a job and there were benchmarks I was having to meet, I was having to wake up very early in the morning to go on these training rides, it felt just a little too enforced dietary regimens and at some point, the pleasure aspect was being sacrificed for this drive to simply get better and better. And this is something that it is a very natural thing, but there is a lot of talk out there about mastery and expert level performers and Anders Ericsson's famous 10,000 hours rule of deliberate practice to achieve expert level perfection. But I was never into the illusion that I was going to... I was a forty-year-old and yet there was no path to professional cycling for me. So, I started to wonder why am I pushing myself so hard for this thing that is meant to, you know, at the end of the day be something that is a sort of a safety valve for the other parts of my life, something that I am choosing to spend my leisure time on this thing and, you know, other people probably did not have this experience, they were happy to keep sort of pushing on, but I also saw many people sort of fall by the wayside. So, I think, we tend to forget sometimes that a lot of this mastery talk we hear it is sort of oriented at professionals or expert-level performers not for people trying to get into something particularly later on in life who might be lucky to have 100 hours to devote to improvement not 10,000. So, I sort of, you know, sort of walked away and stepped back from cycling. And, of course, a cynic might say well you were

simply just weren't good enough and I mean there's that too, I mean, one does come up against the edges of one's performative quality and some of this is genetic and some of this is training but so I, you know, but I didn't feel like I needed to feel bad about that because again, it wasn't, it was just meant to be a recreational thing so. So, yeah that is the saga there and if that answers your question.

DJ: Absolutely, absolutely.

Tom: But you know it's just... the point here which... skill acquisition is... the whole process it is sort of a blessing and a curse, because it can sort of go on and on and the question is how good is good enough and are you always pushing to get better, is there some level which you are happy to sort of stay where you are and at that point is it okay to switch to something else or are you then a dilettante or a quitter, and I think I probably had some residual guilt about not racing. I felt like I was abandoning something but then I decided to just go for other types of expeditions that were more about just having fun or so some other purpose besides pure competition.

DJ: Got it. Got it. I think changing track Tom the one piece that really blew my mind was the way you described the term baby steps. In my mind I had understood it to be taking small steps. But you go on to say it is not just that it is babies are a lot wiser than that. They do this with a lot of thoughtfulness and you talk about the notion of variable practice in the way they mix it up. Could you talk a little bit about this nuance behind the term baby steps and how we can apply some of those principles as we learn something new?

Tom: Sure. Yeah, I thought it would be interesting because I was writing about beginners to think about infants because as we all once were, infants are beginners in life. So, how does it look to be a being that has to sort of be a novice at everything except maybe, sort of breathing and one of... so, I went to New York University something called the Infant Action Lab and one of the things they study quite a bit is how babies learn to move and there is a process they go through where they will first just try to sit up a little bit then they might start crawling doing these various half crawling, then they will try to make this move toward walking and it is very interesting in terms of a learning process because they sort of violate a lot of the things you hear about, they don't really have a specific timetable in mind or a goal. When researchers have tried to figure out where babies are even walking to they really can't identify, they seem to be just be walking for the sheer pleasure of walking and to practice it in a sense because... and there's even some question as why babies learn to walk when they can really often get around pretty well by crawling and in a sense learning to walk it provides that much more learning opportunity because you can see more of the world, you can reach other destinations, you can interact more directly with a caregiver. So, I almost think there's a larger hunger for learning they are growing on and importantly we don't give babies drills in how to walk or exercises. We just sort of leave them in a room in the house and they try it on their own and through this process of just simply trying and there are a lot of... speaking of 10,000 hours I mean it takes five years or so to become a proficient walker. So, there's clearly a lot of work that goes on even though we have sort of forgotten about that but as part of that there's an immense failure rate. The research that I spoke to you had filmed babies falling 30 or 40 or even up to 70 times in an hour while trying to walk and then they would simply shrug it off and get up and start walking again. And so, there's something about... and their whole practice of learning is very sort of seems very random and playful and experimental and they are not, they are never really trying the same thing twice because that wouldn't be a good way to learn for them because walking is often not the same thing, moving around, and there's a famous Russian movement scientist named Nikolai Bernstein who called it repetition without repetition and this means when you are trying to solve something like walking or how to juggle you don't simply want to do the same thing all the time, because that is a very brittle practice. You might find out the way to juggle three balls perfectly if they always land

perfectly in your hands, but the minute there's a little bit of variation as there usually is, if you stuck too closely to one drill, you won't have the flexibility to try to solve that problem in a new way. So, that is just yeah, I think babies just have this and children in general just there's a lot we can sort of take on about their learning process that would bring us benefits. Obviously, we know how to walk but there's many other things that we can sort of take that spirit and another element that would be just a lack of pressure. Certainly, parents are often eager for their children to start walking as soon as possible but, you know, babies aren't really aware of that. They are not aware of I must learn this thing or I am falling so much, I am terrible, I am embarrassed; they have none of that, they simply have the freedom to learn in a very sort of fun, low pressure environment which adults often do not have.

DJ: Fascinating. You know, juggling I was particularly curious about your piece on juggling because when I was in the UK about couple of decades back, in London, I remember going to a juggling show in Covent Garden in Central London, and I remember walking up to one of the jugglers saying I want to learn juggling. He told me why don't you just come to my shop in Camden Town, which is one of the neighborhoods where generally every other person has a piercing in some part of the body. It is sort of where all kinds of people, interesting people hang out and one of the early lessons that the guy gave me was when you are juggling just ensure you have a different background, don't do it against a plain wall, one day do it against the sun, one day do it against a colored wall, then you'll get comfortable spotting the balls amidst chaos. If you sort of learn it in a pure environment against a plain white wall, one day somebody might ask you to perform in front of a crowd of 10 and you won't be able to spot the ball because you are so used to seeing it against a white background. So, it is just a simple tip but now when I go back to what you just said about, just mixing up things a little bit I go back to that piece of advice.

Tom: No. Yeah, it is a great point and something that I incorporated as well and other things as well, if you always began with your dominant hand will sometimes switch up to your right hand. And what you are saying it can help you I think push through the plateaus that do come along in trying to learn something. I mean because what the learning curve is a sort of a capricious beast, there's very rapid progress in the beginning often, but then you sort of hit this first plateau and the brain has essentially sort of run out of solutions to how to get to the next step. So, I think, part of the way to kick-start those solutions is like you say to change the environment, change the things that you are throwing, change the way you are throwing them, change the speed at which you are throwing them, that is another tip I was given; don't often throw at the same speed or the same height, just practice solving the problem in as many different ways as you can rather than simply coming up with this one perfect solution because the world is very often is very rarely so perfect, you know, maybe a chess board is an environment where there's no randomness or everything is transparent but, you know, most of the world is not like that.

DJ: You are true and I think the other piece that I still aspire to move to five-ball juggling at some point. I have done a few patterns in three and a few maybe a couple of patterns with four; five is sort of my long-term aspiration, but the one thing that really, I found fascinating was learning each pattern was like riding cycling afresh, right? You keep falling, falling, falling till you find balance. Similarly, you just keep dropping the balls and the new pattern suddenly clicks. So, it is just that sort of the 0-1 nature of learning something I found quite intriguing unlike some of the other pursuit which have a little more linear.

Tom: Yeah, and in what you say speaks to the idea that that struggle that we are having until it clicks, that struggle is the learning and that once it clicks well, then we are not really learning anymore. It is good to sort of keep checking in with that skill every once in a while, and make sure you still have it but the moment your sort of brain isn't hurting anymore is the moment that the learning has

stopped and that is an interesting signal to perhaps move on to a new trick. I mean, there's nothing wrong with learning one trick and then doing something else but that sort of thing we often forget about I think is that doing something poorly, performing something poorly does not mean that learning is not happening, that can be when the most robust learning is actually happening and I think it is... we get so hung up on performance sometimes we would rather stick with a safe let's say juggling routine that we know very well rather than go through that whole struggle again of trying it, yeah, but, yeah.

DJ: And in the book, you know, we are a family where there's a, you know, each one of us plays an instrument, I play the guitar, my wife and my daughter play the piano and my son is learning the uke, ukulele. I was intrigued by the point you made about learning vocals versus playing an instrument. You say that there was an experiment conducted by Canada Royal Conservatory that kids that were learning vocals had a higher IQ than kids learning the piano, not to take it too literally but I was curious about what makes that skill that much harder compared to playing an instrument?

Tom: Yes, this was a study by Schellenberg and I don't think he actually really explains it but there was a, and I don't want to overstate the difference here, but there was a slightly higher IQ performance by vocal students than keyboard students who in turn had a higher IQ improvement than drama students. So, it was part of this research looking into musical lessons and their relationship to IQ. I would speculate that if there were some... and the reason I brought it up in the book was that sort of getting this idea that often children are sort of encouraged away from singing because they are not good at it, or not perceived to be good at it or because parents might not think that it has the same benefit as one of these other things like violin or piano which are sort of very... it is a very popular conception that they are equated with academic improvement and achievements. So, yeah it was interesting that I would speculate that on with the vocal performance is interesting because you are not only having to perform a certain level of musicality in the sense of an instrument where you are the instrument worrying about pitch and tone and all those sorts of things but you also have to master the language involved there as well as the emotional component in trying to put a convincing performance across. So, it is sort of almost a tripartite thing going on there when you are singing verses, perhaps that engages a little bit more of the brain's architecture and I'll probably get some music researcher telling me this is ridiculous and this is just speculation I am saying but yeah, so we would have to look into a little deeper but...

DJ: Got it, of course, not to take this literally, but I was curious about where that was coming from. I think...

Tom: But it is an interesting corrective to that idea that only the piano or that is the only academically approved instrument or something like that.

DJ: Got it. Got it. You know, in the book you also talk about the work of Rob Gray, who directs the Perception and Action lab at Arizona State University and you talk about this notion of unlearning and you speak about action slips, you know, things that we sort of do by default especially in a high-pressure environment. I was curious about, you know, in your pursuit towards learning these five new skills, what have you learnt about unlearning? You know, you spoke about adults having that cognitive component about like you spoke about language, kids just speak while we sort of try to look at how it fits in with the paradigms, we have etc. So, what have you learnt about unlearning effectively, especially when we are learning something new?

Tom: Yeah, it is a great question and first of all, unlearning is a strange word, it is not something that is completely agreed upon in the scientific world or the literature and whether it even whether unlearning is something distinct from simply learning a new thing is sort of a... I mean, semantically it

makes sense but whether it is an actually different process I think is not known. But it makes me think of an experiment I did and which I didn't mention too much in the book but as I mentioned I was a keen cyclist so I had heard about a guy who's a rocket scientist in Huntsville, Alabama and he had this... I was doing this little experiment with a backwards bicycle and what I mean by that is that when you turn the handle bars left the bike actually steers to the right. This is something that has been used at various carnivals and in countries like England or America and usually the person will offer you five dollars or something if you can do it correctly, if you can succeed at riding this thing. So, people, the punters go up and say yeah, I can do that and of course then they lose their money. So, but to me it was just a fascinating example of this unlearning because I had had many years of knowing how to ride a bike that was burned into my brain, I could ride no-handed, I could ride doing something else, I didn't have to think about it at all. So, I was under the mistaken impression that that would give me a leg up in trying to learn this variation on a bicycle, what if the opposite was actually true, it was probably harder for me to learn that new thing because I had so much of this previous program running on my desktop that it was actually impossible for me to do more than simply sit on the bike. The moment I tried to move just a little bit my whole internal sense of balance was thrown off and I was basically falling. And we did this on the grass because he actually knew that this would happen. So, one of the points he made is that his children were actually able to learn it faster than he was not necessarily because they are amazing geniuses, but because they have had less experience at riding a traditional bicycle. So, they have less to unlearn so you know at the end of the day I don't really know that there's anything that different about unlearning in that you sort of have to do it the hard way. I mean, he... that my rocket scientist friend learned to ride, it took him about six months, which is probably longer than it takes to learn to ride an actual bicycle so but, you know, he just little daily bouts of practice and there was sort of no secret beyond that. So, I think but to your point there were moments teachers would give me particular tricks to sort of help me pass things that were, get past things that were sort of habits in the way that I, for example, when I was trying to sing I would have trouble with a certain high note and as the high note was approaching they sent a signal to my brain that oh my god, there's this high note coming, I started to panic, my body tensed up, I would sort of raise my neck like a giraffe to try to reach this high sound; all of those things were tremendously counterproductive towards producing that note. So, my teacher would have me do this little sort of, just a kind of a corrective motion to as the high note was approaching to bend my knees and dip slightly down and that just sort of for whatever reason it worked, it maybe I stopped thinking about the high note, I concentrated again instead on sort of dipping going down and counter-intuitively that actually made it easier to produce those high notes. So, whether that was a form of unlearning I am not sure, but sometimes it is just a matter of disrupting a habit that you have and those habits can be very hard to disrupt. But there are there are ways but sometimes it just involves many months of practice.

DJ: Hmmm-hmm.

Tom: You know, I don't know if you drove while you were... you are on the left side anyway but a person going from a country that has right hand side drive to left hand side drive it is same idea that there is...

DJ: No, I had this, I had this issue when I was, when I first came to the U.S., I remember we were out, we were going out for a team lunch when I was at McKinsey and I remember I telling them let's take my car and I got into my car with three colleagues and suddenly my sort of the India... I started having a conversation with them as I took the car out and I think my Indian driving instincts came in and for a good 10 seconds I was on the wrong side of the road and my colleagues sort of were nudging me, you know, pointing to me pointing fingers and I wasn't really getting at, I wasn't really getting it and then one of them had to forcibly, the guy sitting next to me forcibly took the wheel and moved me back to the lane. That is when I realized that oops so yeah it was...

Tom: Yeah, and this sort of this goes back to what you talked about earlier about it is good when learning a motor skill to not think about it and this is a case with unlearning that actually is beneficial to think about it because you need to override that existing behavior that is lurking within your body and actually pay some conscious attention whereas... and then I would estimate over time that it gradually became instinctual although like Rob Gray says there could be these actions slips in a moment where you are distracted or panicked you might revert to that old behavior and, you know, luckily you had colleagues with you in the car that...

Reflections from Deepak Jayaraman

DJ: This is your host Deepak Jayaraman here.

To understand the point Tom makes, all you need to do is go to YouTube and type “The Backwards brain bicycle”. The video belongs to a Channel – Smarter Everyday. I would really urge you to pause and do this now. It is a pretty cool video and profound at many levels. I repeat, you just need to search for The backwards brain bicycle. It has the link the point Tom makes about how somethings are deeply ingrained in us and it is so hard for us to unlearn.

I have encountered this several times in my life. Let me talk about a couple of instances.

1) This is in the context of my desire to learn Touch Typing. I must have been 3 or 4 years into my work and I used to have this deep admiration for people who could type without looking at the keyboard. Especially when it shows up in movies. Like the scene where Tom Cruise is figuring out what is Job 3:14 in Mission Impossible. I quickly figured a couple of websites that taught touch typing and I started spending 30 mins a day taking lessons. But I didn't make any progress whatsoever despite doing this for a few months. Then one of my colleagues gave me a piece of advice. They said, while you are learning for 30 mins, the remaining 10 hours of the day, you are reverting to your old behaviour. Unless you really change that, you will not make any gains. That was profound insight. But I resisted because that would mean I would slow down tremendously and it would have an impact on my deliverables. But at some stage I decided to take the plunge and said, that I will only type the proper way whether I am in class or not. And that really reduced my speed 10x initially but within a couple of weeks my speed had skyrocketed with the touch typing technique, much faster than the clumsy technique I had earlier. It showed me how ingrained some of these things are and unless we really go all out, it is hard to root out some of these habits.

2) The second context in which it showed up in my life was in the context of my learning the guitar. Back in 2001, when I had first moved into Mumbai, I wanted to learn and instrument and given I was learning from Ground Zero, I said let me pick the first guitar teacher I find and sign up. So, I signed for a guy who was into Dandiya music but I didn't care. I was starting from Sa Re Ga Ma, the equivalent of Do Re Mi. I must have learnt with him for 3-4 years but then I spent a long time goofing around in YouTube learning chords through the net and playing somewhat OK. About 4 years back, I wanted to resume my Guitar and signed up with a teacher. He asked me to show what I could play and I was quite proud of the number of songs whose chords I knew. But he looked at my leg and noticed that I wasn't tapping as I was playing and I was missing the beat in quite a few places. The first thing he said was we need to get your feet tapping and your playing to coordinate with the foot tapping. I thought this would be something simple, a bit like the cycle experiment that Tom speaks about. But this process took several months, as a matter of fact it is still ongoing as

sometimes, my old habits relapse. It taught me, how some of these things get ingrained and unlearning something is often more painful than learning afresh and requires a lot of dedicated effort.

I have realized that for a lot of things where we are trying to move the needle, unless we are willing to embrace the valley of discomfort where our performance often takes a nose-dive in the short-term, we end up staying in a suboptimal place.

Lets now get back to the conversation with Tom Vanderbilt.

DJ: True, true. And moving along you speak about the Dreyfuss model of learning which has five steps: novice, advanced beginner, competent, proficient and expert. I am curious about what has your research or experience shown in terms of how we should adapt a learning approach as we move through these different points in the curve? Are there nuances that you have picked up in terms of how we should adapt our style as we move along?

Tom: Well, I mean just to explain to listeners that aren't familiar that the Dreyfuss scales there was a group of brothers that were with University of California and were doing a research actually for the U.S. Air Force back in the 70s and came up with this model of how we move through these different stages novice, advanced beginner, competent, proficient and expert. And first of all, I will say that I found elements of what they said in my own practice I was sort of living them all the time and one point I make for example is that novices really pay very close attention to rules and I don't mean just like actual rules like the rules of chess, but sort of tips and heuristics that are out there and very, I'll say very, very localized problems. A beginner driver tends to look at the front of the car or their hands on the wheel when really what makes for a good driving is to look as far down the road as possible to anticipate what is going to happen, but there's such an overwhelming information load going on for novices that they can only handle a certain flow at one time. So, you sort of stick to these basic rules of thumb that you have been given and so, you know, in chess for example the beginner is simply trying to pay attention to how can I move the knight again, he can go sideways or they might know simple suggestions like don't move your queen too early, don't trade pieces of... certain beginner rules that are given and so you sort of go up the... as you go up the chain you begin to move away from those what are called context free rules and start to actually pay attention to the context around you. And so, the driver you will not simply, they are taught to obey every traffic signal but there may come a time where a traffic signal is malfunctioning or there's a truck parked, stuck in an intersection and you have to go around and do something that is not in the rules. So, the whole process of learning is moving away from those rules, beginning to do your own analysis and then eventually relying on bit more intuition not just rules and analysis, but sort of that gut instinct. And then finally the last step expert would be just simply I mean just knowing something inside and out. And the game of chess, for example, I mean chess a Grandmaster can play blindfolded, they can remember a game from two weeks ago, they can remember the world championship game from last year probably every move, they have so internalized that thing. Grandmaster Jonathan Rowson gave an interesting example of, you know, definition of this, he said, you know, a chess expert has run out of unfamiliar mistakes to make, so even if an expert makes a mistake or is about to make a mistake, they know them, they sort of know they are whereas the novice is unskilled and unaware of it. So, you know, I am not sure I had any flashes of insight in terms of how to move through these stages or that they even really were discrete stages. I think it is more sort of a continuum and you can sort of... and sometimes you could be inhabiting both worlds and this a point we should point we should probably make about learning is that it is not often linear and if you are trying to learn juggling, for example, you might have done 40 cycles of three-ball pattern one day and then struggled to do six or seven the next day and, you know, so you might have been briefly inhabiting the world of the

advanced beginner than going back to beginner and sometimes you just have to again change up your practice, take a break, walk away. So, I think the drivers, you know, it is an interesting way to think about and it is generally sort of correct. It is maybe more sort of a descriptive tool rather than an actual way to approach learning. So, I don't think there's a way for beginners to cheat and skip that stage and you can't simply start as a competent surfer, you sort of have to, you have to be a beginner.

DJ: It's interesting you speak about going away and coming back again. I happened to speak to ex-World No. 1 in chess, a gentleman called Vishwanathan Anand from India on the podcast as well, and he said that, you know, sometimes he would do a puzzle late at night and he would sort of his mind would be confused but he would wake up with a clear mind. You know, when he woke up, he could see the solution in his head and his point was we sometimes underestimate the power of the subconscious, you know, it's back to The Inner Game of Tennis that we spoke about, we sometimes think that we are processing these things but actually the inner work that is happening is often a lot more powerful than the outer work that we put in consciously. So, his point was sometimes just clocking in the hours and then also taking advantage of sleep sometimes can be a great opportunity to sort of come back and fight the battle another day.

Tom: Yes, I mean, that is a fantastic point and that is something that you can find abundant evidence for that the benefit of sleep upon the learning process and or even napping and not of course not trying to cram too much practice into one session, this has sort of been that has come out in the learning literature over the last few decades the idea of distributed practice and doing a little bit each day rather than these huge chunks and when you don't have the time to sleep, there's even little tricks thinking of chess, you know, it has been suggested simply closing your eyes and then opening them again and looking at the board might a quick sort of mental refresh to give yourself actually fresh eyes, the eyes of a beginner perhaps, trying to look at the board in a new way rather than like something gazing more intently at it.

DJ: Wow. And changing topics Tom, one of the other pieces I am curious about is the feedback loop when we learn something, right? And in a world where so much is available on YouTube and Coursera and Udemy and all these MOOCs, you know, there are a few skills where there is a benefit of having somebody watch us and give feedback to us real time for us to learn. What have you in your attempt to learn these five skills, what have you learnt about the limitations of online learning and the benefits of having somebody walk this journey with us? Can you talk a little bit about the role of the feedback here?

Tom: Sure. Yeah, I mean I think there are some skills, some things we would want to learn that where immediate or personal feedback is much more important. There are other things that are a bit more let's say mechanistic or much more could be sort of picked up by simply observing but there are things, for example, let's say singing. I had various forms of feedback when I was trying to learn to sing. One of these for example was simply an app on my phone called Perfect Pitch and it is you would open the app and then sing a set of scales into it and it would give you a score of zero to 100 saying how well you had done and I will say in the beginning I was literally in the 50s or 60s and it got to the point through repetition and practice where I was able to get, let's say a 100 fairly consistently or the high 90s. So, that's that motor skill part of singing for those people out there who might think that it is purely an innate talent, you know, you can become a better singer purely by doing this. But that is sort of only half the picture, you know, that is sort of it showed me that I was

getting better over time, but it didn't exactly show me why and that is where the coach I was working with vocal instructor came in and actually while I was singing really intently listening to me and intently watching my whole set of vocal muscles work and giving me very precise corrections at the moment and it was very sort of an almost intimate and physical process to me, you know, the whole body is involved and he would correct me on my posture and all sorts of things that a person would not necessarily be aware of themselves just working at home or trying to follow along online. So, I think there are the more complex skills you just have that, almost need that sort of constant monitoring and there is some discussion on the literature whether positive feedback is more important than negative and I think positive is probably more important is that there are something like singing there are more ways to go wrong than there are to go right so you should really emphasize the times when a person has gotten it right because they are probably aware number one that they have gotten it wrong. So, and then there's the motivational component. It just, it simply makes the learner feel better to hear that they are doing well, which is not to state it needs to be sugar-coated, I mean, that you should be given, it needs to have a corrective aspect, so you simply, you don't want to have a coach who is simply telling you everything's great all the time; that doesn't really work either but it is a very important part of it. And the last thing I will say is just the frequency of feedback can be really helpful. One of the problems with surfing is that the feedback loops can be very long and what I mean is that sometimes when you go to the ocean, you might only during the course of an hour of surfing catch six or seven waves or try to catch six or seven waves because of the what the ocean is during that day and an instructor pointed out to me, can you imagine trying to learn the guitar if you could only strum six or seven times an hour, I mean, that is just, it's not the most efficient way to learn. So, sometimes the feedback loops are not tight enough so it is hard to learn from each... you simply don't get as much practice or as much chance to be observed, as much chance to learn from your mistakes when there are fewer opportunities to actually do the thing. So, that is just another aspect that can come into it.

DJ: And, you know, I am reminded of, you know, let's say maybe a forward in soccer, you get the ball once in maybe 10 minutes, 15 minutes from the defenders to the midfield to the forward and you need to sort of you need to score, you know, of course in practice you probably simulate those situations hundreds and thousands of times but in the... if you really look at match practice, you know, it is just these occasional passes that come to you and you need to sort of score. I can imagine training for match readiness, especially if you are sort of in some of these positions can be tricky.

Tom: Yeah, yeah, it is a very good point which I hadn't thought about but soccer was not one of my skills so I won't say anything else about that but... I did play soccer but I was defense so we...

DJ: Tom, moving along, you speak about your experiences with learning drawing and appreciating the art of observing what is without being biased by patterns or objects that we look for? You know, what can we learn about the way artists see the world in the context of being fully present and just focus on what is rather than preset patterns that our mind my gravitate towards?

Tom: Yeah, it is a very good point and going into... drawing was something I had wanted to pick up for a long time, I had dabbled just a tiny bit. Of course, as a child like many children I had done a fair bit of drawing and sort of walked away from it. So, when I tried to return to it at age my mid-40s, of course the first drawing I produced was essentially frozen in amber time capsule of the last drawing I had worked on as a child. So, my drawing had not progressed at all but that's just one point I want to make. But the thing going into drawing I sort of in my mind I thought the whole process was more mystical and more about holding the pencil a certain way and really training your arm to do this certain thing and when really the whole process as I began to learn it was simply about looking at the world in a new way and what happens is I took this course based on a very famous book called Drawing on the Right Side of the Brain by a woman named Betty Edwards and this is a very famous

book that has probably taught more people how to draw in the world than anything. So, I took a one-week seminar here and the first thing you are asked to do is draw a self-portrait, I mean, within the first 10 minutes you are asked to draw a self-portrait. This is terrifying because I haven't drawn something in a long time and the results were pretty poor as you might imagine, but more than just poor it just didn't look like me and it didn't really look like a human and the problem was is that we sort of when we try to reproduce a human face on paper we bring in as you mentioned this set of symbols, like we think we know what eyes look like, we think we know what a mouth looks like, we think we know where the eyes sit in relation to the forehead or the jaw. All these things are based on some sort of internal cognitive calculus that we make that turn out to be wrong when tried to put in a two-dimensional form on paper. So, the whole... drawing really was for me was sort of breaking down those preconceptions and learning to look at what was actually out in front of me in the world. So, for example, when we are asked to draw a chair, I have this if you like a better word sense of chairness in my head, the way I thought a chair looked and when the teacher came over to you and sort of say well, your proportions look a bit wrong here and to my mind it looked perfect like the perfect platonic chair, this ideal chair, but indeed when I measured the chair, I was trying to draw I had got it completely wrong. And it was just such a striking moment where how could my own senses fool me to such a, you know, there have been a lot of interesting books about cognitive biases and illusions and psychology but here it was sort of brought very close to home to me when I... so it's really just sort of a slow process of unpacking these conceptions, trying to get them out of your head and look at the world in a new sort of granularity, looking for the texture of things, not the category of objects that they belong to and so yeah, it was... and by the end of the week we were asked to make another self-portrait and the entire class had such an amazing improvement in this regard, it was quite striking to me, you know, we learned quite a bit and a lot of it didn't really have to do with moving our pencil in any special way, it was just again trying to just look at the world in a new way. So, I am not sure what the larger metaphor here is, I think, there's an idea that we live much of our lives habitually where there's a lot of stuff the brain screens out as we move around in the world because we are trying to conserve our resources or simply get through the world. But you know stopping to take time to look at the way things really are can be a very instructive exercise, I think. And I will just say in terms of focus and fluid elements like that there's nothing I have done in the last decades that I can think of that compares to drawing in this regard, that I would lose track of time and four or five hours would pass and I would still be sort of deep into this deep into this drawing, you know, in this age of endless distraction and short attention spans that I found that a very powerful and sort of cleansing exercise.

DJ: And what about and I am curious, I am pretty hopeless when it comes to drawing but I am curious what about learning drawing or doing the drawing makes it, you know, makes you lose track of time? Is there anything about it which leads to this kind of a phenomenon?

Tom: I would say just that sense of deep concentration really, you know, once you start to look at the way things really are and I don't want to sound too grandiose here, but I mean I was looking in the corners of rooms trying to depict a shadow and then suddenly realizing the shadow itself had four or five other shadows. And so you begin thinking it's going to be a very short process but the longer you look the more there is to see and that I think is where you begin to lose track of time because you simply are unlocking all these doors and plunging more deeply and then just again being in this state of just perfect, a flow where you are completely intent on capturing this moment that sort of a different timescale takes over and yeah, so I don't think there are many opportunities, you know, there are certain other activities I am sure where these certain states like that can be reached. To me not having done meditation I sort of imagined was what meditation might feel like when practiced at its highest capabilities, but it was meditation for me with a purpose where I had

something to document at that moment that I could sort of leave the room with, which is also very satisfying.

DJ: Got it. Got it. And you also say that we live in a frictionless age where the emphasis is on speed learning and the process is often obscured by results. What does that mean in terms of how we should approach learning, Tom? Have you, with everything available on YouTube, has it made it harder for us to embrace high friction learning? What have you observed?

Tom: I think there's a certain messaging out there that that you don't have to look very far online to find promises of learning... learn to speak like a native in six months or something which is almost quite impossible but, I think, like everything we want something to be done quickly and there certainly are realms where it is desirable and even possible to learn things more quickly and there's no reason to artificially delay it. But in my process, because I did not really have discrete goals, you know, I wasn't trying to simply learn let's say a new computer system or something and these were things that were open-ended. So, I quite purposely didn't really set time or achievement goals, I just wanted to sort of see how far I could get and do a very sort of slow purposeful learning where I was really paying attention to the whole process including mistakes and not simply trying to rush to the next thing but kind of savoring those mistakes and taking the time to understand them. So, this sort of approach isn't going to work for everyone or in every condition, but I would urge people to not let the notion of time or goals interfere too much. I sort of compare it to the process of tourism versus travel and you can take a package tour and go somewhere and see an entire city in 48 hours and everything is sort of taken care of for you and don't have to think much and you just sort of consume everything or you could take a much longer trip that you have arranged yourself. You have a loose itinerary, but you mostly are just exploring and seeing what paths you might go down, and that was my sort of process in this. And the French, the root of the word travel is travail from the French which means pain. So, there's a certain amount of struggle that might be involved here but I think it's a very rewarding struggle. There's nothing, I don't want to say there is anything wrong with taking a package tour, but that's just a certain thing and that is one way to consume an experience and I would argue though that the second way might be more ultimately fulfilling and I think we can kind of apply that notion to learning.

DJ: That's wonderful parallel. Just as we wrap up Tom, I was curious about breadth versus depth, you know, given paucity of time, what's your take on embarking on new things versus maybe going up the mastery curve on a few things? What have you learnt through this phase?

Tom: Yeah, I was sort of going back to in trying to achieve this sense of beginner's mind as the Buddhist called it, sort of, seeing the world like a child. I sort of went back to the idea that children are not learning one thing, they are not trying to achieve mastery and I think that they were learning many things at once and it was a very sort of noisy environment and they might not make equal progress on all these things. So, that was sort of my intention and there's obviously nothing wrong with expertise and mastery and there are certain things that I am trying to move toward that in my own life, but it can be an all-consuming process or an exhausting process and I think even a master in something takes a certain pleasure or can get a benefit from dabbling in something else which might provide a fresh perspective, a new energy to their own mastery. There's a great study that I refer to a lot that was also mentioned in a great book by David Epstein called Range, which is about the benefits of being a generalist in an increasingly specialized world, but he's talking about Nobel Prize scientists. The scientists who had won the Nobel were much more likely statistically to have participated in amateur activities performing arts, magic tricks things like this than non-Nobel Prize winners and I feel this is very interesting, it's not necessarily there's a one-on-one relationship between doing this side thing and improving your scientific career but maybe it just gave those scientists a new way of thinking about their work some unexpected perspective, perhaps just

brought them joy that made them work in a different way in their own life. So, I think there could just be this even, even once you have achieved mastery this benefit to being unafraid to step away from that mastery and be a beginner in something as clumsy and embarrassing as it can be because that... again, to get back to the point that is when you are learning when you are a beginner. If you are a master you have basically already learnt it so you are sort of continuing on in your practice. So, that was my... I think, each person probably has their own internal compass of how they would like to do something or what they would want, but I would urge people not to be afraid of the word dilettante as a negative reputation these days but I make the point that it goes back to this group of 18th century English people who were in love with the art and culture of the continent and traveled to places like Italy and just soaked up the music and the language and the food and the art and the history and they weren't specialists, they weren't professionals, they were simply enthusiasts, but they were enthusiasts with a real passion because dilettante means to delight in. So, they took delight in these things and that was the spirit I was going in my...

DJ: Lovely. So, Tom as we wrap up, the final question, this podcast is titled Play to Potential. Given the journey you have been through and the perspectives you have, what's your take on playing to fullest potential?

Tom: Well, I think sometimes we might not even know what our potential is and we might have an idea in our head but until we actually go down certain paths, we might have that wrong idea. I mean, for example, you know, in this book I took up singing and then I joined a choir which ended up becoming a very important part of my life. And three years prior, I not only was not in a choir I had expressed zero desire to be in a choir, no one I know had ever heard me talk about wanting to be in a choir. This was something that was not important to me at all, I had deemed not to be important. So, but the mere process of trying to learn this thing had opened these sorts of doors as I described it into these other worlds which then brought interesting new relationships, interesting ways of engaging with the world, it changed the way I listened to music. So, I think the psychologist Daniel Gilbert at Harvard talks about something called the end of history illusion where people often think that they, as he describes it, they think they have reached this watershed moment where they are the person they are going to be. And if you think about this from your experience, it probably doesn't make sense because 10 years ago you were probably a different sort of person, you were probably at a different place doing a different version of your job or a different job entirely and you did evolve in 10 years. So, why wouldn't we think we would evolve in the next 10 years? And so, rather than think of ourselves as having this fixed identity or that we are already at our full potential or working towards our full potential, you know, just to be open-minded about the idea that that potential may be something we are not aware of or may come from an unexpected direction and to when you see those closed doors to actually push one of them open and see where it leads even though it might be again awkward in the beginning.

DJ: Lovely. Tom, it's been wonderful having you at the podcast. Thank you so much for your time and your insights.

Thank you, Deepak.

Reflections from Deepak Jayaraman

DJ: Thank you for listening. I hope you found the conversation purposeful. A couple of messages before we wrap up. If you find the podcast purposeful, do take a moment and contribute to Antarang Foundation. I work closely with them and can vouch for their impact with young adults who come from challenging backgrounds. While we are battling the health crisis, we cannot afford

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Thank you and hope to have you tune into one of the subsequent conversations at the podcast. Bye now.

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About Deepak Jayaraman

Deepak seeks to unlock the human potential of senior executive's / leadership teams by working with them as an Executive Coach / Sounding Board / Transition Advisor. You can know more about his work [here](#).

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