

IISc Convocation 2024

Convocation address by Viswanathan Anand



Professor Rangarajan, Professor Somanath, distinguished dignitaries on the dais, students, graduates, friends, I am very happy to be with you all because it's always fun to be on a celebratory day and visit someone, but also because when I was asked to speak here, I had to think about the similarities between chess and science. What are the things that I would recognise instantly if I went there. So, I'll do it in the reverse order. I'll tell you what chess has been like for a while and I'm sure you'll see the parallels.

When I started playing chess, I used to go to a club because that was the only place you could play chess. I learnt it from my mother when I was six years old – that was something very typical – you had to learn it from a family member or a friend. We used to have books which would come out every couple of months with a few games, a few remarks by the players who played the games, and that was the material that we studied. In fact, till I became a Grandmaster, that's the only world I knew. But, very quickly, computers came into chess. First – databases – so that instead of searching a few hundred games in a magazine, you could search for, at that point, 25,000 games

in the first version (My current database has 10 million and that's already one of the smallest ones).

A couple of years later, the first chess-playing program appeared – engine, whatever you want to call it – on my PC. Initially, it was just a slightly glorified calculator. It would pick out small tactical mistakes that you made at the end of the variation forgetting that a piece is attacked or something like that; that's all that it could do; so, you used it to clean up your work. Within seven years, a supercomputer version of that had beaten the best human. But, already by that point, it was talking back (so to speak) – it would contradict ideas that we had and so on. Anyway, I won't belabour the point about technology because it's quite possible that you are experiencing even more of it than we are.

When I learnt the game, there were very simple rules, I mean guidelines, that you had to follow. They said, "Put your pieces in the centre" – which is the four central squares; "Don't move a piece twice till you have moved all your pieces once" – basically, get everything into battle; the idea was that if you played with just a few pieces, it would invariably be unsuccessful; and things like these. Now, with the perspective of 30 years of chess development, especially what modern computers tell us is that, first of all, almost everything we learnt was a decent guess and probably still has a higher than 50% chance of success, but that's all it is. So, "put your pieces in the centre" isn't some magic rule; it was just a very good approximation.

In fact, many of the openings and lines that I grew up playing and scored most of my points in my career are now obsolete. The computer has shut them down in various ways. If you look at openings that you had played all your life, you realise that you've done something all your life and the current modern theory involves four moves that you never even considered, you didn't even put it in and say why it's bad, you never even thought it was worthy of putting into your notes. So, new areas open up, but lots of old areas get shut down, those that you might have even specialised all your life. If I look at the generation that came before me, many of them spent their entire life on a line which doesn't work anymore. That's how it goes.

Within chess itself, there were strategies for specialising. You could play a few openings, do them really well, and have this intuitive knowledge because you'd seen the position that, in your sleep, you'd be able to guess the next move. Once computers got into the picture, it started to change. At any one moment, and again that was a slice of time, a computer might refute something 25 years back, and then 23 years back, another version will come and suddenly suggest something that revives it. In chess too,

we have fashion just like in any sort of technology. Broadly speaking, I have now seen that in the world of chess, there are very few specialists; there are very few people who do only one thing because you never know when you might have to sit out a year when your main speciality doesn't work, doesn't achieve anything. It might come back, it might not; that's maybe something you can relate to. But, as a strategy, given the amount of technology we deal with, you should specialise but not super-specialise.

You should have several areas of interest so that when one area isn't working very well, it doesn't seem to give you a lot of points, you are able to switch to something else. You'll have to move laterally within your field or area; without that, you are just not competitive equally. But the question is how are you interested in lots of things? For me, I would need to be interested in something in order to find out whether I need to be interested in it. You don't know in advance that something will be useful or not tomorrow or the year that's coming. But if you are fascinated by chess and you are curious about everything that people do and you follow a lot of things, then at some point it may suddenly hit you, "Wait a minute! This thing doesn't work now because of this, but maybe for this exact same reason, that thing that I saw over there played by that Polish player might be useful." But you cannot have these moments unless you are a curious person, unless you are looking around.

Equally, you cannot have these moments without a good network because the easiest way to find out something is to have someone else find it out for you. If you have good networks, you have colleagues and friends, then you will find out about things faster. If you find out about things faster, then you'll be able to adapt quicker and that turns out to be quite profitable. You might make the difference in a few tournaments.

When I was growing up, it was very much the thing that people said, "Well, you can super-specialise or you can be one of these people who are jumping around all the time switching between chess positions, openings, middle games..." But now, it seems to me that the second strategy is clearly better. Of course, if we are good at something, we want to get better at it – nothing wrong with that – but, it has to be part of the second approach.

Another thing that technology has shown me is the amount of bias we have, which is simply a lot of mistaken assumptions that we carry around. In my case, I have found that unconsciously, I believe some things very strongly from my childhood and then, it still looks that way to me even if the evidence is clearly in the other direction. I will often have a debate with someone much younger than me – of course, for them it's different because they grew up almost entirely in the computer era; so, their

perspective might be different – I'll say, "Well, I don't care what the computer says! This feels really good to me for white, let's say; he'll dispute it and then, we'll play some games, and it can still be mixed because humans make a lot of mistakes. These little assumptions come in when you are playing under pressure, when you have to decide something. Unconsciously, these old assumptions come in. So, part of growing is when you find out that some belief of yours is being contradicted very often, you'll have to make a note; you can put a reminder that you see once in three days or something; you have to shock yourself out of it because by habit, you will tend to do what you have always done.

Failure is a very good chance to do these things. Every time I have had a bad result or a series of bad results for a few months – you get to a point where you stop; you tell yourself, "I've got to now sit and work on a lot of things." What is driving you to make that change is that failure because you really want to stop and start getting back what you feel are the justified results. A failure is a good chance to stop and question a lot of your assumptions and even just see that the mechanisms are correct. It may be a well-known area, maybe something like the middle game or the end game, which hasn't changed too much but you can see that maybe your fluency is coming down, errors are creeping in, the execution is not good ... It's a chance to rehearse all these things. Is there a bad tournament that I remember fondly? No, there isn't! But almost always, some of my best results come a little bit after that. It's a way that the brain clears its system.

In the modern era, it's becoming even more common because no chess player has much of an information advantage anymore over any other chess player. Even the cluster effect doesn't work much even if you have a lot of strong players in your town and if you interact with them often; that is a benefit, but the best moves will be shown by the same device to everyone who has it. So, you can't get an information advantage. If the only advantage you have then is in the practical element – where you try to rehearse your execution, pose unusual problems, all these kinds of areas – you will not be able to sustain it for long.

Mr Gopalakrishnan, for instance, mentioned that we should change the world (I think he meant you!). I assume that a lot of you are idealistic by nature and, science tends in that direction. If you have this ability to solve problems, then of course, you want it to benefit others. But the process will involve a lot of trial and error, even more so because it will invariably be a completely new field that you are working in, or a relatively new field and the mistakes will come in quite fast. In chess now, we have gotten used to a much lower level of success. If you compare my results just like that from 2004/2005,

I had much longer streaks than I have now. I feel, "Well, this is how it is now!" You cannot dominate quite so long, and part of staying competitive is coming back and fixing the consistency rather than every single game, and moving along.

The other similarity, I think, between chess and science is that they are languages. If I talk to another chess player and we start off saying "e4 c5 Nf3 Nc6 Bb5, you do this, I take, you take ... ," if someone is listening to you at an airport, it's a very strange sensation for them because it doesn't sound like a language, but the people are just going on as if it were one. It's the exact same thing in science. People who have a language then tend to live in that world and it's very easy to be in your own world. Chess has this tendency and there are enough scientists that I know and have met who have that tendency as well – which is to be in a world where our ratings and our rankings are our hierarchy, we have our language, we have preferred incidents, our jokes, our history of chess, and so on. It's very self-contained.

One of the things that happened during the pandemic – it's not the first episode but it's, let's say, the most recent – is that suddenly, chess appeared in the outside world a little bit. There was the Queen's Gambit and also the fact that more people started playing chess on their app. We collided with a world we didn't know existed. In fact, there are people who sensed it three or four years before the pandemic. Some people in chess had started to stream and try all these new tech. Even if I knew about it, I would have thought, "Well, but they are not reaching too many people. It's not something that I should spend my time on." But as we subsequently found out that in fact, the audience is quite large, which is interesting. If you go back to my point about having a network, if I was in the right network, if I was with chess players who tended to do that, I might have found out earlier.

The chess world now has recently had a huge burst in popularity and it has expanded its reach. This then means that you have to start communicating what it is you do to people who don't speak that special language. In my life, I've always had this attitude which is that I'll just play chess, I'll do what I do best, what I'm supposed to do best, and it will speak for itself. Now, that's fine on a certain number of occasions like when I won the world title, I didn't have to explain it very much or when you land on the moon, it then speaks for itself. But a lot of the times, you will have to make an effort to communicate. What's really annoying is that you'll have to make an effort to communicate to people who think the opposite, who rank the opposite. For them, the most exciting thing about a chess game might be something that I have ignored and what I want to tell about a chess game is not what they want to hear.

Learning how to bridge this gap is a very important skill. I'll give you one example: I played a match against Carlsen in 2014. I remember quite clearly that at some point in one game, he dozed off – nothing special actually; I have dozed off in many games ... I dozed off many times in the matches with him. You imagine – you are just sitting there, you are very tense, and when you are tense, you sometimes feel very drowsy and so, you close your eyes and after a while, you realise you are actually falling asleep. You shake yourself off and you continue playing. You can switch on and off very easily like this. But it shocked me how many times I had to explain to people that there's nothing special and you sleep all the time.

So, there is this gap. In science as well, you will feel this quite strongly – between what people take away from scientific work and what you want to say... they will jump away with one conclusion whereas a scientist's instinct is always, "Yes, but that is one data point amongst all these things, and you have to rank them, and you have to relate these points and only then it makes sense to draw any conclusions." But we both have to do communicate. In chess, I have learnt to communicate better over the years. It is important because if you don't say it, someone else will and that'll be the official version. So, it might as well be you that's communicating. Probably in science, it's even harder because you will have very stiff competition from graduates of WhatsApp University. This is a real problem because if you don't put your version out there, then the version out there is the version by default. It's quite sad but that's how it is. The person who presents something in a more animated, exciting way – even if there are no facts involved – they'll be remembered for that rather than someone who is excessively factual. So, learning how to communicate with the outside world will be a vital skill for all of you especially in today's era and especially with the development of AI. Imagine – AI will help them as much as it helps you to construct the narrative. My word of advice would be – for every hot topic, keep something which is true and condensed into as few words as possible. If you can explain it in a bit more positive, exciting fashion, do that. But that's how you'll have to speak to the rest of the world. And then you can come back to yourself.

The tendency for chess and for science is to be amongst ourselves. But acceptance and the budgets will come from elsewhere ... both in chess and in science. But hopefully, all of you will go on to do amazing work, not only just enjoy the beauty of science but also communicate it and make something useful out of it.

I just want to congratulate all the graduates and wish you all the very best. It's a pleasure to be with you. Thank you.