

Episode 50

The 37th Move

Script: Dr. Anurag Sharma

Transcription: Sukanya Datta

Concept and Coordination: Dr. B. K. Tyagi

What is going to be the shape of AI-enabled future? Will everything on Earth become perfect? These are questions arising in the minds of people thanks to the explosive spread of technology especially AI-enabled solutions. The episode entitled the 37th move will take a peek into the future and compare yesterday with tomorrow...all this is the form of an interesting story. Can there ever be a perfect future? What are the lacunae created when designing a perfect future? How is perfection defined? Nanobots, Microbots, Hyperloops. Veg-chicken, 3-D printing of food will be the realities of the future. Come, let us delve into tomorrow.

Characters

- Dadaji:** 70 years. Reporter and activist
Sunil: 43 years. Lawyer and social worker
Aashu: 20 years. Student.
Shivansh: 17 years. Student
Robot voice (not mentioned)

Scene 1

Sounds of laughter. As if 2 or 3 people are enjoying a good chat.

Aashu: Oh, come on Dadaji. You are still stuck in 1972.

Shivanash: No, no Aashu bhaiya, Dadaji cannot be stuck in 1972...he was born that year. He is actually stuck in 1992.

Aashu: Yeah! He was 20 then.

Robotic voice.

Robot: Dadaji, your blood glucose level is falling so your liver has been made to release stored glucose.

Dadaji: Thank you IRP-1 but (**raises voice**)...who has changed its voice mode. It used to speak in a natural human voice but now has a robotic tone.

Aashu (**laughing tone**): I did, Dadaji...I had been longing to hear its robotic voice for a while.

Dadaji: What a lot of difference between the years 2021 and 2042. Then, the emphasis was on making the robots more akin to humans. That even its voice should be human. And now, after slightly more than two decades, one wishes to hear its robotic voice. By the way, Aashu and Shivansh you are now 20 and 17 respectively and I will be 70 this October. I wonder....can you even imagine what it was like in those days?

Shivansh: Oh Dadaji, you were a renowned newsperson and even today you are a member of the Supreme Committee....and you ask such a question. We have audio and video recordings...we have the choice of viewing directly on the lens of our eyes or to close them and beam the film directly to our brains. We just have to think it and the nanobots in our brains execute the command in a jiffy.

Aashu: Oh Shivansh, Remember when the idea of implanting nanobots...what was the term Dadaji used at that time...sowing...yes that was the term... Dadaji was in the Committee that decided the rules for sowing the chips...and look from chips we have come to nanobots!

Dadaji: Yes Aashu and it is all thanks to the 37th move.

Shivansh: 37th move? What do you mean? You have never mentioned this before. Anyway I think it is you who should tell us what it was like 20 years ago in contrast to today when everything is done by robots; even paying attention!

Dadaji: (**in contemplative, farway tones**): It was the 37th move that transformed everything. It signalled the victory of machines over humans...so the 37th move (**suddenly reverts to the present**). To tell you the truth I think now, the human beings are emerging from tiredness and perhaps realizing the true value of life in greater depth...because most mundane chores are handled by robots, Humans are an open book now. Technology has taken a giant leap. We have colonized space and the Moon. We have begun to terraform Mars. Even our spiritual advancement is facilitated by technology. Perhaps our achievements have surpassed my imagination.

Aashu: I was chatting with Granny via the nanobots, yesterday. I found out that she had expressed the desire to meet after death...which she thought would never be possible; ever! However, today we can use AI to activate nanobots to access special centres of the brain to reactivate old memories and virtually revive people ...did Granny not know this at that time?

Dadaji: (**laughing**): Actually in 2030 or so, a private organization did launch such nanobots on a commercial scale. It could access our memories and bring these to the fore. It could create images based on those memories....that too in mobile mode. **Laughs.** Do you know, some people mistook these moving images to be

ghosts? And look, today the entire education system is governed by the nanobots which instil all the learning into our brains as we sleep...the nanobots also erase this learning when the need for it ends.

Aashu: Yes, Piyush's Uncle erased all memory of his accident, didn't he? But if you ask me I want to live with all my memories. Tell, me do you think technology has failed to deliver in any area? If so, what?

Dadaji: Now, this is an excellent question. To tell you the truth...we have not been able to wipe out crime. Its nature and techniques used have changed. Similarly, the standard of living has been bettered but social inequality remains. There is no starvation but the fight against illness and disease continues. Pollution has been defeated but unsustainable population growth has lead to the search for habitations outside the Planet. Space tourism is in its early days and is exorbitantly expensive now. But yes, we have seen a revolution in the fields of education and employment. Unfortunately, technology is so all-encompassing that it has become difficult to distinguish between the truly learned or wise and the not so learned.

Shivansh: Dadaji, can we ever have a perfect world?

Dadaji: Perfect? Everything is perfect isn't it? What do you mean by perfect? Tell me that.

Shivansh: Perfect...as when there is no crime. No illness. No one is unhappy.

Aashu: This isn't the definition of perfect. The Universe has both matter and anti-matter, so it follows that there will always be villains to accompany the heroes. What do you say, dadaji?

Dadaji: **(laughs):** Yes, Aashu...we have never been able to define perfection. Take you father Sunil, for example. He helped to frame many laws governing AI yet he is now embroiled in debates involving these self-same AI rules and regulations.

Aashu: Yes, I was watching it live on eye lens. Is it true that AI has murdered a human being? Is it possible for AI to make mistakes...like humans?

Dadaji: The central issue between the co-existence of humans and machines has raised its head again. It is difficult to find a simple answer. All will be revealed when the probe gets over. However, I must admit, till now AI has made no mistake...it carries out its tasks based on the data made available to it. Self-improvement based on data is also at a satisfactory level. AI harming a human being is beyond imagination.

Shivansh: Yet, it has happened....

Aashu: Dadaji, Papa is on your side of the argument but the verdict will be announced by AI and there can be no mistakes.

- Dadaji:** Anyway, the 37th move had established that AI is more creative ...more intelligent than humans. **(Pauses to think)** that 37th move... **(Returns to current time)** ah...we were talking about AI and mistakes... chatbots do not let bereaved people miss the departed ones. They bring solace. And according to people's understanding and mentality I cannot say the chatbots have made any mistakes. And in any case AI has the power to self-correct, learn and evolve and this is why AI is not a collection of mistakes as humans often are.
- Shivaang:** Dadaji, either clarify the story behind the 37th move or refrain from mentioning it time and again.
- Dadaji:** Ok...OK...we will postpone the story of the 37th move till later. Now look, AI is created with some special purpose in mind...now to come to the crux of what we were discussing.
- Aashu:** We were talking about the fact that a human was shot dead in the jungles of Thar by a microbot...of course, I admit that human entry into this area is prohibited for the next decade because biodiversity is still developing in this area....still, you cannot condone shooting a person for entering a prohibited zone.
- Dadaji:** You do know, don't you, that the Thar jungle was earlier the Thar desert?
- Aashu:** Of course I do. These days we can change the climatic conditions of any territory using nano robots. We are doing the same on Mars. Nano robots are terra forming Mars.
- Dadaji:** Correct! I had written an article on this.
- Shivansh:** Oho, at that point in time, you must have had to do the writing yourself...how difficult that must have been....and look, all we have to do now is think it and it is printed.
- Dadaji:** Rightly observed, son. There are many technologies that are focused on this view point.
- Shivansh:** Look I have received all information regarding this via nanobots. The fact is that the person had killed a rare variety of frog and stashed it in his bag. He was poised to kill another when the microbot attacked him.
- Aashu:** This leads us to two questions. First, why was he not attacked when he killed the first frog? And the second is whether it was necessary to kill the person.
- Dadaji:** Look at the amazing features of a virtual court and the fact that everyone has access...so everyone can join in the discussion. Now, your questions are valid. It is true that if it was correct to shoot the person when he killed the second frog; why wasn't he shot when he killed the first one?
- Shivansh:** Oh! I just got an update on my eye lens. The microbot issued a warning first but shot the man when the warning was not heeded.

Dadaji: Correct Shivansh. That is exactly what Sunil has said just now. Look at the amazing powers of the nanobots that are feeding you all information updated in real-time. Earlier we had to watch the events live or do a Google search later. Anyway, I think the microbot was not at fault. It showed respect for human life but took action when the life of another species was taken.

Aashu: Yes Dadaji. However, in any case it is humans who created AI. And the welfare of humans is on the top of the agenda for AI. So, the action of the microbot may be somewhat disturbing...

Dadaji: Look Aashu, it was the responsibility of that microbot to protect the biodiversity in that jungle. And that it is what it did! Remember if the law is not enforced strictly the n human beings will deplete the Earth of all its resources like humans had been doing till 15 years ago.

Shivansh: Oh Dadaji! It has just been revealed that there had been an attempt to corrupt the microbot by using a spybot. So, human beings have not given up the traits of ruining everything...of devastating everything.

Aashu: Hmm...That is right. But the bots and other AI-enabled systems are able to protect themselves against the action of hackers. These can reach the source of the attack and defuse it. So how did the reaction take so long?

Dadaji: Ah Aashu, I have just received an update from Sunil. Apparently, the delay was because the microbot in question had a spy program inserted in its algorithm. In the early days these were called Virus. After that we had many variants...anyway, what has happened is these days hundreds and thousands of such attacks are being launched secretly at the AI programs ...all it takes is for one to succeed. Just one success and **one life is lost**.

Shivansh: Dadaji, we have deployed micro drones to scrutinize every inch of land and these are sending back audio and video signals. Powerful satellites are also scanning the Earth from space. Cloud or any other cover cannot screen the Earth from their probes; AI is capable of beaming clear shots even of what we or our cameras cannot visualize. So who are these people who are able to dodge the system and appear to be hell bent on destroying everything?

Aashu: Shivansh, such people have always been around. They will always be around irrespective of what we do. They always have a problem with everything...be it technology or cultural norms. Didn't your nanobots tell you this?

Shivansh: They told me. But I wasn't interested. The question is ...there are so many AI-enabled technologies that can mould human thinking in a positive direction...so why did these not work on such people?

Dadaji **(laughingly):** It will Shivansh. It will. These technologies will succeed, in time. Look, all this has been deployed for just about two decades...the technologies have not reached everyone. Not all have nanobots attached to our brains the way you and I have. Nor do they have nanobots in their bloodstream to keep them safe from illness the way my nanobots do. My nanobots do not allow

wrinkles to form. Look, I do not wish to be immortal but I must thank technology for a healthy life. And when we return from a journey do we not find that the locked doors are welcoming us in an unlocked mode?

Aashu: Oh Dadaji, that is because we have a chip inserted in the right palm that can unlock any lock in the world. Once the owner permits us...we can unlock any lock easily enough like we did just now on returning home.

Shivansh: Now it is the power of technology, isn't it... that though I am about 300 km from home and in a flying taxi, the 3D holograms of ours are not allowing us to experience the physical distance between us. Brother Aashu, you are about 700 km away from home but you will reach home in 15 minutes thanks to the underground hyperloop.

Dadaji **(laughing):** That is true! Imagine! AI transformed the room next door into a court and Sunil is there officiating in the microbot case; he will be joining us in 10 minutes too. Then we will sit down to enjoy a tasty meal together. I have even ordered the food to be printed.

Aashu: Ah! You have placed your order to print the food in the Hide-mode. That is why we did not see it. I am hungry too and my chatbot has sent the message. I'll be reaching shortly.

Shivansh: But...but we left incomplete the discussion of those people who are bent upon ruining all these systems.

Dadaji: Do not fret. In a few years, everyone will be connected to AI and all this negativity will end. Everyone will be connected to a better life. Technology will not stop...the 37th move made everything clear.

Aashu: The 37th move, again. And I cannot even find any data related to it. Come on, spill the beans about this, Dadji!

Dadaji: Reach home first and I will disclose everything at the dining table. Ah, looks like Sunil is through...so, reach home quickly, now.

Scene change music.

Dadaji: Sunil, looks like Aashu and Shivansh's air taxi is here.

Sunil: Yes, Papa ji, they have taken the air taxi from the station.

Dadaji: Here they are!

Aashu and Shivansh: **(together):** Namaste Dadaji. Hello, Papa.

Dadaji: Namaste. Food is ready...just waiting to be served at the table.

Sunil: Come in..come in. So, how was the project tour?

Aashu: I am ravenous. And if there is any delay in eating, my Nano- bots will get my liver to release glucose.

Laughter.

Robotic voice: The meal has been served. Veg-chicken, cucumber salad enriched with the goodness of tomatoes, wheat flour roti and parathas enriched with the properties of ragi-millet, protein-rich potatoes and buttery-daal without butter.

Shivansh: Ah, Dadaji you got all this printed ...wow!

Dadaji: Yes, Food is printed using 3-D printers unlike being cooked in kitchens or being ordered from the markets. Now, all you need to do is let AI amalgamate all the required flavours and print the food.

Sunil: Rightly said, Papa ji. We do still have restros....but the rate of 3- D food printing is outpacing the rate of development of almost all other technologies. Now, if you order veg-chicken, it manipulates the flavours of lentils, vegetables and spices in such a manner that it becomes indistinguishable from real chicken.

Aashu: Rightly said, Dadaji, Gene recombination has got rid of malnutrition ...like for example, just eat cucumber salad and you get the nutrition from tomato as well. The protein content of potato has been enhanced by adding amaranth genes. Apart from this protein from other sources have also been added to potato...so much so that high protein potatoes are available for athletes.

Sunil: Yes. Yet once upon a time such genetically modified crops were not popular; there was great resistance against these. Anyway, it is true that a lot of study has been done on the health and ecological aspects of these crops...all because of AI.

Shivansh: Papa what is the update on the case where the microbot shot a human being in the jungle?

Sunil: I had sent the details...basically, it was corrupted by a virus that delayed its actions. However, the most important fact is that the microbot extracted all the data from that person's eyes and that is why it took the decision to shoot.

Ashu: Who was this person?

Sunil: He was a member of a vast terrorist organization. His plan was to isolate the gene for the most powerful toxin and insert it into a bacteria to use as an agent of global bio-terrorism. The command to the microbot was issued by our defence technology. The human-rights activists wanted to make an issue of it ...to recruit human security agents instead of microbots...but the court rejected their appeal.

Shivansh: So the microbot was acquitted...exonerated without a stain on character!

Laughter

Sunil: Acquitted...how did you learn this term?

Shivansh: Oh! I learnt this from an old movie Dadaji and I watched...in the end either the hero or his father was acquitted without a stain on his character.

Laughter.

Aashu: The food was great. Thank you, Dadaji.

Dadaji: Yeah and the best part is that there is no need to wash the soiled utensils. These are recycled and enter the 3-D printer to emerge as new ones.

Shivansh: What's new? This is what happens in every household.

Sunil: You cannot imagine what hardship it was when the person who did the dishes tool leave.

Aashu: On this note. Dadaji, tell us...

Dadaji: Tell you...what?

Aashu: About the 37th move.

Sunil: The 37th move...oh that Alpha Go move, Papa?

Dadaji: Oh, so you remember.

Sunil: of course I do. You had written that the 37th move established the ascendancy of machines over humans. This was the first time that it was demonstrated that machines did not simply obey commands but had the capability to think for themselves.

Aashu: **(in a tone of wonder and surprise):** What happened?

Shivansh: And when did it happen?

Dadaji: This was the most difficult game in the world. It was named Go. The match took place between a computer programme called AlphaGo and the 18-times world champion, Lee Sedol.

Aashu: Oh! The board-game GO. It is a difficult game that calls for enormous strategizing and creativity.

Sunil: Yes, the same game. This 5-match game was played by AlphaGo and champion, Lee Sedol during 9 and 15 March 2016.

Shivansh: And the computer won, didn't it?

Dadaji: Yes, Shivansh. The computer programme won. However, much before this event, in 1997, there was a chess game played between a computer programme called Deep Blue and Gary Kasparov and that game was had been won by the computer programme too although the prowess of machine learning had not been quite established. However, it is important to realize how AlphaGo won.

Shivansh: How did it win, Dadaji?

Sunil: let me tell you about the game. There were 5 matches that were to be played between AlphaGo and Lee Sedol. AlphaGo won the first match. It was what AlphaGo did in the second match that announced loud and clear that the Age of AI had indeed arrived. And that machines were better than human beings, no less!

Aashu: What happened?

Dadaji: Look, Lee Sedol had conceded that he had lost four games however, it was the second match that was amazing. In the 37th move of the second match, AlphaGo made a move no one had ever made, nor thought of making, in the thousands of years of the game's history. This spectacular 37th move established that computers were no longer just responding to commands but had learnt to think on the basis of data available. And that in some instances these had learnt to take risks as well. AI was no longer simply logical; it was creative, too.

Sunil: Yes, Papaji...I recall I was in Class IX or X when you told me about this event and had said that this was the day when humans placed the reins of the future in the hands of AI. They say that this 37th move is so unusual that perhaps it would be made just once in 10 thousand years.

Shivansh: But human beings are still in control, aren't they?

Aanshu: Shivansh, come on. It is not likely that a win or loss in a game snatches away human intellectual capacity. Human beings will remain the rulers of Earth and soon that of other planets too.

Sunil: Look Papaji. This is the AI generation...full of self-confidence. In our childhood we had mastered the use of computers...kids knew coding...the way earlier generations learnt ABC.

Dadaji: You are correct, Sunil. Aashu, human beings still dominate and the reason was made clear at that match in 2016.

Aashu: Eh? Now, what was that? Lee Sedol lost...so what happened next that the power of the human intellect is still admired today?

Sunil: Papaji, you never mentioned anything about this...what happened?

Dadaji: It was Move 78.

Shivansh: Another move. The 78th move. Whose move was this?

Dadaji: What happened was that by the time Lee Sedol had conceded three consecutive matches, the entire question of human intellectual prowess was at stake...not to mention Lee's personal pride. Of course the computer program AlphaGo had no inkling of such emotions. However, human beings have ego, self-respect ...and so, by his 78th move of the fourth match, Lee managed to re-establish human self-confidence, self-respect, intelligence and creativity. Do you know what experts said about this move?

Aashu: A... one in 10,000 move!

Dadaji: My, my Aashu...absolutely correct. How did you guess?

Aashu: Human beings are sensitive, emotional...but they are intelligent too and have brains that cannot be countered, not even by all the AI in the universe.

Dadaji: Well said, Aashu. Both the moves were masterstrokes. Neither was less than the other in any way. Yet you were right when you pointed out that human beings are emotional creatures...it rarely focusses on only one task...it is always multi-tasking.

Shivansh: Right, Dadji just like I have so many things on my mind now.

Sunil: Like what?

Shivansh: That although my tummy is full and according to the nanobots, I have consumed adequate calories yet...

Dadaji: Yet... What Shivansh?

Shivansh: I mean Dadaji...may I have potato and cauliflower fritters and paneer fritters with tea?

All laugh loudly.

Dadaji: Of course, why not. Why should we sacrifice these desires for AI? I will order for everyone.

Sunil: But Papa ji, your blood sugar levels....?

Dadaji: Oh Sunil...why must we worry about everything...let the AI take care of these worries...today I will have sweet tea and fritters...why else have I inserted all those bots in my body. Let me see how AI responds to my 78th move.

All laugh.

- END -