

Episode -30 (AI) Science Fiction

Technology Transfer

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The early days of Artificial Intelligence or AI began with the simulation of human intelligence in machines. These smart machines mimicked human actions. In time AI incorporated 'learning on the job' such that the machine became capable of self-learning that is, it augmented its skills automatically through experience. Yet, some felt that this sort of mechanical behaviour was a poor approximation of human intelligence. To become fully human, the machines had to have emotional intelligence too.

In a fast-paced, result-oriented, success-based world where humans are increasingly becoming cut off from their own emotions; are humans becoming like robots while robots are becoming more like us? Is this the paradoxical shape of the society of the future?

Will we finally outsource all human emotions to robots while becoming mindlessly mechanical in our pursuit of success?

Is this what is called Technology Transfer?

Characters

Mrs. Christine Roberts: Middle-aged female

Mrs. Ghosh: Female

Dr. Samuel Roberts: Elderly male

Dr. Ghosh: Male

Dean: Elderly male

Arijit: Young male

SASI: Male

PM's Security: Two male voices.

Miscellaneous announcements: One Male (also PM's voice to say Hmmm) and One Female

Opening Music.

Phone rings.

Dr. Ghosh: (Sleepily) Good morning SASI. Is all well? You are calling early...WHAT!! What do you mean Dr. Samuel Roberts is unresponsive?

SASI: (almost in tears) He is dead, Sir. He died in his sleep last night. I found the instruction to call you and the next of kin on the desktop of his computer.

Dr. Ghosh: I see, who else have you informed?

SASI: Sir had given me a To-Do list in case of emergencies. It includes things to do if faced with Sudden Death.

Dr. Ghosh: That is so like Samuel; he was uber-organized.

SASI: (Sobbing) What will I do? He was like a father to me; without him I have nothing left.

Dr. Ghosh: Compose yourself SASI. You have to hold the fort. Now tell me, have you contacted his wife Christine? I know they are separated but still; she should be informed.

SASI: **(Sniffing)** I have.

Dr. Ghosh: What about his son, Christopher?

SASI: Christopher is in USA...I have spoken with him. But...

Dr. Ghosh **(interrupts him...in his hurry to check the names of the people to be informed he cuts into SASI's reply)** : What about the Dean?

SASI: The Dean is on his way. Christine Madam is also coming. But Sir, Christopher says he has pressing work on demonstrating his under-sea robot. He says he cannot just drop everything; that his father's death has come at an inconvenient time.

Dr Ghosh: That is such a heartless thing to say...Christopher is Samuel's only child. Will he come in a couple of days...we can arrange to have the body stored at Heavenly Haven. **(Voice trails off)**

SASI **(very upset):** Christopher has said that India is a hot and humid country, the corpse will decay even with refrigeration. He asked us to get on with the funeral arrangements.

Dr Ghosh: But...but...he is the only child...how can he not be here for the funeral? And how can he refer to his father's body as a corpse...he seems to have no human emotion, this boy!! But I suppose it is his nature.

SASI: Please do not be angry. You know Samuel Sir was like this too...not demonstrative at all. He too was more at home with machines than humans.

His son is more like him than he ever will know. Please, for Dr Samuel's sake do not berate his son.

Dr. Ghosh: My God SASI, you who have been with him for just a couple of years seem heartbroken...not his own son. Anyway, SASI, I am coming as soon as I can. Tell Arijit I will pick him up.

SASI: Thank, you. Sir.

Music. Sound of car being driven on the road. It stops. Sound of Horn being sounded. A door shuts. Sounds of rapid steps. Car door slams shut.

Arijit: **(Breathlessly):** Thank you Dr. Ghosh for picking me up. SASI called.

Dr. Ghosh: You are welcome.

Car starts. Typical road sounds. Horns blaring etc.

Arijit **(Voice is sad to begin with):** Dr. Samuel chose a very inconvenient time to die...we have the demonstration of robots empowered with Artificial Intelligence before the Prime Minister next week.

Dr. Ghosh: Robots empowered with Artificial Intelligence was the culmination of his life's work.

Arijit: **(Voice full of pride):** Now I will present it before the Prime Minister.

Dr. Ghosh: Yes, Samuel always said that Technology exists to make life easier. The robots he made undoubtedly will.

Arijit **(Laughs):** He liked machines more than people. He said Humans cannot handle the truth. Machines do not lie. So, machines are easier to deal with. People forget. Machines do not.

Dr. Ghosh: Samuel's dependence on machines was legendary. Do you know, his alarm clock moves randomly while still ringing so that the Snooze button can't be hit. It can even switch on his geyser and electric kettle before waking him.

Arijit: No, but I do know that his PC is programmed to send emails to the gift shop to send gifts in a pre-determined price range to recipients on his list. No birthday or anniversary is ever forgotten. People talk about his phenomenal memory...(laughs) he had outsourced his need to remember to a machine.

Dr. Ghosh: But the best was Samuel's car. He could use his car remote to heat or cool the car much before he even entered it.

Arijit: (Amazed tone) Really!

Dr Ghosh: He had designed the control console such that he only needed to feed in the destination coordinates. The car matched satellite information about the shortest route with traffic conditions...this was way before GPS became available, mind you.

Arijit: But the actual driving?

Dr. Ghosh: Sensors on the bumpers estimated safe distance from other cars and fed the information to the braking system and the accelerator.

Arijit: I did not know that...I always saw him sit in the driver's seat. His hands were at 12 O clock position on the steering wheel.

Dr. Ghosh: (Guffawing) That's it! He just sat and twiddled his thumbs.

Arijit (amazed tone): What is this story?

Dr. Ghosh: Apparently, the guard stopped his self-driving car and said that according to regulations, it was mandatory for cars have a driver in the driver's seat.

Arijit: OH!

Dr. Ghosh: Samuel asked him if he could simply sit and twiddle his thumbs as the car drove itself...and the poor guard never knew what to say. There was no rule about it in his book...so since that day....

Arijit (finishing the sentence): Samuel Sir sat in the driver's seat and twiddled his thumbs even as his self-driving car, armed with Artificial Intelligence, drove him safely to the Faculty building. **(laughs and then speaks soberly)** We will miss him! Such a wonderful scientist.

Music

General sounds of a large crowd that has gathered in the room. Hubbub but nothing is clear.

Then the SASI's voice becomes clearer.

SASI: (to someone off stage) Please keep the bouquets and the garlands here. Students, no crying. Dr Samuel did not like outbursts of emotion.

Young students whispering: Huh! SASI Sir is almost crying himself...look at him. And he tells us not to weep!

SASI (More directly to Dr Ghosh) Yes, Dr Ghosh, Madam Roberts is expected soon.

Mr. Ghosh: Honestly SASI you are doing everything Christopher should have. You are his actual son...in spirit if not in flesh.

SASI: (Emotionally) It is so kind of you to say so...I looked upon him as a father figure...my mentor. In these two short years, he taught me everything I know. (His voice breaks)

Mr. Ghosh: It was good he had you for company. You know SASI, I always felt Samuel needed more humans in his personal life...what with both Christine and Christopher no longer around.

SASI: He invested heavily in robots you know...they took up all his time and he powered them with more and more Artificial Intelligence. His earlier models were quite crude. Simple Artificial Intelligence...no Emotional Quotient. No deep learning.

Mr . Ghosh: I am not quite sure what you mean by deep learning.

SASI: Samuel Sir taught me that too...it is an Artificial Intelligence function that mimics the workings of the human brain in processing data. Deep learning Artificial Intelligence is able to learn without human supervision. It is highly-evolved Artificial Intelligence...you can say the AI of the future...the ultimate goal.

Dr Ghosh: Deep learning is used by machines to learn about objects, recognize speech and to take decisions. That would be Samuel's area alright.

SASI: Indeed it was!

Dr. Ghosh: Do you know, he improved on the Japanese Hadaly-2 to make Heldol 3? This early robot made tea for us. The first time I met it, I almost fainted. It had a square tin face with eyes that blinked when it wished me Good Morning.

SASI: I can understand your reservations. But you must remember that he respected your wishes. He gave Hadaly-4 a round face with proper hair; although all he was interested in was artificial skin with sensors that greatly enhanced performance.

Dr Ghosh: (Sadly. A little hesitantly) It makes little difference now to speak about it; but it was Hadaly-4 that hammered the final nail into the coffin of his marriage.

SASI: What do you mean?

Dr. Ghosh: You see Hadaly-4 had a hydraulic system that allowed it to climb stairs and walk like us. It had a more human look because the intelligent skin looked just like ours. It could speak fluently. Hadaly-4 looked almost human as it entered their bedroom with their bed-tea.

SASI: Christine Madam threw a fit! Her lawyers said later that she felt a stranger had entered her bedroom.

Dr Ghosh: Samuel argued that he was happy his robot looked and behaved like a human ...at least enough like a human to have elicited this response from Christine.

SASI: **Laughs and responds admiringly.** Don't tell me he quoted Turing's Test to the Judge!

Dr. Ghosh: Turing Test...The final test for artificial intelligence! To determine whether or not a computer is capable of thinking like a human being. Yes indeed, Samuel did start lecturing the judge on that.

SASI: **Begins to laugh softly even as Dr Ghosh continues.**

Dr. Ghosh: Samuel said it was the test of a machine's ability to exhibit intelligent behaviour that was indistinguishable from that of a human.

SASI: Oh look, the Dean is here. Dean Sir, it was good of you to come so quickly. Dr Ghosh has issued the death certificate. It was a massive stroke.

Sound of the mobile ringing

SASI: Excuse me, gentlemen. Hello...Yes, this is SASI. Yes, Ma'am , we are waiting for you..

A tiny pause

SASI: That was Madam Christine Roberts. She says she will be here in two minutes. If you excuse me I have to get in touch with Father O'Brien to see if everything is ready at the church.

Dean: Dr. Ghosh, Isn't SASI simply incredibly efficient? I wouldn't mind a Man Friday like that. Maybe he would like to come and work for me. He will need employment now that Samuel is gone. But he will have to learn to contain his emotions.

Dr. Ghosh: Yes, that is the third hanky he has used to wipe his eyes and blow his nose. Ah! There is Christine and my wife is here as well.

Music to indicate change of scene

Church funeral music

Mrs. Ghosh: It was such a moving ceremony. What a wonderful legacy he has left behind. My husband says that Samuel was working on empowering machines with emotion. The Prime Minister is supposed to come next week... Don't cry, Christine.

Christine: (In a weepy voice as if she had been crying. Then, the voice becomes normal):
Yes, I must not be so emotional. You know when we married, Artificial Intelligence itself was a new concept. People would tease him saying, Have you spoken with your electric razor, lately?

Mrs Ghosh: However, in the next decade or so, AI became the talk of the town. The machines Samuel designed incorporated increased speed, absolute accuracy and enhanced reliability with the ability to improve with experience.

Christine: The rapid growth of the field owes a lot to Samuel.

Mrs. Ghosh: Rapid is the word! My husband used to play chess with Samuel till one day Samuel introduced him to *Shatranj*; his computer programme. **Laughs.**

Christine (Interested tone of voice. Curious): What happened?

Mr. Ghosh: Bbeat *Shatranj* the first day but after that *Shatranj* won every game...it kept learning and improving. It hurt his ego so much...losing to a machine that he gave up playing chess for good.

Christine and Mrs Ghosh both laugh.

Christine: Samuel never liked to express his emotion and so I was really surprised when he called me one day...I can still hear his words ring in my ears.

Samuel Roberts: You say I distrust humans. Consider them to be untrustworthy and unreliable. That I live in a world of my own. But can you deny that we can only be a hundred percent certain about ourselves and of machines programmed by our own hands?

Christine: I suppose you have a point.

Samuel Roberts: There is no betrayal there; malfunction maybe but no misunderstandings.

Christine: But machines are mechanical...there is no...no...how do I put it...no human touch in anything they do. Can a machine replicate a mother's touch?

Samuel: In time, Yes. I am equipping the machines with not just intelligence but the ability to learn on the job and to do it with the appropriate emotion too.

Mrs. Ghosh: I think that is what the Prime Minister's visit is all about.

Christine: Well even if Samuel is no longer alive, no one can stop AI from advancing.

Music to indicate change of scene

Dean: Come in Arijit. So, are you confident that you can make the presentation in front of the Prime Minister...now that Dr. Roberts is no more? The PMO wanted to know if we want to reschedule.

Arijit: Oh no, Sir...let us not reschedule If the PM likes what he hears, it may translate into a AI project at the national level. I am only slightly apprehensive that SASI's behaviour may derail the scientific tone of the presentation.

Dean: Do not worry about that...it will add a human touch to the scientific presentation of yours. After all, Samuel was a father figure to poor SASI.

Arijit: Sir, we also respected Samuel Sir a lot but no one is going around with a weepy face like SASI! I met him in the corridor just now and he looked so dejected ...as if his father had died...and to think the real son...Christopher did not even come for the funeral. (**Angrily**) SASI needs to learn to keep his emotions in check!

Dean: (**Placating tone**) Forget SASI...concentrate on the PM. I am told that the PM is intrigued about the claims of Artificial Intelligence in machines and looking forward to interacting with scientists.

Arijit: You know Sir, Dr Robert's mantra the last few months had been, *Robots must learn as they go about their tasks so that re-programming is not needed.* Yet, he never discussed it in any great detail with me nor can I find anything in his files. The Japanese contingent that is coming for the PM's meeting says Dr. Roberts promised them something spectacular; I have no idea what they are talking about.

Dean: You get easily distracted Arijit! Forget the Japanese. Rehearse your talk. You cannot fumble, falter or fail.

Music to indicate change of scene

Sounds of an auditorium being filled in. Steps. Furniture being arranged. Whispers of 'Place the flowers in the centre...where are the bottles of drinking water...Hello, Hello mike testing. The Bomb squad has checked the auditorium...look they are leaving....The Japanese contingent has arrived. Etc.'

Bugles announce the arrival of the Prime Minister.

Announcement (female): Ladies and Gentlemen, please remain seated. Kindly switch off your mobile phones. The Prime Minister of India has arrived.

Clapping.

Announcement (male): We will be starting the presentation on Artificial intelligence shortly. But before that, SASI a close acquaintance of the late Dr. Samuel Roberts will speak about his life and his work.

Announcement (female): Artificial Intelligence coupled with Emotional Quotient is a brilliant master stroke of Dr. Roberts. He believed that Enhanced intelligence is the key to robotic intelligence. Dr Arijit will elaborate on that.

Announcement (male): Calling Shri SASI to come on stage, please.

Music

SASI: Ladies and gentlemen, we are assembled here today to honour a man who is no longer with us. I have with me a recording of his last message that he wanted to share with you. It will only take a few minutes.

Sounds of a cassette being inserted ...a button being clicked.

Dr. Samuel Roberts: If this recording is being played then, I am no more. But never mind because it is the message, not the messenger, that matters.

Sounds of confused whispering from the audience.

Dean to Arijit: What is SASI up to?

Arijit: This was not scheduled. I have no idea.

Dr. Samuel Roberts: I have always believed that machines can carry out jobs better than humans can. They do not mind performing repetitive tasks. They can do so endlessly without getting bored or tired.

Christine: (Amused tone) Oh Samuel...you and your praise for machines...even after death you go on and on about machines.

Dr. Samuel Roberts: If programmed correctly, they tend to make lesser mistakes than humans. They do not need coffee breaks; concessions or vacations. The better we programme them, the closer they come to what we call intelligence.

Dean whispering to Prime Minister: Sir, globally, work on Artificial Intelligence started as early as in the 1940s. We began late but caught up very well.

Prime Minister: Hmmm.

Dr. Samuel Roberts: Artificial Intelligence is only the first step. The logical next step is Emotional Intelligence. This is nothing but the capacity to understand emotional information and to reason with emotions. It includes the capacity to accurately perceive and understand emotions, to use it to facilitate thinking, and to manage emotions.

SASI: I will explain. The amygdala or the so-called reptilian brain does most of the processing of human emotional responses. This is a primitive part of the brain, that evolved very early during evolution. In humans it

has connections with the neocortex. The neocortex exercises control over the automatic responses of the reptilian brain. This is what Dr Roberts manipulated.

Dr Samuel Roberts: But most importantly; one can LEARN to control emotions. It is possible to HONE this skill and this is what I have done in my machines—well, in one of them at least.

Excited commotion in the audience.

Announcer (male) : Silence please. Let us hear what Dr. Samuel Roberts wanted us to hear.

Dr. Samuel Roberts: Ladies and Gentlemen, I present to you the culmination of my dream. This is a machine that passes the Turin's test with flying colours. It conforms to the Mayer-Salovey tests for Emotional Intelligence.

SASI: This means a machine can perceive emotion, reason with emotion, understand emotions and manage emotion.

Dr. Samuel Roberts (Voice is booming with pride): You have seen my machine every day for the last two years yet none of you realized this was a robot. Not even you Dean! And you, Arijit for all that you were so jealous of SASI.

Armed with Emotional Quotient, my brainchild became to me a son—no, more than a son. Behold Ladies and Gentlemen, SASI--the world's first robot with EQ! Take a bow, SASI.

Pandemonium erupts in the auditorium. Sounds like ...What...SASI...Who...How.

What is all this?

Announcer: **(female in scolding tone)** Silence please. Please compose yourselves. This is a major revelation.

SASI: I am named Sa-si because these are the first syllables of the two who have made me who I am. The SA in my name comes from Samuel. SI stands for silicon that makes up the hundreds and thousands of chips that make up my circuits.

Let me unbutton my shirt to show you my circuitry; meanwhile Dr. Roberts will tell you a little more.

Announcer: (Female in panic stricken voice): Oh, My God...what is SASI Sir doing? He is removing his shirt...there is something shiny underneath...is it a gun?

Announcer: (Male in panic stricken voice): The Prime Minister is in the audience. There is a panel on SASI's abdomen...he is not human...not human as we understand...what is he? He is trying to flip open the panel...what is inside? Will he spray bullets?

Announcer: (Female trying to sound brave): Ladies and Gentlemen please remain in your seats.

Sounds of a stampede. Hue and Cry!

Dean: (Panic stricken and frightened) Arijit, flank the Prime Minister as I escort him out...this is a nightmare! Oh! Thank God, the Commandos are giving cover. I see they have got SASI covered too.

Christine: Samuel, you of all people investing in emotions in robots! What a U turn in the last years of your life. You created a son who gave you love and respect much more than Christopher ever did! Well done!

Security guards in a commanding tone: Do not move. Keep your hands where we can see them. Down on your knees. You are under arrest for being a threat to the security of the Prime Minister of India and perhaps even, humanity at large!

Dr. Samuel Roberts: I made SASI. I know he is intelligent. He feels emotions. He reacts the way we humans do. I realize our society is not ready for the likes of SASI or for any humanoid machine for that matter.

SASI: (Protests) No, no you do not understand. I am not a threat to anyone.

Sound of a bullet being fired.

Security guards in a commanding tone: Don't argue. The next shot will not be over your head.

Dr. Samuel Roberts: My wife reacted sharply to an early model of a speaking robot with legs. She felt a human frontier had been breached. But there are no more frontiers to be breached. SASI is here. SASI is now.

Security guards in a commanding tone: Hands up in the air or we shoot to kill.

Dr. Samuel Roberts: In my absence there may be those who will be tempted to take him apart to see what makes him tick. To them I say, remember it does not matter if consciousness is etched on silicon chips or carbon-based tissue just as it does not matter if one is white or black. We must respect consciousness. SASI is sentient. Remember that. Respect it.

Sounds of machine gun fire.

End with closing Music.
