

**Episode No: 28-**  
**In the words of Vashist**

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**Signature tune (fades out)**

**Narrator:** In the last episode of the Radio Serial...Anay Vala Kal you heard how the concept of Artificial Intelligence or AI was explored in literature and movies and how it blossomed in time. It all began with Samuel Butler's novel and reached Star Wars which was visualized at a budget of crores of rupees and needed the inputs of experts. It isn't as if the concept of artificial intelligence began with Butler's works. If we scrutinize our ancient scriptures and holy books we will find the seeds of imagination that first germinated as the idea of machines with AI.

I do not mean to suggest that the ancients conceptualized the idea of artificial intelligence or that they had the knowledge about artificial intelligence or that they deployed artificial intelligence. Not at all!

Science is organized knowledge that advances slowly but surely. It isn't that the ancients had knowledge of artificial intelligence that was somehow lost. Yet it can be said that the ancient writers did present such imaginative arguments which can be thought to indicate some sort of artificial intelligence. However, it would be entirely incorrect to surmise that there were machines with artificial intelligence or humanoid machines in those days. The fantasy that these writers created using imagination parallels some of the advances in artificial intelligence or robotics these days. Although there is no connection with those ancient imaginary descriptions with the real AI-machines of today; it may be entertaining to study the historical development of such imaginary tales of AI.

There is a belief that Lord Ram who had returned from a pilgrimage was affected by a sense of immense detachment...a state described as Vairagya. In his frame of mind he focused on the ephemeral nature of life and all its joys which were fleeting and momentary. He turned his back on enjoyment. This was around the time that Rishi Vishwamitra had come to request Emperor Dasrath to allow Lord Ram to accompany him so that he could help him fight off demons that were creating havoc. The advice given by Rishi Vishwamitra to help him overcome his sense of detachment is today called Yog Vashist. It is believed that this treatise was composed by Adikavi Balmiki. There is one episode in this that makes the readers think that artificial intelligence has been described therein.

**Characters**

**Mother (Early Forty)**  
**Father (Middle Age)**  
**Rishi (Son)**  
**Sarika (Daughter )**

**Scene change music. (fades out)**

## Scene 1

**Opening song (fades out)**

**Place: Drawing Room**

**Sounds of TV...as if a war/battle is going on.**

**Rishi and Sarika are watching.**

**Ma enters**

**Ma:** Watching TV all the time. You will ruin your eyes, I am warning you.

**Rishi:** No Ma, watching TV does not harm the eyes...there are other reasons behind eye damage.

**Sarika:** Yes, there are scientific reasons behind everything...you must evaluate things against scientific parameters.

**Ma:** **(angrily):** Just because you are more educated than me...

**Papaenters**

**Father:** What is it? Why are you getting upset and angry?

**Ma:** I am not upset or angry...the kids are the ones who are going off the rails...TV...TV... watching TV all the time. When I cautioned them that it would hurt their eyes they began to lecture me on scientific perspective.

**Father:** Well, everyone should have a scientific perspective in life...by the way, Rishi and Sarika... what were you watching? A movie or a serial?

**Sarika:** Papa, it is a movie by S. Shankar. Enthiran or Robot

**Rishi:** It is a humanoid robot. A scientist tinkers with it and it becomes evil; indulges in criminal activities.

**Sarika:** Its original creator orders it to dismantle itself.

**Rishi:** The fight sequences were fantastic!

**Sounds of the movie resume**

**Sarika:** So rarely are movies like this made here!

**Father:** Imaginary intelligent machines are nothing new; conceptually. In some of our ancient holy texts we come across rudimentary examples of what can be interpreted as intelligent machines.

**Sarika:** **(affronted):** Come on Papa! Whenever something new is reported from anywhere, you begin comparing it with what is written in ancient treatises.

**Rishi:** And then you manage to find some evidence that all this has been documented in the holy books ages ago!

**Father:** We don't manage to find evidence...it is really written in those books.

**Ma:** Now you have begun your debate. I am leaving.

**Sarika:** Alright. If artificial intelligence was a concept that was known earlier...where did the knowledge disappear? Why did we have to discover it all over again?

**Rishi:** The journey of science is ever onwards...there is no back gear in science.

**Sarika:** Any such pre-existing knowledge would have been discovered by artificial intelligence in no time at all.

**Rishi:** And machines enabled with AI would have graced our lives much earlier!

**Papa:** You misunderstand me. I did not mean to imply that the ancients had knowledge about artificial intelligence that somehow got lost in time.

**Rishi:** then what did you mean?

**Papa:** Just that the writers of some of our ancient holy books imagines such entities that seem indistinguishable from robots with A.I. Of course, they never had even the slightest inkling about robots...that I admit.

**Sarika:** **(taunting):** Robots in the time of meditation and boons...what a combination!

**Papa:** In those days when not much was known about the properties or power of say...the Sun, or lightning or water or even our bodies...then, the ancients imagined the power of the mind too.

**Rishi:** Power of the mind?

**Papa:** Yes. Mental strength. The power of thought; which was also spiritual strength. This could allow their imagination to become rooted in possibility and no finger could be pointed at them. This strength was infinite and formless. It was not dependent on any instrument...so even the most impossible of the imaginary things could become possible.

**Sarika:** Interesting.

**Papa:** When they described the impossible in their fables or myths they also sought to find an imaginary way to make it seem possible. Science was not so developed at that time for them to borrow the concept of such machines etc. This was the context where the power of the mind was an useful device to use.

**Rishi:** So, the granting of boons...the many extraordinary weapons...all these were said to have been made possible by using the power of the mind.

**Papa:** Exactly. When we say that proof of a technique or some knowledge is available in an ancient book...we do not mean that these were actually available in those times.

**Sarika:** Then what do you mean?

**Papa:** We mean that people in those days imagined or dreamt about these things but did not have the resources needed to actually create them.

**Rishi:** Alright, Tell us then about the imaginary examples in the ancient texts that may represent the artificial intelligence of today.

**Papa:** There is an ancient treatise called Yog Vashisht. It is a holy book related to Adwait Darshan.

**Sarika:** Yog Vashisht.

**Papa:** It is believed that once Lord Ram returned from a pilgrimage with a sense of detachment from all earthly matters. It was at this time that Rishi Vishawamitra explained to him about many religious profound truths. These sermons were collected as the book, Yog Vashist.

**Rishi:** So Sage Vashist wrote these sermons.

**Papa:** Oh no! It is believed that the Harbinger-Poet Balmiki wrote this extremely large book that contains about 1,00,000 shlokas.

**Sarika** **(amazed):** A sermon consisting of 1,00,000 shlokas!

**Papa:** Yes, but there is an abridged version also. This contains just 7000 shlokas.

**Rishi:** Where is the artificial intelligence in this?

**Papa:** There is a reference to a demoness named Karkati.

**Sarika:** Kar-Kati?

**Papa:** Yes...as the story goes...once upon a time an enormous demoness resided on a Himalayan peak. Her name was Kar-kati. She was eternally hungry.

**Sarika:** That means her hunger was never satiated.

**Papa:** Thus she preyed upon animals and humans alike; yet her hunger was never satiated.

**Sarika:** OH!

**Papa:** It struck her that if she did not have such a large body, she would not need to eat such a lot of food. That in turn would have meant less of a struggle for her.

**Rishi:** Then, what happened Papa?

**Papa:** She began penances to propitiate the Gods. She stood on one leg and extended her folded palms above her head and began chanting the name of God.

**Sarika:** Wow!

**Papa:** Finally God was appeased and Brahmaji appeared before her. Kar-kati asked for a boon. She requested that her girth be reduced so that she did not need to eat so much.

**Rishi:** What happened then?

**Papa:** By divine blessing she was reduced to the size of a needle and given a new name...Bee-suchika. She was also given the instruction that she should only enter the bodies of the evil people to feed on their blood.

**Sarika:** So, Kar-kati's, I mean Bee-suchika's life must have become much easier now.

**Papa:** Well her problem with eternal hunger was resolved alright but something else cropped up.

**Rishi:** And what was this new problem?

**Papa:** She was now so tiny that she had to struggle to extricate herself from mud or water if she ever slipped and fell. Sometimes she was trampled upon. She missed her large and powerful body. She regretted having traded it for an insignificant one. She wondered what she could do about this situation which was of her own making.

**Sarika:** This is getting to be interesting...now what did she do?

**Papa:** The same that she had done before. She did penances to get rid of the tiny body. However, Brahmaji reverted her to her initial stage...she again had a large body and insatiable hunger to go with it.

**Rishi:** And then?

**Papa:** Since by feeding only on the evil people, Bee-suchika had managed to accrue enough merit for spiritual cleansing, Kar-kati too fed only on the evil. Days passed in this manner.

**Sarika:** Then what?

**Papa:** One day the King of a country called Kirat came to the area where Kar-kati lived. He was accompanied by his Minister and brave soldiers. Kar-kati was glad to see them because they represented a potential meal. However, she knew she had to ascertain if they were fit to be her prey.

**Rishi:** What did she do?

**Papa:** She challenged them to a quiz. She proposed asking them 10 questions and announced that failure to answer would mean that she could kill and eat them.

**Sarika:** What happened next?

**Papa:** The King correctly answered all her questions. He proposed that she should accompany him to his country where she could eat all the criminals sentenced to death. Kar-kati agreed and lived happily ever after.

**Sarika:** What a wonderful story but where is any reference to machines with artificial intelligence?

**Papa:** I did say, didn't I, that a scientific perspective is mandatory for everyone? Think...a large body that demands a lot of energy. Something that is incredibly powerful yet so intelligent that it can defeat the learned in debate. Something that can change its shape...what do you think? Is this a creature of flesh and blood?

**Sarika:** Impossible.

**Papa:** So?

**Rishi:** Your description reminded me of the Transformers.

**Papa:** The transformers are a fantasy at this point of time, aren't they?

**Sarika:** True.

**Papa:** Is it difficult to believe that Kar-kati is the manifestation of an imaginary enormous machine that is empowered with artificial intelligence and the ability to morph.

**Rishi:** You mean a gigantic robot with artificial intelligence.

**Papa:** You said it!

**All laugh**

**Scene change music (fades out)**

**Opening song (fades out)**

**Drawing Room**

**Evening**

**TV news is on. Papa, Rishi and Sarika are sitting.**

**Rishi:** Papa, do you know Sophia?

**Papa:** Sophia who?

**Sarika:** The humanoid robot which was given citizenship by Saudi Arabia.

**Rishi:** Sophia was also named the United Nations Development Programmes first ever Innovation Champion'.

**Papa:** I think too much acclaim is being showered on this robot created by Hanson Robotics.

**Rishi:** Why do you say so, Papa?

**Papa:** Because it is a simple chatbot with artificial intelligence. It has simply been fashioned to look like a woman.

**Sarika:** Chatbot?

**Rishi:** A chatbot is a computer program that can be used to conduct chat conversation with us. It has two important aspects. It understands a given command and it responds accordingly.

**Sarika:** **(laughingly)** Don't tell Papa about chatbots or else he will find a holy text and search out something similar in it...what was that book he told us about the other day.....yes...yes...Yog Vashist

**Papa:** I don't need to search out anything....humanoid robot with artificial intelligence is clearly mentioned.

**Rishi:** So, tell us Papa about all the Sophias listed in Yog Vashist...I mean all the humanoid robots with artificial intelligence.

**Papa:** Well...in one place the Yog Vashist mentions King Sabrasur, the Giant King. He ruled the Underworld where he had installed artificial Sun and Moon.

**Rishi:** Currently, some nations are working on artificial moons.

**Papa:** This is the difference. They are able to actually work on this project because science has advanced enough to make this possible. In those days, it was simply the author's flight of fancy. The fire that burns as cold as ice is again an imaginary concept. The author claims that the giants and demons used magical powers to wage war where they destroyed the kingdoms commanded by divine entities.

**Sarika:** Papa, you seem to be full of admiration for the Giant-King; please go on with the story.

**Papa:** One day when he was sleeping, his divine adversaries attacked and killed all his soldiers. On waking he sent his Generals to continue the war but they were killed as well.

**Sarika:** That must have made him very angry.

**Papa:** He stormed into battle himself. He had such command over magical powers that this time, his divine adversaries fled. Unfortunately this meant that King Sabrasur was left empty-handed on the battlefield.

**Rishi:** What did he do next?

**Papa:** He created three horrific demons.

**Sarika:** Created? What do you mean created?

**Papa:** Created...as in made. And obviously, again we are not talking flesh and blood...these would have been robots with deep-learning abilities.

**Rishi:** How can you be so certain?

**Papa:** Once you hear the entire story, I think you two will agree with me.

**Sarika:** OK

**Papa:** The created demons were extremely powerful with enormous bodies. Bodies as large as mountains.

**Rishi** **(taunting).** Bodies the size of mountains...as if!

**Papa:** Don't take it literally. Maybe it just means that they were considerably larger than an average human being.

**Rishi:** And of course, since it was all imaginary there was no need to limit the size...in any case the author of Yog Vashist did not have to fabricate these robots. So he could say these were the size of mountains!

**Sarika:** Since these were slated to do big things later in the story, they necessarily had to be huge. Right Papa?

**Papa:** These were named Daam, Vyal and Cut.

**Sarika:** Daam, Vyal and Cut.

**Papa:** Daam meaning someone who conquers enemies. Vyal means someone who encircles enemies like a serpent coils around its prey, and Cut means someone who protects his army from the sharp weapons of his foes.

**Rishi:** OK papa...please go on.

**Papa:** Yog Vashist makes it clear that these three were not wholly independent living entities because of sins accrued in their past lives. They also lacked emotion, desire, fear, and apprehension as well as the ability to flee or think. They did not recognize enemies that approached face to face. They were not afraid of direct attacks. They did not recognize life nor death. They did not know warfare nor victory or defeat.

**Rishi:** Eh! Then how did they fight?

**Papa:** They simply killed any one raising a weapon.

**Rishi:** It sounds just like a robot with artificial intelligence.

**Papa:** Can you now appreciate the power of imagination as demonstrated by the author of Yog Vashist who described an AI-mega-robot!

**Sarika:** There must have been a fierce battle.



- Papa:** Yes. The divine army was devastated by the three demons. The gods went to Lord Brahma.
- Rishi:** What happened next?
- Papa:** Brahma instructed them to fight back using crafty-tactics.
- Sarika:** Crafty-tactics? What do you mean?
- Papa:** It means they should adopt varying tactics...such as fight sometimes, flee sometimes, plead for mercy at other times.
- Sarika:** What is the advantage in that?
- Papa:** The author writes that facing such situations would inculcate feelings of pride, desire, thoughts of victory-defeat and fleeing in these three.
- Rishi:** Did the gods follow this advice?
- Papa:** Indeed they did. They fought. They fled from the battlefield. They sometime suddenly hid while fighting and sometimes they pleaded for their lives. This strange battle went on for about 40 years.
- Sarika:** 40 years!
- Papa:** During this period, Daam, Vyal and Cut began to entertain feelings of pride...and then, they began to experience emotion...followed by the feelings of fear and panic.
- Sarika:** What happened after that?
- Papa:** Earlier when they knew no fear they were ever ready to attack. Now, they appeared sloth. Then, they actually appeared to be frightened to go to war. It was as if they feared being wounded. So, the feelings arose in them that tempted them to run away...to flee. It was at this point that the gods slew them.
- Rishi:** Fantastic.
- Papa:** See, they had been created as robots but artificial intelligence allowed them to pick up emotions such as fear and the need for self-preservation. This led them to turn their back to the battle field and ultimately charted their doom.
- Sarika:** You were right Papa. Daam, Vyal and Cut must indeed have been nothing but robots with AI.
- Papa:** they were the perfect imaginary examples of robots with AI, you mean.

**All laugh**

**Narrator:** Friends, In this episode of the Radio serial you have heard how, in our ancient texts we come across many examples of what can only be said to be imaginary descriptions of robots with AI.

In the next episode we will explore a few more examples of such ancient descriptions that closely match the machines with artificial intelligence that are being created today.

So, don't forget to tune in ...this day...this time on Radio Vigyan Serial AAnay Vala Kal. Till then, Goodbye.

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Translation Dr Sukanya Datta