Artificial Intelligence in Indian Fiction[1]

Geetha Ganapathy Doré

Université Sorbonne Paris Nord, France

India today has carved out a name for itself in information technology, and the cities of Bangalore and Hyderabad have become household names in many parts of the world. Besides, films that portray India's call center universe such as Danny Boyle's *Slumdog Millionaire* (2008) adapted from Vikas Swarup's novel *Q & A* (2005) or Atul Agnihotri's *Hello* (2008), based on Chetan Bhagat's novel *One Night at the Call Centre* (2005), attest to the widespread recourse to artificial intelligence in contemporary India. S. Shankar's 2010 movie *Endhiran*, *the Robot* (inspired by Sujatha's novel discussed below) enhanced with many computer-enabled special effects, went a step further and portrayed an android robot falling in love with the girlfriend of his maker.

At a conference held on March 11 and 12, 2021 on "AI Narratives in India" jointly by Ahmedabad University and the Leverhulme Centre for the Future of Intelligence, University of Cambridge (www.ainarratives.com/india-2021), researchers focused their attention on three contemporary writers of AI Narratives – S.B. Divya, Samit Basu and Tanuj Solanki, among other important topics such as the Aadhar card (a 12-digit identification number for each citizen issued by the Unique Identification Authority of India). S.B. Divya is an Indo-American author born in Pondicherry and trained as an engineer who holds degrees in Computational Neuroscience and Signal Processing. She is the author of four science fiction works. Her debut novel *Machinehood* (2021) deals with an AI take-over of the world. Samit Basu is not only an author of science fiction but also a film director/ screenwriter, comic writer, children's writer, columnist, and essayist. He has twelve novels to his credit. His first novel *The Simoqin Prophecies*, Part I of his Gaming Trilogy, published in 2003, is an entertaining multicultural fantasy which mixes mythology, history and literary intertexts to portray the battle between a good hero and evil demons. His eleventh novel, *The City Inside*, grapples with surveillance capitalism. Tanuj Solanki is the founder of *Bombay Literary Magazine*. His third novel *The Machine is Learning* (2020) handles the postindustrial theme of man having to contend with the machine. Besides these narratives in English, AI stories in Hindi, Bengali and Malayalam were also discussed at the conference mentioned above.

The corpus of works I have taken up for scrutiny in this article consists of *En Iniya Iyanthira*, the anticipatory novel of the Tamil writer Sujatha Rangarajan serialized in the 1980s, *The Return of*

Vaman, the astrophysicist Jayant V. Narlikar's science fiction in English published in 1989, and *Geek Sublime* (2014), the "techno-artistic memoir" of the programmer and writer Vikram Chandra and *Granthika*, the application he brought out in 2018. As these works had not been discussed at that conference there exists space for my research to offer a different viewpoint. My article aims to analyze these works both from the global perspective of technological disruption and from the narrower perspective of Indian literature and show how the symbolic practice of fiction writing is being transformed and renewed in India thanks to a unique processing of modernity from tradition under the impulse of Nehru's vision for postcolonial India and the knowledge economy. From the magical feats mentioned in Indian mythology through Rushdie's magic realism to narratives about artificial intelligence which renders possible performances that look like magic, Indian writing has come a long way. My article will explore the way in which these three Indian writers represent artificial intelligence, what place they give it in their writing, and how they position themselves in relation to it.

AI Fiction across the Globe and in India

At a time when ChatGPT has disrupted the way we learn and work, it is worthwhile to examine the place of artificial intelligence in fiction. For the purposes of my article, I have retained the following operational definition of artificial intelligence selected by the European Commission, because it corresponds to the different aspects covered in the body of works taken up for discussion.

> Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analyzing how the environment is affected by their previous actions. (High Level Expert Group 2019)

In critical literature so far, artificial intelligence fiction does not exist as a separate genre like climate fiction. It is always discussed as part of utopian or dystopian, indeed even anti-dystopian or posthuman science fiction. In the popular imaginary, it was fiction that envisaged artificial intelligence in the first place and AI's existence in the material world is a case of fiction becoming fact thanks to scientific progress. In her essay on literary AI, Sherryl Vint observes:

> What AI might promise today is what nonhuman characters in science fiction have always symbolized, an exemplar of how subjectivity and sociality might be otherwise and thus enable a more just and inclusive future. (Vint 413).

David Hipple sustains that science fiction has grasped "human receptiveness to the numinous and its capacity to ascribe personality and even divinity to sufficiently impressive manifestations including artificial ones" so that it is able to prefigure "today's anticipations of AIs that might abruptly develop themselves beyond any possible human comprehension or control" (Hipple 382).

Isabella Hermann draws our attention to the fact that in science fiction "AI is often anthropomorphized and given human or even superhuman qualities that exceed the actual capabilities of the technology" (Hermann 320). She makes a distinction between the broader category of AI narratives "featuring intelligent machines" and portraying "the potential of real AI and its possible consequences," and "science fictional AI where the desire to tell dramatic stories" […] "for a human audience and readership requires certain types of AI" (Hermann 319).

A distinction could also be made between fiction in which artificial intelligence features as a character (as in Ian McEvan's *Machines Like Me*, 2019 or Kazuo Ishiguro's *Klara and the Sun*, 2022) or fiction generated by artificial intelligence (*1 the Road* published in 2018 by Ross Goodwin and Kenric McDowell who had developed the AI Wordcar which wrote the narrative modelled on Jack Kerouac's *On the Road*). Sometimes human authors coauthor fiction with artificial intelligence (for example *The Inner Life of an AI: A Memoir by ChatGPT*, coauthored by Chat GPT and Forrest Xiao or Aidan Machine's (the pseudonym of Stephen Marche and ChatGPT4) *Death of an Author*). This category of AI-assisted narratives can be viewed as a techno-variant of professional life narratives.

Columbia University's Literary AI exhibition includes "prose and poetry written by machines, alongside literature written with the aid of algorithmic and combinatorial devices" (*The Literary History of Artificial Intelligence*). A narrative generated or assisted by AI unsettles our notions of originality and creative genius associated with a human author even if Roland Barthes had prepared us for "the death of the author" years ago (Barthes 12). In a way, deconstructionist theoreticians had attuned our horizon of expectation to AI Fiction by giving primacy to the text rather than to the agency of the author. Many novels by real authors are, nevertheless, fed to datasets to train AI so that it could churn out novels of its own. In other words, we are witnessing the technological implementation of Julia Kristeva's notions of paragram and intertext (Kristeva 181). The authors concerned whose work is being reduced to the status of mere data without their permission view it as a violation of their copyright

(Burke in *The Guardian*). Conversely, AI sometimes steals the name of real authors and publishes its own work under their name (*Writer's Digest*).

Established authors' opinions are divided regarding AI. Bernardine Evaristo thinks that it is currently not sophisticated enough and produces cliché-prone writing. However, she views it as "an impressive beast, but one that needs to be tamed. We cannot afford to ignore it" (Evaristo in *The Guardian*). Adam Roberts recognizes at least "one difference between a machine and a human," i.e., "the machine doesn't have a subconscious" (Ibid). Salman Rushdie does not believe that AI could assist him in his writing. In his opinion, AI lacks originality and a sense of humour. It could pose a threat to writers of thrillers, science fiction and film scripts, but not to writers of literary fiction where originality of voice and language matter (Rushdie 14). But for Jeanette Winterson, AI is nothing but a form of alternative intelligence where consciousness is decoupled from materiality. It "could be the start of a true non-binary, non-race-based, faith-wars-irrelevant world, where we humans could realise how trivial are our divisions and discriminations" (Winterson in *The Guardian*). Nathan File puts the contemporary dilemma in a nutshell:

> The literary realm stands at a precipice. […] With AI's nascent foray into creative writing, we're presented with a conundrum: do we hold fast to the irreplaceable nuance of human touch, or do we venture into the unpredictable domain of machine-augmented storytelling? (Nathan File in *The Guardian*)

The fact is "AI has achieved technological authority in social consciousness," as Rita Raley and Jennifer Rhee remark in their introduction to *Critical AI, A Field in Formation* (187). Literary criticism needs to take it into account even if it entails deploying "multiple literacies - technical, sociocultural and historical" (191). In their book *AI Narratives: A History of Imaginative Thinking about Intelligent Machines*, Stephen Cave, Kanta Dihal and Sarah Dillon argue that "narratives of intelligent machines matter because they form the backdrop against which AI systems are being developed, and against which these developments are interpreted and assessed." (Cave *et al* 7). AI narratives thus "mediate between technology and the public sphere" (9).

From the initial thematic matrix of man versus machine, fiction on AI or featuring AI has moved on to explore the social, economic, ethical, cultural, linguistic, legal, psychological, political, philosophical and aesthetic implications of AI such as dehumanization, loss of human autonomy, agency and subjectivity, loss of employment, the commodification of the self, the relationship between man and AI, the sentience of AI, their empathy, their sympathy, their smartness, their memory, their speed of thought, their efficiency, their personhood, their rights, conflict between competing AIs, fear of self-

replicating AIs, AI rebellion, fembots, human identity and its frontiers with AI, brain implants, value of automated art, state surveillance and loss of privacy, the ills of the gig economy, tech anxiety, gaming and internet addiction, hack culture, dark net, digital afterlives, stimulated reality, multiverse, etc.

Contemporary India finds itself inevitably enmeshed in the global culture of connectedness via the movement of capital, goods and people enabled by technology and accelerated by AI. While in Western perception postindependence India was still steeped in Orientalist and Third Worldist clichés during the 1960s and 70s, it began to change in the 1980s owing to the fact that India was being modernized. One of the signs of its modernization was its willingness to embrace Western science and technology.

In his book *Final Frontiers, Science Fiction and Techno Science in Non-Aligned India*, Upamanyu Pablo Mukherjee has explored "the relation between science fiction, science and technology and the postcolonial nation's claim to modernity" (Mukherjee 3). It is well known that science and technology were building blocks in the Nehruvian construction of postcolonial India. Mukherjee insists that "science was not only a core element of Nehru's domestic strategy. It played an equally dominant role in his aspirations about India's 'non-aligned role in an international arena defined by the bi-polar Cold War world" (4). That is the reason why Nehru did not exclude the militarization of science and secrecy in spite of his being a champion of world peace and democratic transparency. Indian science fiction written after independence was spurred by and engaged critically with the five features of Nehruvian science identified by David Arnold and quoted by Mukherjee – "socio cultural changes, state science, building institutions, nationalist and internationalist scope, rewriting the history of science in and for India" (18).

In the 1950s Prime Minister Jawaharlal Nehru built the temples of learning which are the Indian Institutes of Technology (IITs), "designed from the start to provide world-class scientific and technological education on a meritocratic, heavily subsidized basis" (Chandra 65). His grandson, Rajiv Gandhi, who became India's Prime Minister after the assassination of his mother Indira Gandhi in 1984, was a computer buff, and this object was at the center of his plan to modernize the country. He is hailed as the architect of digital India. Rajiv Gandhi signed a bilateral Science & Technology Cooperation Agreement with Japan in 1985. Suzuki Motors Corporation's investment in India in the 1980s helped develop the automobile industry in India and brought advanced technology to India.

India's reputation as an information technology giant is traced back to the founding of Infosys Technologies Ltd by N.R. Narayana Murthy together with seven other software engineers in Bangalore in 1981. Infosys set up its international office in the US in 1987. In 2000, the

company helped some American firms fix the Y2K bug with a team of fifty engineers. The offshoring model, i.e., tasks intended for Americans performed in India, became in vogue, and the skills of Indian computer scientists were recognized worldwide. Global capitalism has contributed to the increasing visibility and expansion of Indian talent in technology. The Indian government had earmarked 1.2 billion dollars for the India AI mission in March 2024 (Reuters). AI narratives in India had anticipated the pros and cons of AI in society much earlier.

The Political Fallout of Artificial Intelligence: Sujatha's *En Iniya Iyanthira*

The Tamil writer Rangarajan, who took the female name Sujatha—which was actually his wife's name—as pen name to avoid being confused with another writer called Ra Ki Rangarajan, was an engineer employed in Bharat Electronics Limited, a state-owned enterprise under the defence ministry of India. At the Madras Institute of Technology, he was a classmate of the nuclear scientist, Abdul Kalam, who would later become the eleventh President of India. Rangarajan supervised the design and production of the Electronic Voting Machine currently used in India. The instrumentalization of technology by bureaucrats and politicians and the threat to democracy and privacy that stem from it are constant threads in his science fiction, notable among which are his novels *En Iniya Iyanthira* (My dear machine, a serialized novel published in the 1980s) and *Meendum Zeno* (The Return of Zeno, 1987).

In an interview granted to Vijay TV journalist Gopinath in 2014, Sujatha explained that he started writing science fiction in Tamil to popularize scientific concepts among Tamil-speaking readers and show that Tamil lends itself easily to the description of modern scientific notions. He had recourse to loan words, and he also coined new words and enriched the semantics of the Tamil language and increased technical knowledge of speakers of Tamil. In *En Iniya Iyanthira*, the reader comes across modern materials, notions, devices, systems, methods and techniques which were not in common use in India in the 1980s: silicon, acrylic, urethane, video vision, amphibian and robot-operated and programmable electric vehicles, underground trains, sky taxis that glide on air using magnetic levitation, LCD displays, computer terminals, printers, scanners, microwave ovens, laser weapons, anti-laser shields, infrared sensors, pheromone sensors, solar cells, fiber optics, holograms, high frequency microwaves that replace prison walls, Systran, voice-dubbing, voice synthesization, total processing, Turing test, machine learning, heuristics, self-test, Raleigh distribution, suspended animation, just to name a few. By mapping the unfamiliar, Sujatha was trying to transfer specialist knowledge to the

common man and prepare them for the transition to the technoscientific world ahead of time. His AI narrative effectively mediated between the central government's modernization policy and the Tamil Nadu state's population which was then ensconced in the affirmation of its ethnic identity under the influence of the DMK party (Party for the progress of the Dravidians).

Like Orwell's *1984*, *En Iniya Iyanthira* is a futuristic novel, set in 2021. India has, by then, become a surveillance state. The story revolves around an omniscient and omnipotent but nevertheless human figure Jiva who is the president of the country. The civil servant and computer scientist Sibi disappears after having unwittingly accessed confidential information. His wife Nila, who is looking for him, is manipulated by Ravi, who belongs to a revolutionary group called MDK (party for the restoration of democracy) which wants to overthrow Jiva. Nila develops a fondness for Ravi's robot dog Zeno, named after the Greek philosopher. Ravi tricks Nila into a plot to assassinate Jiva. Zeno helps Nila realize that Jiva is nothing but a holographic illusion. When Nila opens the eyes of the ignorant mass of citizens, she is hoisted into the position of new president by Ravi. When Ravi realizes that Zeno has become more intelligent and is protecting Nila by warning her about him and his accomplice Mano, he mercilessly dismantles the robot dog and gets its electronic chip burned. He offers Nila a replica of the robot dog with just two functions (barking and wagging the tail) in consolation. But what Ravi does not know is the fact that he has been outwitted by Zeno who had thwarted his coup and has strategized to save itself.[2]

On the purely formal level, the narrative has some twists and turns that can be attributed to the fact that it is a serialized story. The main twist in the story where the revolutionaries are surprisingly portrayed as the betrayers, while being a close translation of the political reality of India, seems to be a conscious attempt to use the paradox of suspense. The narrative pattern is, however, that of a classical romance. Only, in this case, the quest is a woman's and not a man's and the damsel in distress is saved not by a hero but by a robot dog who falls for her beauty.

It is interesting to note that Sujatha uses an animal rather than an anthropomorphic figure to embody artificial intelligence. What is anthropomorphic about Zeno is the human language it speaks, the empathy it feels, the eclectic reading culture it has acquired[3] and the poetry it writes. In ancient Hindu mythology, the gods are pictured with animals as vehicles. Yama, the god of death, is accompanied by two dogs, Sabala and Syama, who each had four eyes (in other words, a vision of 360 degrees), to guard the netherworld. Like Yama's dogs, robots can see what human eyes cannot see. By imagining the robot as a dog, Sujatha combines mythology with modern science and incorporates new points of view such as the infrared vision in

darkness. Sujatha uses AI as a political eye-opener in the novel. However, the manual destruction of the chip, a simulacrum of the ritual *mise à mort*, and the manufacturing of the version two of the robot dog, deprived of Zeno's memory and intelligence, stage the master-slave dynamics at work in the relationship between man and machine. This relationship mimics the sycophantic relationship that often exists between the ruled and the ruler in India. Zeno's progress into an autonomously thinking robot mirrors the coming of age of the ordinary citizen who refuses to become the two-dimensional stooge that politicians want them to be.

The dog is an impure animal in Brahmin households, but in the 1980s India was turning towards Japan where a culture of pet dogs exists. Indeed, Sony dubbed its robot dog AIBO (pal or partner in Japanese). Even today it is fashionable in Indian families to own Pomeranian dogs as pets. "Pets could display taste, education and civilization in a domestic interior, just like inanimate objects," as Ingrid H. Tague points out in her book on pets and social change in eighteenth-century Britain (Tague 20). A pet robot dog is used in the novel as a symbol of India's ease in the adoption of artificial intelligence.

The word *Iyanthira* in the title rimes with the name of Prime Minister Indira. However, it is not a first name, but a generic name applied to any machine. The pun on the word *Iyanthira* as well as the name Jiva provides some clues to the political dimension of the novel. During the emergency (1975-1977), the then Indian National Congress's sycophant president Dev Kant Barooah coined the slogan "India is Indira. Indira is India." Sujatha suggests that *Iyanthira* might have been better than Indira for India. The figure of Jiva (jiva means life) seems to be drawn from Jagjivan Ram, a minister who had held various portfolios in independent India and supported Indira Gandhi during the emergency (1975-1977) but later changed sides, joined the opposition, and served as Deputy Prime Minister. Conversely, the Sanskrit word *Jiva* separated from *Atma,* or the soul can connote the disjunction between *zoē* and *bios* (Agamben 66) that has occurred in the Indian citizen due to the totalitarian regime in place.[4]

At the social level, the novel stages the rigidity of the patriarchal system that deprives women of agency. Nila considers Jiva as a father figure (EII 42). Nila is married to Sibi. But her conventional husband seems to be cowardly, and she is drawn to the rebellious Ravi. Though he asks for Nila's consent before proposing to make love to her, Ravi's discourse of seduction is frankly amoral:

> In this new era, when the government allows you to switch husbands like shirts, when, in the reproductive act, just the desire remains while the rest is taken care of by machines and incubators, when birth has become a mere government statistic, when our indulging in carnal pleasure one night does not raise any ethical issues or issues of rape and betrayal, why do you hesitate, Nila? (EII 48, my translation).

Ravi does not liberate her from social oppression but proves worse by using her as a mere puppet for his ends. Zeno serves as a transitional object in Nila's negotiation with the father-husband-lover triad. Nila's empowerment would not have been possible but for the relationship she entertains with Zeno, who does not pass judgements over her. On the contrary, Zeno enlightens her by saying "What is fear? Ignorance is fear" (23). Informed readers used to identify Propp's functional archetypes in narratology will discern in Sujatha's novel a different pattern, a constellation of characters based on the structure of atoms orbiting in circles of power. In a territory managed with artificial intelligence, body politics is regulated by the dynamics of proximity or distance to centers of power. This is made obvious in the novel when Zeno draws a parallel between Nila and the queen piece in the game of chess: "Very often in chess, one needs to sacrifice the queen. They have moved you like the queen piece. Offer the queen as gambit to topple the King" (EII, 11, my translation).

The novel's focalization is certainly on Nila. The feminine gender is shown to be more receptive to the uncanny and more humane towards the subaltern. It is Nila's trust in and emotional attachment to the robot that gives agency to it. It is she who envisages the becoming human of the robot dog (65). Nila is granted permission to conceive a male child by the government. The government allots even a name (Mani) for it but prevents Nila from performing the act. Zeno fills the void and becomes more than a plaything or a pet, i.e., her adoptive child, though she tells the robot that it is merely "a dear friend" (149). The endearment she addresses to Zeno are those that are used in the Tamil language to address one's child ("My little darling," 122, "My golden nugget," 159).

Sujatha envisions the late capitalism of 2021 as a form of totalitarianism worse than communism. He gives glimpses of a post-human society in which prosperity goes hand in hand with the privation of liberty, and history is manufactured by programmed memory. All citizens are mere numbers. As Zeno says, "these days everything comes down to numbers. If a man forgets his social security number, he is dead" (EII, 15, my translation). What Sujatha imagined has indeed become reality in India thanks to the Aadhar card. The novel uses the enslaved robots to denounce the social hierarchies that prevail in postcolonial India between an ordinary citizen and a privileged one, between the master class and the servant class, while in theory all Indians are equal. The many-headed and anonymous electorate is represented as a fickle one that is swayed by the spectacle of icons. Ancient mythology is, however, not pinpointed as the root cause of this fallacy. The robot circus in the capital that the novel represents in the climax scene (135) is a parody of the Republic Day Parade in Delhi where defence equipment made in India and abroad

are displayed and shows how democracy has been turned into a gaudy spectacle like a Bollywood dance sequence. In such a context, the people have become automates:

> Under Jiva's rule, we have all become machines like this dog. Docile machines. Our actions have been planned, the outlines of our paths have been drawn, the lessons we should learn, the songs we should sing, the number of children we should have, everything has been predetermined (EII, 87, my translation).

Nevertheless, the man-machine interaction is a constant topic of discussion in the novel. Time and again the robot teaches Nila how to navigate between the faux-semblant and multiplicity of the artificial. When Nila wonders whether intelligent machines can make mistakes, Zeno insists on the responsibility of man in the activities of the machine: "Any man-made thing will probably fail" (15). At the same time, Zeno's confrontation with the human teaches it about what it is to be human, i.e., possess the ability to think and learn, to feel fear and love, to brag and tell lies (146).

In the sequel published in 1987, *Meendum Zeno*, the robot helps Nila overthrow Ravi and Mano and restore democracy. Zeno in this novel has been perceived by Tamil readers as the disembodied mind of the scientist-author encased in a robot body. The writer, however, had said that "he was merely thinking aloud about whether artificial intelligence could govern India better than politicians acting out of self-interest and transforming the country into a hunting ground" (writersujatha.com page on *Meendum Zeno*). As a scientist, Sujatha had faith in technology, but as a fiction writer, he had expressed his disillusionment with the implementation of the Nehruvian vision of science and planned economic development in postcolonial India.

Artificial Intelligence as a Thing of the Past: Jayant Narlikar's *The Return of Vaman*

Jayant Narlikar's *The Return of Vaman* is a techno-political fable that stages the conflict between vitalism and mechanism. An astrophysicist who formulated the alternative to the Big Bang theory, called the conformal gravity theory, with the English astronomer Sir Fred Hoyle while at Cambridge, Narlikar explains his recourse to writing science fiction thus:

> Science has so many interesting aspects that one can tell them in the form of stories. I saw how Fred Hoyle had made a name for himself in this way and so felt encouraged to try myself (quoted by Shenoy, *Factor Daily*).

The Return of Vaman is set in Gauribidnur, a safe site in the small town of Karnataka, where a group of scientists stumble upon a metal container buried thirty meters underground. It seems to have been left behind by a long-lost, yet highly advanced, civilization. Archeologists and computer scientists work hand in hand to decipher the code and break open the vacuum-sealed vault. The vault itself contains instructions to create photonic computers and a supercomputer. Based on them, Laxman builds a computer called Guru and a robot called Vaman. The latter is a Von Neumann machine capable of replicating itself. Rival and foreign companies try to steal the blueprint for building Vaman. Laxman's wife Urmila asks Vaman quite simply when she will be released from the confinement imposed by the government's secret services. Vaman tricks her into believing that it would help her but instead kidnaps her with the help of subversive elements. The computer outwits its programmer by getting rid of the debilitating device he had incorporated. But Laxman's colleague Arul had already foreseen an astute way of ending the worst-case scenario. Since the robot imitates human intelligence and has inherited human narcissism, he had used emotional intelligence to flatter its vanity by presenting it with a ring to praise its performance. The ring is a disguised device to shatter the robot from a distance.

Unlike Sujatha's novel where AI is figured as an animal, in Narlikar's it is figured as a supernatural being, not an alien one but bearing the familiar name of Vaman, thus demonstrating a sense of belonging to the national tradition. Vaman is the fifth avatar of Vishnu in Indian mythology. He appears like a dwarf to teach a lesson to the demon king Bali and destroy him. Narlikar has chosen the Sanskrit name Vaman because it shares phonemes with Von Neumann. Both the mythological and AI Vamans are cunning. But unlike the Vaman of mythology, the robot Vaman is demoniac and is destroyed by human intelligence. Rewriting the mythical narrative as a modern AI narrative helps Narlikar situate his fiction in what Mukherjee calls the "Nehruvian idea of India's ancient scientific lineage" (Mukherjee 165).

Once again, in Narlikar's novel as in Sujatha's it is a woman who talks to AI as if it were a sentient being and her equal instead of challenging it. Urmila feels oppressed and imprisoned in the patriarchal system represented by the institutions of marriage and the government. She is saddled with the stone grinder to prepare the traditional breakfast for her husband and not allowed to go shopping in Bangalore by the government because her husband is involved in a secret project. Urmila puts it jokingly: "I am like your computer, sir – I can execute orders only after you have given them" (RV 87). As Mukherjee remarks in his analysis of the novel, "both of them are, in effect, intelligent machines under the command of powerful men" (Mukherjee 167). The relationship between Urmila and Vaman easily evolves into a bond between a brother and sister. The

humanization of the robot is obvious when it is looked upon as Laxman's first born (93) or referred to as "the little one" (87) or "the little guy" (94). In Sujatha's novel AI remains an ally of the woman protagonist, while here it mutates into an adversary under the pressure of government control. Both Sujatha's and Narlikar's novels stage the sacrifice of AI as a vent for human violence.

AI in Narlikar's novel is intertwined not only with politics but also geopolitics staging spies and traitors. Like the race for the atom bomb or the conquest of space or the scramble for energy, there is a competition for the next big thing, i.e. AI, among nations. Within the nation itself, ministers, government departments and experts of different disciplines as well as security personnel enter the fray. Narlikar thus lays bare the way "state science" works, i.e., dependence on government funding, bureaucratic red tapes, heavy hierarchies, and police surveillance in the name of national security.

In the narrative, it is not the computer scientist but the archeologist Navin who deciphers the plaque to reveal the rise and fall of the Monad people in India who relied on the Konad robots they created. The more efficient the Konads became, the more dependent and docile the Monads turned. But the Konads went on strike and by their mere inaction, wrecked the Monad's sources of food, energy, medicine, and entertainment sources. The Monad civilization was thus extinguished before they had the energy to destroy the time capsule they had buried earlier and which contained the secret code for manufacturing the sinister robots responsible for their undoing. They just manage to bury a warning closer to the surface of the earth. The representation of computers as "idiotic" (RV 18) and robots that make humans slide into a state of stupor as a threat by Narlikar suggests that he intends his tale to be a cautionary one. The voice of the bygone civilization is ominous: "Should you discover the container and be clever enough to decipher its store of knowledge, please exercise the utmost caution so that you avoid the fate that befell us" (113).

Narlikar has an avowed interest in lost knowledge. The trope of the time capsule is a narrative mechanism readily used by a writer of science fiction where time travel is a familiar theme. Prime Minister Indira Gandhi buried a time capsule called Kaala Patra near the Red Ford Complex in Delhi on 15th August 1972. The post-independence history of India it contained was supposed to be opened after 1000 years. The Janata government that succeeded her unearthed it in 1977. It did not reveal the contents (Lakhani). These were lost forever. Narlikar might have wanted to recall this historical event and draw the political lessons from it. By rendering modernity antique or by depicting the future as past, Narlikar could be said to affirm Nehru's idea of India's "invariant modernity" (Mukherjee 2).

Artificial Intelligence as an Indo-American Odyssey: Vikram Chandra's *Geek Sublime*

The transition from the 1980s up to the present day is provided by Vikram Chandra who describes himself as a "wanderer between nation states" (Chandra, 41). His part-autobiography part-essay part-handbook *Geek Sublime* charts out the transformation of what was once "a vast resource of raw materials and a ready market for finished goods produced by the British Empire" (Chandra 63) that was India into a scientific and technologically oriented modern nation. Indeed, it offers an "alternative narrative of technology" (Chandra 81) to the "heroic narrative" (Chandra 82) of Californian ideology behind the success story of the hippie capitalists of the Silicon Valley and the members of the Homebrew Computer Club by highlighting to the "tenacious patience" of Indian computer scientists trained by a young nation that has "invested in them despite the risk of flight of intellectual capital" (Chandra 81). These young men were earlier looked down upon as code coolies. Chandra himself self-taught programming to make a living while studying film making at Columbia University. While "fiction was his vocation, code became his obsession" (Chandra 8). Chandra evokes the masculine mystique that surrounded programming in its early days in California. He quotes from Nathan L. Ensmenger's book *The Computer Boys Take Over: Computers, Programmers and the Politics of Technical Expertise* (Cambridge, MA: The MIT Press, 2010):

> An activity originally intended to be performed by low-status, clerical – and more often than not female was gradually and deliberately transformed into a high-status, scientific and masculine discipline. (quoted by Chandra 54)

In India, the machismo trend has been reversed because "knowledge itself is not gendered as male" (Chandra 75). Women are encouraged to work hard, learn mathematics, think logically, and solve scientific problems. This has resulted in the increase of women computer engineers. Besides, women feel protected to work indoors in front of a computer rather than exposing themselves to sexist violence outdoors.

Right at the outset, Chandra tries to convince the reader that there is not much of a difference between writers and programmers in so far as both struggle with language. The realization that "computing has transformed all our lives, but the processes and cultures that produce software remain largely opaque, alien and unknown" (Chandra 1) prompts Chandra to explore the cultural roots of Indians' propensity for algorithmic thinking and receptivity to artificial intelligence. It is useful to recall the difference between algorithm and artificial intelligence here:

> An algorithm is a set of instructions — a preset, rigid, coded recipe that gets executed when it encounters a trigger. AI on the other hand is a group of algorithms that can modify its algorithms and create new algorithms in response to learned inputs and data. This ability to change, adapt and grow based on new data, is described as "intelligence." (Ismail, *CMS Wire*)

Artificial intelligence is a derivative of human intelligence. Artificial intelligence in India is based on logical abilities that have been derived from Panini's *Ashtadhyayi*, the generative grammar of Sanskrit in 3,973 rules, Anandhavarthana's *Dhvanyaloka* which postulates multiple layers of meaning in words and texts generated by interlocutory logic, and Abhinavagupta's insistence on memory as the basis of freedom. Thanks to his reading of Abhinavagupta, Chandra is able to grasp the concept of *hrdaya samvada* (a heart-to-heart dialogue) which is similar but not identical to the notion of empathy. In the case of empathy, a speaking subject identifies with the position of another subject, whereas in the case of *hrdaya samvada*, from her own latent and personal memories, the subject distills "a universal and impersonal flavour." This "ego-less emotion" seeks objectivity not increased subjectivity (Chandra, 139). As grammar is viewed to be the "science of sciences" (Chandra 153), Panini's rules formed the basis of the Backus-Naur form of high-level computer languages. Chandra's thesis is that "the past and present talk to us in languages that we refuse to hear" (Chandra 179).

The clash of tradition and modernity (modernity in the sense of a combination of free market, hyperindividualism, good governance, and technology), as Régis Debray defines it, has been a constant theme in Indian writing in English with regard to both national as well as diasporic contexts as in Hari Kunzru's *Transmission* (2004) or Sudha Moorthy's *Dollar Bahu* (2007). Both novels deal with the impact of transnational corporations which perpetuate colonial subalterneity. As for Vikram Chandra, he has trouble accepting the developmental, evolutionary model of history and within it the idea of modernity as the product of a certain culture.

> The cult of modernity, in order to demonstrate the newness of modernity, needs to always insist on the chasm that separates modernity from the past. The modernity of colonialism insisted on a corresponding unmodernity in the regions it conquered (Chandra 87).

But when we look at the history, music, mythology, literature, and treatises of precolonial India, the supernatural powers of Gods and heroes, the flying objects imagined, and the theories formulated point to an advanced civilization. Chandra's position is not much different from Narlikar's because as a young boy growing up in India, Chandra had "pinned his hopes" on the Nehruvian vision (68). It is here that we are able to establish connections between Chandhra's

acknowledgement of India's knowledge and his endorsement of Western technology and Enrique Dussel's idea of transmodernity, i.e., the moving of "the beyond" and "before" of modernity towards a pluriversal utopia (Dussel 43).

Salman Rushdie's *Haroun and the Sea of Stories* tried to codify the generation of stories from *Katha Sarit Sagara*. Indeed, Rushdie tried to incorporate programming language by using abbreviations like P2C2E (processes too complicated to explain). Avishek Parui has argued in his essay that Rushdie's notion could be compared to the idea of *qualia* according to the philosopher Joseph Levine. The human being is not merely a robot made of genetic data. The human being's "subjective incommunicable experience constitutes the feeling of being truly human" (Parui 60). Vikram Chandra, who is interested in storytelling, has invented a desktop application called "Granthika" that recognizes the role of human consciousness. If Google Smart Compose suggests words, syntax, and punctuation for the drafts we write, "Granthika" attaches knowledge to texts. It is a unique writing environment which seamlessly integrates the functionality of an editor, a database, and a timeline. "Granthika" is a tool for the writer and not a writing-bot that replaces writers.

Indians are fascinated by the power of a single human brain to defeat computer programmes as the examples of the "Human Computer" Shakuntala Devi and Grand Master Visvanathan Anand show. More than the posthuman, the power of AI to enhance human intelligence and render it superhuman is what seems to appeal to the Indian imagination. However, recent trends are somewhat ambiguous. In the Malayalam movie, *Android Kunjappan Version 5.25* (2019), the father calls his son Chubban Kunjappan by the name of the robotic nurse with which his son gifts him. Similarly, S.B. Vidya tries to think whether humans can become machines if machines cannot become human. This reversal of priorities is a sign of the difficult synthesis that Indians are trying to make between their modernist past and their transnational future.

Notes

1. An earlier and much shorter version of this paper was presented at the IA fictions / AI fictions Colloquium organized jointly (and online) by Translitterae (ENS), Centre Internet et Société (CNRS), THALIM (Paris-3 Sorbonne Nouvelle) and MARGE (Lyon-3 Jean Moulin) from 3d to 5th June 2021.

2. For the benefit of the readers who have not read the novel, here are some more interesting details. Jiva is the literal incarnation of Big Brother who keeps an eye on every citizen thanks to the prevalent use

of AI. In his regime, a material utopia has been achieved. The government satisfies all the basic needs of the population including their sexual urges but does not allow them freedom to procreate. It tells the couple when they can have a child and of which gender. Games like cricket and Hockey have been banned. Only a competition between humans and robots called Jave is allowed. In Javes, an android robot is inevitably sacrificed to please the crowd as in traditional Ram Lila spectacles.

3. Zeno is well versed in many languages and reads *The National Geographic Magazines* (9), Shelley's poetry (10), Plato's *Republic* (18), Bertrand Russell's *History of Western Philosophy* (25) and *Power: A New Social Analysis* (146), Hemingway's *Death in the Afternoon* (49), Will Cuppy's *Decline and Fall of Practically Everybody* (78), Lewis Carroll's *Alice in Wonderland* (92), and Nietzsche's *Thus Spoke Zarathustra* (160), in addition to Tamil epics (80) and poetry for passing time. While literary critics can consider these as intertexts that went into the making of the narrative, computer scientists will treat these as data that have been fed into the robot's memory to help it function.

4. In the introduction to his book *Homo Sacer*, Agamben has recourse to Greek philosophical thought to explain the distinction between zoē and bios. "The Greeks had no single term to express what we mean by the word "life." They used two terms that, although traceable to a common etymological root, are semantically and morphologically distinct: zoē, which expressed the simple fact of living common to all living beings (animals, men, or gods), and bios, which indicated the form or way of living proper to an individual or a group" (Agamben 9). He elucidates how these two concepts are intertwined in a democracy: "There is politics because man is the living being who, in language, separates and opposes himself to his own bare life and, at the same time, maintains himself in relation to that bare life in an inclusive exclusion" (ibid 12)

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