

Twitterature: A New Digital Literary Genre

Shuchi Agrawal

Professor, Amity Institute of English Studies & Research,

Amity University, India

Email: sagarwal2@amity.edu

Abstract

In the history of literary experimentation, the writer has evolved into a social medium for literary readings of numerous literary works that were previously only known to those with a keen interest in literature and literary genres. As a result, many well-known literary works have been succinctly summarised in front of everyone in a way that is both helpful and provides details while still remaining concise. In this essay, the researcher wants to show how Twitter has developed into a literary form, competing with other well-known literary works like novels, plays, short stories, and poetry, particularly haiku. Beginning with an introduction to Twitter literature and its definition, the study then focuses on the format in which literary tweets are provided, including the word count and length of the presentation of the literary work. Then, the literary subgenres that appeared on Twitter were criticised. The paper provides instances of literary accounts on Twitter and distinguishes the literary genres on Twitter. The study also discusses Twitter's literary value in educating readers about a variety of literary works, particularly those who are uninterested in or uninterested in literature. Moreover, the distinction between reading literary works in their authentic forms vs their Twitter-based forms. The researcher contrasts the literary subgenres that are best suited for Twitter distribution. As a complement to the other well-known literary genres and in keeping with the varied, quick, and advanced modern day, the researcher concludes by presenting Twitter as one of the crucial literary genres of the new millennium that must be given significance and relevance. However, this study makes the case that Twitter might be. It is seen as an expression of an experimental platform for post-modern electronic literature that can ensure a revival of the steadily dwindling fantasy reading habit that is appealing to the generation of technology enthusiasts.

Keywords: Artificial intelligence, science fiction, cyberpunk, robotics

INTRODUCTION

Literary narratives are projected to experience a significant long-term impact from artificial intelligence (AI) and robotics. Because of the compartmentalised nature of the literature and the shifting connotations of the terms themselves, it is difficult to comprehend the extent of this impact. However, there are disagreements over what is technically feasible, practically implementable, and desirable from a pedagogical or social perspective. Design fictions that vividly

envision the usage of AI or robotics in the future provide a way to both explain and explore the potential of technology. The potential of Artificial Intelligence (AI) and robots to reshape our future has attracted vast interest among the public, government and academia in the last few years.

Artificial intelligence (AI) and anthropomorphic robotic systems have developed quickly, and as a result, there is an urgent need to examine the potential benefits and dangers of these technologies. Science fiction (SF) works are

frequently used as sources for predictions of future developments, but due to the technical flaws that emerge from its emphasis on entertainment media, this framework of discourse may not be acceptable for serious conversations. These science fiction novels, however, can aid in understanding how people might respond to emerging robotic and AI systems. Consequently, categorising depictions of AI in science fiction may be expected to aid academics in communicating more effectively by identifying science fiction components to which their works may be similar or dissimilar.

The literary genre of science fiction (SF) is influenced by how technology and society interact. Technology's impact on society is described in science fiction in terms of gripping human drama. Due to its popularisation of science and technology and knowledge of their transformational potential, the science fiction (SF) genre is a significant part of our modern culture. SF has a huge impact on both the academic and industrial worlds. For instance, iRobot, the firm that makes cleaning robots under the Roomba brand, was inspired to name itself after the Isaac Asimov novel "I, Robot." The authors Neal Stephenson's "Snow Crash," Ernest Cline's "Ready Player One," and Reki Kawahara's "Sword Art Online" had an effect on Palmer Luckey, who founded the VR headset firm Oculus. SF is also often well-known among academic researchers in domains including information science, mechanics, robotics, and artificial intelligence (AI). For instance, since 2009, Nature Publishing Group has curated a collection of brief science fiction stories for "Nature" magazine. These narratives make future technology visions easier to understand for researchers across a wide range of fields and for the general public.

Numerous scientists have acknowledged the influence of science fiction on their research, and numerous technical terms—such as "robot," "robotics," "technical singularity," and "cyberspace"—have their roots in SF. The social acceptance of artificial intelligence and robotic

humanoid systems has long been a key issue in science fiction. From Verner Vinge's technological singularity to Isaac Asimov's Three Laws of Robotics (Asimov 1950), many ideas have emerged from the confluence of these two domains. It has been suggested that Isaac Asimov's science fiction works with robotics as a central topic represent a possible future for humans and AI. Although science fiction (SF) stories and visuals have aided in imagining the future, they impose certain significant limitations. First off, rather than serving as a scientific analysis of potential future societies, science fiction stories are typically written primarily for entertaining purposes. Concerns have also been raised about the gloomy images shown in some SF media, which occasionally feature themes like robots displacing people or the universe exploding. SF authors are skilled storytellers who frequently use themes related to science and technology in their works, although they are not typically experts in such fields. As a result, there is a chance that the narrative logic of science fiction may ignore the context of actual social problems. For instance, the AI known as Skynet from the Terminator film series is occasionally cited in the technical literature as a pessimistic vision of AI (Mubin et al. 2016).

Additionally, there are works that directly address societal issues that could be present in the background of future cultures. The ethical issues raised by the deployment of such technology in society have been debated as a practical matter in numerous contexts due to the recent rapid growth of AI. Therefore, it is advised to use caution when directly translating concepts from classic SF, like as visions of intelligent anthropomorphic robotic systems, to real-world issues. Applications of science fiction concepts taken out of context have also drawn criticism. For instance, Jean-Gabriel Ganascia claims that Ray Kurzweil misused the phrase "technical singularity" when he claimed that numerous technologies had been overhyped (Ganascia 2010, 2017). While the future can be better visualised thanks to the situations offered

in science fiction, their potential is constrained by their fictional status. Additionally, rather of focusing on the intricacies of fictional approaches, it is vital to take into account the societal issues and circumstances that contributed to the background of some works. These illustrations imply that science fiction, rather than foretelling the future, can assist us understand how the public envisions future AI and robotics. Good indicators of how the general population views technology can be found in science fiction stories and the emerging technologies they depict.

Therefore, it may be possible to better accurately forecast how people will react to new technologies created by academics and engineers by looking at how AI and robots are portrayed in existing science fiction works. By looking at how AI and robotic systems are portrayed in current science fiction, we were able to analyse common misconceptions about these technologies in this study. This study looked at how AI and robotic systems are portrayed in SF in order to examine the stereotypes that are applied to anthropomorphic systems as well as SF's future plans for their development and acceptance. The rest of this study depicts the history of the relationship between science fiction, science, and technology, especially artificial intelligence.

Science fiction (SF) is a literary subgenre that focuses on telling tales with themes related to various branches of science, technology, or scientific methodology. Compared to the material that was originally referred to as SF, the scope of modern science fiction is substantially broader. According to Tatsumi (2000), the typical definition of the genre is ill-defined, subject to change depending on the writer, critic, and reader. In terms of fiction built on scientific principles, the idea of science fiction has a lengthy history. But when technology advanced during the Industrial Revolution, these genres began to get more and more attention. For instance, characters in Bram Stoker's "Dracula" attempt to use a blood transfusion to save a victim of a vampire assault. Although the work is a horror novel,

similar literary devices are frequently used throughout the drama, action, and horror genres. Therefore, it may be said that some of these works do overlap with science fiction.

Overall, science and technology in the domains of physics, chemistry, biology, space engineering, mechanical engineering, electrical engineering, and information technology have a significant impact on science fiction. The extensive SF appeal can be attributed to a number of factors. For instance, there are numerous well-known instances where ground-breaking research has challenged conventional scientific wisdom as a result of advancements in science and technology. Typically, science and technology have not been rigorously or truly scientifically treated in classic SF writings. But the concepts of the science fiction technologies envisioned in these works, such robotics and space travel, have been upheld over many generations and extensively explored in the genre. Even while science fiction typically lacks actual scientific rigour and method, the scientific framework of such novels may frequently be updated over time to reflect evolving contemporary concepts, leading to the helpful exploration of such radical possibilities. For instance, science fiction stories about time travel or travel at the speed of light can be categorised as such works.

SF has investigated a wide range of theoretically possible worlds, including planets or universes with various physical laws. Even though such hypothetical statements might be founded on patterns inferred from scientific inference, it is difficult to evaluate their plausibility. Numerous science fiction works are based in settings that sharply diverge from our own, such as alternate universes where light travels at incredibly slow speeds, works that explore the idea of planetary intelligences, like Stanislaw Lem's *Solaris*, or narratives that take place in environments with high gravity. Additionally, even though the depicted technology or scientific developments may be imaginary, there are instances where society's responses to new technologies are accurate. For instance, Sakyō

Komatsu's "Virus" depicted characters riding a train while describing an epidemic that reduced society's population. Despite the fact that the virus in the novel is made up, his explanation is cited as having foreshadowed the COVID19 epidemic in Japan (Omori 2020).

Therefore, we can assume that science fiction books occasionally properly foresee future events or scenarios. For instance, despite the fact that the Internet's precise technology were not foreseen, novels that depict a world interconnected by communication networks have a long history. For instance, Shinichi Hoshi created "Voice Net," a work that incorporated an intra-net service powered by AI that was built on telephone networks. Some works concentrate on depicting people and society through imaginary technology. In science fiction, robots and artificial intelligence are frequently presented as tools that enhance human talents or as social agents. In numerous classic stories, artificial slaves are depicted. For instance, golems from Jewish folklore could serve as a good illustration of an animated creation. In a way that is similar to that of a computational agent, golems are anthropomorphic creatures that humans may command. These tales frequently feature a theme of golems escaping human control, much like stories involving robots. The famous work "Frankenstein" by Mary Shelley, which relates the tale of a monster made by Dr. Frankenstein by sewing together dead and mutilated bodies, is usually regarded as the forerunner of later science fiction.

In "R.U.R." by Karel Capek, artificial beings rebel against the people who created them. The robots portrayed in this piece are biological employees produced by technology rather than mechanical artefacts. In a similar vein, his book "War with the Newts" doesn't directly address AI per se, but it does describe the ramifications of raising intelligent salamanders through human instruction, on which society depends, and in which a revolt is predicted. Numerous researches on the controllability of artefacts take new technologies and their social implications into

account. The subject of concern over artificial creations becoming out of control has frequently been present in stories about robots. There have been many theories put out as to why this uprising occurred, but one element that all such tales share is the fact that events are unpredictable.

The Frankenstein Complex is the name given to these phobias in honour of the Frankenstein monster (Mccauley and Hall 2007). Isaac Asimov, a well-known author of classic science fiction, created the Three Laws of Robotics in his book "I, Robot" because he was troubled by the propensity for people to mistake artefacts for monsters (Asimov 1978). Robots are used as autonomous artefacts in many of Asimov's works, and they are programmed to obey the guidelines below in that order of importance. (1) A robot may not intentionally damage a person or, via inactivity, permit a person to suffer injury. (2) A robot must follow instructions from humans unless doing so would violate the First Law. (3) As long as it does not violate the First or Second Laws, a robot must defend its very existence. Asimov's own later works frequently and extensively referenced The Three Principles of Robotics, and it is well recognised that they had a significant impact on many other writers. However, it should be recognised that these three guidelines are only a starting point.

In reality, the majority of the short stories in "I, Robot." are focused on interactions between people and objects that cannot be foreseen by looking at the outside world. There are numerous other instances of comparable literary themes where an artefact seeks out or acquires a human spirit. For instance, Carlo Collodi's 1883 children's book "The Adventures of Pinocchio" also provides examples of creatures that are not humans yet have souls or intelligence comparable to humans. For instance, in the Greek story of Pygmalion, a statue of a woman acts like a real person and weds the sculptor who made her (Kaplan 2004). Artificial intelligence challenges the very nature of intelligence in several of these narrative types. In "Soul of the Robot" by Barrington Bayley, a robot delivers the story in

the first person and includes information regarding artificial intelligence, such as the frame problem. However, the work's main message is that human intelligence is what gives the robot protagonist's autonomy.

Critical studies of sex and gender divergence have been depicted in Western literature alongside the idea that men limit or control the autonomy or souls of women. From the viewpoint of a female robot, Amy Thomson's "Virtual Girl" delivers a critical examination of these subjects. Another recurring subject in science fiction works on artificial intelligence and robots is human enhancement through information technology. For instance, cyberpunk science fiction has regularly addressed the effects of VR and HCI. In the 1980s, SF saw the emergence of the cyberpunk trend. The genre frequently assumes scenarios in which human bodies or minds are enhanced with technological technologies.

In "The Girl Who Was Plugged In," known by her pseudo-name as James Tiptree, the author Alice Bradley Sheldon depicted how a woman controlled a body which was mindless but existing artificially constructed separate body. Later, Donna Haraway's "Cyborg Manifesto" and the related movement adopted the notion that technology can make up for fundamental inequalities like gender (Haraway 2000). Similarly, Donna Haraway's work "Crowbot Jenny" was influenced by Sputniko, an artist who uses technology in her work to overcome gender inequalities. The idea of making someone superhuman by increasing their intelligence or altering their values is a common motif in science fiction.

Post-cyberpunk science fiction is frequently regarded as a positive sign of this worldview. For instance, without drawing a clear line between humans and machines, proponent of the technological singularity, Verner Vinge claimed in his writing that intelligence tends to extend itself and characterised the singularity in terms of such expansion. In contrast to AI, this idea is

sometimes referred to as intelligence amplification (IA) (Leinweber 2009). Author Greg Egan actively described changes in humanity using his understanding of physics and cognitive science (Nichols, Smith, and Miller 2007). These works also include narratives centred on certain aspects of social media and Internet technology, which are relatively recent societal advancements that enhance human potential. In the field of AI, embodiment is crucial (Brooks 1991).

It has been viewed from a science fiction (SF) perspective as a factor enhancing humanity in terms of knowledge with human culture. However, our data indicates that embodiment has a dual impact on how intelligence affects individuals. If an AI character has a human-like appearance, this usually indicates enhanced intelligence. However, decreased IQ was also influenced by general physical attributes. This trend was similar to that described by the adaptation gap design principle for robotics and human-computer interaction (HCI) (Komatsu, Kurosawa, and Yamada 2012), wherein more intelligent characteristics are influenced by human-like characteristics. Similar tendencies were seen in how language ability, consciousness, learning capacity, generality, and network connection all contributed to an increase in projected intelligence.

Their contributions to humanity differed slightly, though. The ability of AI to speak and their consciousness both demonstrated a weakly increasing trend for humans. On the other hand, network connection had a negligible impact on humanity, and learning ability and generality had weaker effects. When attempting to communicate the benefits of AI to non-experts, it may be more helpful to focus on language capabilities than AI variety. It is also amazing how the presence of people merely reduces humanity. People have a hard time conceptualising an intellect made up of numerous smaller, less complicated intelligences. It is important to emphasise the safety of this type of artificial crowd intelligence. Machine-type AI in SF seems to have been used

as a motif for unmanageable robots, while human-type AI in SF seems to have been used as a motif for humans from different civilizations. Human type AI agents, such as Karel Capek's R.U.R., which popularised the name "robot," are reminiscent of slavery and racial prejudice since they utilise slave labour for domestic duties and other tasks. This is believed to have served as a way for the narratives to depict elements of how various human beings cohabit in society, such as dread. Another cliché in science fiction is machine-type AI, which represents the idea of autonomous machines that have a tendency to get out of control and cause issues.

The myths of golems are where the fear of this kind of unmanageable machine originated. The key characteristics of this kind of AI are its rigidity and seeming lack of intellect. Despite the fact that the researcher agrees that these AI images in the literature function effectively, they might not present a technically realistic appearance. It leads to further concern that these fictional works could contribute to the development of AI prejudices.

Although the main goal of AI is to create intelligence similar to that of humans, it may care to avoid the abuse of this picture and should explain their technologies to avoid these prejudices. Human-like visuals are frequently employed, especially in the design and promotion of commercialised AI. In researcher's opinion, the future of AI design will be more effectively communicated through the use of infrastructure- and buddy-type AI. Buddy-type AIs don't resemble humans, although they do carry out duties in collaboration with people. The work of a Buddy type AI addresses the topic of how to reach a balance between artificial intelligence (AI) and human decision-making as a single operating system, covering problems like the division of labour between humans and AI in autonomous driving. These illustrations might help explain how the interplay between humans and AI may work in challenging situations.

Yukikaze is a typical illustration. It shows how a human pilot interacts with a variety of assistance intelligences and, through that interaction, both accepts and makes a variety of decisions. When dealing with autonomous weaponry, autonomous cars, and other related challenges, this is a problem that needs to be solved.

It is inappropriate to use science fiction (SF) about human-like AI as an illustration of a system that functions as the foundation for a networked society. An important topic of discussion in "Beatless," can be used to analyse the decision-making of infrastructure AI when describing similar social infrastructure AI, demonstrating that concerns based on human AI are not applicable analogies.

As a result, employing SF alone at this time would be challenging to immediately extract a future vision. In the future, consideration must be given to the different approaches such as empirical aspects or philosophical approaches. It can focus on the varied imagined futures offered in the fields of literature and media. What would it be like, for instance, for people in a fictional universe to interact with AI or robotics and to live in the socio-technical environments that result from that? Do human life patterns persist, and if so, what changes? What conditions exist, what changes are probable, and whether patterns of human life still persist? How does that human notion relate to the many sorts of AI in the narrative and how does it operate? Does it make any claims about human nature and the capacity for self-governance, or does it imply that people require supervision and guidance? As a result, clichés about science fiction that AI researchers need to be aware of have been highlighted, and topics that are crucial for explaining future AI and robotics technologies to the general public have been identified. By separating the real issues that are inferred from actual technology from the problems that emerge from literary ideas of humans and tools, it is possible to answer widespread concerns about artificial intelligence technology.

REFERENCES

- Asimov I (1950) *I, Robot*. Doubleday, New York.
- Asimov I (1978) "The Machine and The Robot." in *Science Fiction: Contemporary Mythology*, edited by P. S. Warrick, M. H. Greenberg, and J. D. Olander. Harper and Row.
- Brooks RA (1991) "Intelligence without Representation." *Artificial Intelligence*
- Burton E, Goldsmith J, Mattei N (2018) "How to Teach Computer Ethics through Science Fiction." *Commun ACM* 61(8):54–64.
- Cixin L, Translated by Gabriel Ascher (2013) Translated by Holger Nahm, and. "Beyond Narcissism: What Science Fiction Can Offer Literature." *Science Fiction Studies* 40(1):22–32.
- Ema A, Akiya N, Osawa H, Hattori H, Oie S, Ichise R, Kanzaki N, Kukita M, Saijo R, Otani T, Miyano N, Yoshimi Yashiro (2016) "Future Relations between Humans and Artificial Intelligence: A Stakeholder Opinion Survey in Japan." *IEEE Technol Soc Mag* 35(4):68–75.
- Fogg BJ (1999) "Persuasive Technologies." *Commun ACM* 42(5):26–29.
- Ganascia J-G (2010) "Epistemology of AI Revisited in the Light of the Philosophy of Information." *Knowl Technol Policy* 23(1):57–73.
- Ganascia J-G (2017) *Intelligence Artificielle: Vers Une Domination Programmée ?*
- Haraway D (2000) "A Cyborg Manifest: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." *The cybercultures reader*. Psychology Press, pp. 291–324.
- Inami M, Kawakami N, and Susumu Tachi (2003) Optical Camouflage Using Retro-Reflective Projection Technology. IEEE Computer Society.
- Kaplan F (2004) Who Is Afraid of the Humanoid? Investigating Cultural Differences in the Acceptation of Robots. *Int J Humanoid Rob* 01(03):465–480.
- Kasahara S, Nagai S, Rekimoto J (2017) JackIn Head: Immersive Visual Telepresence System with Omnidirectional Wearable Camera. *IEEE Trans Vis Comput Graph* 23(3):1222–1234.
- Komatsu T, Kurosawa R, and Seiji Yamada (2012) How Does the Difference Between Users' Expectations and Perceptions About a Robotic Agent Affect Their Behavior? *Int J Social Robot* 4(2):109–116.
- Kurosu M (2014) "User Interfaces That Appeared in SciFi Movies and Their Reality." pp. 580–88 in *Design, User Experience, and Usability. Theories, Methods, and Tools for Designing the User Experience*, edited by A. Marcus. Cham: Springer International Publishing.
- Leinweber DJ (2009) Artificial Intelligence and Intelligence Amplification. In: Ross Ashby W. (ed) *Nerds on Wall Street*. John Wiley & Sons, Inc., Hoboken, NJ, USA, pp 149–158.
- Marcus A, Sterling B, Swanwick M, Soloway E, and Vernor Vinge (1999) Opening Pleanary: Sci-Fi @ CHI-99: Science-Fiction Authors Predict Future User Interfaces. In *Extended Abstracts on Human Factors in Computing Systems*, 95–96. <https://doi.org/10.1145/632716.63277>.
- Matsuo T (2017) "The Current Status of Japanese Robotics Law: Focusing on Automated Vehicles." pp. 151–70 in *Robotics, Autonomics and the Law*.
- McCauley L (2007) AI Armageddon and the Three Laws of Robotics. *Ethics Inf Technol* 9(2):153–164.
- McCauley L (2007) and Dunn Hall. "The Frankenstein Complex and Asimov's Three Laws." 9–14.
- Mubin O, Billingham M, Obaid M, Jordan P, Alves-Oliveira P, Eriksson T, Barendregt W, Sjölle D, Fjeld M (2016) and Simeon Simoff. "Towards an Agenda for Sci-Fi Inspired HCI Research." pp. 1–6 in *Proceedings of the 13th International Conference on Advances in Computer Entertainment Technology*. New York, New York, USA: ACM Press.
- Mubin O, Wadibhasme K, Jordan P, and Mohammad Obaid (2019) Reflecting on the Presence of Science Fiction Robots in Computing Literature. *ACM Trans Human-Robot Interact* 8(1):1–25.
- Nagy P, Wylie R, Eschrich J, Finn Ed (2018) Why Frankenstein Is a Stigma Among Scientists. *Sci Eng Ethics* 24(4):1143–1159
- Nass C, and Youngme Moon (2000) Machines and Mindlessness: Social Responses to Computers. *J Soc Issues* 56(1): 81–103.
- Nichols R, Smith ND (2007) and Fred Miller. "Philosophy Through Science Fiction: A Coursebook with Readings." pp. 448.
- Omori N (2020) "Komatsu Sakyō: Japan's Apocalyptic Sci-Fi Author in the Spotlight in 2020." *Nippon.Com*. Retrieved (<https://www.nippon.com/en/japan-topics/g00943/>).

- Orikasa M, Inukai H, Eto K, Minamizawa K (2017) and Masahiko Inami. "Design of Sports Creation Workshop for Super-human Sports." pp. 1–4 in *Proceedings of the Virtual Reality International Conference*. New York, New York, USA: ACM Press.
- Picard RW (1997) *Affective Computing*. MIT Press
- Reeves S (2012) "Envisioning Ubiquitous Computing." pp. 1573–1582 in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '12. New York, NY, USA: Association for Computing Machinery.
- Rekimoto J (2014) "A New You: From Augmented Reality to Augmented Human." pp. 1–1 in *International Conference on Interactive Tabletops and Surfaces*. New York, New York, USA: ACM Press.
- Robertson J (2011) "Gendering Robots: Posthuman Traditionalism in Japan." pp. 277–303 in *Recreating Japanese Men*.
- Schmitz M, Endres C, Butz A (2008) *A Survey of Human-Computer Interaction Design in Science Fiction Movies*. Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering.
- Shaw-Garlock G (2009) Looking Forward to Sociable Robots. *Int J Social Robot* 1(3):249–260.
- Shedroff N (2012) and Chris Noessel. "Make It so: Learning from SciFi Interfaces." pp. 7–8 in *International Working Conference on Advanced Visual Interfaces*. New York, New York, USA: ACM Press.
- Sterling B (2009) "Design Fiction" *Interactions* 16(3):20–24.
- Tanenbaum J, Tanenbaum K (2012) and Ron Wakkary. "Steampunk as Design Fiction." pp. 1583–1592 in *Conference on Human Factors in Computing System*, CHI '12. New York, NY, USA: Association for Computing Machinery.
- Tatsumi T (2000) Generations and Controversies: An Overview of Japanese Science Fiction, 1957–1997. *Sci Fiction Stud* 27(1):105–114.
- Troiano G, Tiab J, Youn-kyung Lim (2016) "SCI-FI: Shape-Changing Interfaces, Future Interactions." pp. 1–10 in the 9th Nordic Conference.
- Vinge V (1993) "The Coming Technological Singularity: How to Survive in the Post-Human Era."