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دور الأدب في التنبؤ بالاتجاهات المستقبلية

حافظ فرهود ابدع السالم¹

عاطف غالب محمد²

¹ جامعة العين، ذي قار، العراق

² قسم اللغة الانكليزية، كلية التربية للعلوم الانسانية، جامعة ذي قار

خلاصة

يستكشف هذا البحث دور الأدب في تشكيل بعض الاختراعات الهائلة التي جاءت لاحقاً. ويبين نبوءة بعض المؤلفين. ومن خلال فحص بعض الأعمال الأدبية واستكشاف موضوعاتها وزخارفها وبنيتها السردية، تشرح الورقة مدى أهمية الأدب في تصور التغيرات المجتمعية والتكنولوجية والثقافية المستقبلية والتنبؤ بها. بالاعتماد على نهج متعدد التخصصات، تبحث هذه الدراسة في الطرق التي يعكس بها الأدب الخيال الجماعي ويشكله. مما يعزز التفكير النقدي ويشير الخطاب حول الاحتمالات المستقبلية. تعرض الدراسة بعض الاختراعات العلمية التي استبقها بعض المؤلفين في أعمالهم الأدبية قبل وقت طويل من أن تصبح حقيقة. ومن بين هذه الاختراعات الحاسمة في الحياة الحديثة اختراع المركبة الفضائية، والهبوط على سطح القمر، واختراع الغواصة في روايات جول فيرن، من الأرض إلى القمر، عشرون ألف فرسخ تحت سطح البحر. من خلال تحليل أدب الخيال العلمي، يهدف هذا البحث إلى توضيح كيف يعمل الأدب كوسيلة نبوية، ويقدم نظرة ثاقبة للمسارات المحتملة للإنسانية.

الكلمات المفتاحية: الخيال العلمي، منهج متعدد التخصصات، جولي فيرن، من الأرض إلى القمر، عشرون ألف فرسخ تحت البحر

The Role of Literature in Anticipating Future Trends

Hafudh Farhood Abda Alsalm¹

Atef Ghalib Mohammad²

¹ Al-Ayn university, Thi-Qar, Iraq

² English Dept. College of Education for Human Sciences. University of
Thi-Qar

Abstract

This paper explores the role of literature in shaping some tremendous inventions that came later. It shows the prophecy of some authors. The study analyzes literary works to demonstrate the importance of literature in forecasting future sociological, technical, and cultural changes via themes, motifs, and story structures. A multidisciplinary approach is used, in this study, to investigate how literature reflects and shapes the collective imagination, fostering analytical thinking and generating discussions about possible future situations. It displays scientific innovations that were predicted by writers in their literary works long before they were really developed. Key innovations in contemporary life include the spaceship, Moon landing, and submarine as depicted in Jules Verne's books, "From the Earth to the Moon" and "Twenty Thousand Leagues Under the Sea". This study tries to show the role of science fiction literature in predicting future routes and how it acts as a prophetic medium, offering insights into the potential paths of humanity.

Keywords: Science Fiction, Multidisciplinary Approach, Jule Verne, From the Earth to the Moon

1-Introduction

1.1 Background of Study

Literature is considered a powerful instrument for exploring the human experience and reflecting societal values and aspirations. However, its ability to foreseeing the future is often ignored. Literature has a unique capacity to see and predict future scenarios, providing readers with important insights into possible consequences and results. This research examines how literature might foretell the future via various narrative techniques, themes, and motifs.

1.2 Examining the Role of Science Fiction in Envisioning the Future

Science fiction is an engaging genre that entertains and serves as a powerful tool for envisioning and examining possible possibilities. Science fiction encourages reflection on the consequences of scientific advancements and technological development, prompting a re-evaluation of our understanding of reality via imaginative narratives and futuristic concepts. This research examines the significant influence of science fiction on shaping our perceptions of the future and its effects on technological advancements, social changes, and ethical considerations. This study explores how science fiction plays a crucial role in moulding our views of the future and impacting scientific progress, societal transformations, and moral deliberations.

Science fiction primarily aims to provide us with insights into potential future scenarios. Science fiction writers extrapolate current scientific knowledge and technology development to create realistic scenarios that encourage us to contemplate the consequences of rampant advancement. Works such as H.G. Wells' "*The Time Machine*" and Jules Verne's "*From the Earth to the Moon*" anticipated space travel and time manipulation before they were achieved scientifically (Livingston, 1969). These innovative art pieces stimulate scientific endeavours and prompt us to analyze the ethical quandaries and repercussions of new technology.

Science fiction has continuously motivated scientists, engineers, and innovators to expand the limits of what may be achieved. The TV show "Star Trek" showcased advanced technology like communicators and tricorders, which inspired the creation of real-world gadgets such as cellphones and portable medical diagnostic tools (Lawrence-Smith, 2014). Jules Verne's novels "*From the Earth to the Moon*" and "Twenty Thousand Leagues Under the Sea," together with Arthur C. Clarke's "*2001: A Space Odyssey*," presented the idea of geostationary satellites, which are now a crucial part of contemporary communications networks (Andriulli, 2019). Science fiction stimulates scientific curiosity and innovation by imagining cutting-edge technology.

Science fiction often delves into societal difficulties by portraying future worlds, enabling us to analyze our existing social structures and behaviors with a critical perspective. Ursula K. Le Guin's book "*The Left Hand of Darkness*" questions conventional gender roles by depicting a society where people have a changeable gender identity (Vale de Almeida, 2023).

Most of Jules Verne's work may be thus characterized. Encouraging readers to explore alternate social structures enables them to examine and challenge their preconceptions, sparking debates on gender, identity, and cultural standards. Science fiction provides a distinct platform for examining and envisioning various socioeconomic scenarios, eventually aiding in societal advancement.

Science fiction is important for addressing ethical problems and encouraging responsible innovation as technology progresses rapidly. Jules Verne's works often present moral quandaries about exploration, technology, and human progress. The topics revolve on the consequences of scientific advancements, the impact of human actions on the environment, and the ethical dilemmas of pushing the boundaries of knowledge (Turan, 2022). Verne's writings encourage readers to contemplate the moral quandaries that come with seeking knowledge and the possible outcomes of unbridled desire. Verne's writings urge readers to consider the appropriate and ethical use of scientific and technical progress, as well as the moral dilemmas associated with human discovery and extension into unknown areas. Isaac Asimov's "*I, Robot*" and Philip K. Dick's "*Do Androids Dream of Electric Sheep?*" explore the ethical consequences of artificial intelligence and the core essence of humanity (Sevilla-Vallejo, 2022). These examples prompt us to address ethical challenges related to the development and use of sophisticated technology. Science fiction invites society to consider potential scenarios by delving into complex issues inside an imaginary environment.

Science fiction is an important way to imagine what might happen in the future. It can also be used to spark science creativity, question social norms, and think about moral issues. The original stories make us think about what happens when science and technology get better. Examining how science fiction influences our perceptions of the future helps in understanding its impact on technological advancements, social changes, and ethical evaluations. Science fiction serves as a valuable instrument for envisioning and shaping the future we want to create in an ever-evolving setting (Zaidi, 2019).

1.3 Notable Speculative Fiction Authors and their Contributions

Many influential authors have enhanced the genre of speculative fiction, including science fiction, fantasy, and dystopian literature. Readers have found their contributions entertaining, cultural norms have been challenged, boundaries of creativity have been expanded, and their work has sparked scientific and philosophical discussions. This article examines prominent speculative fiction authors and their significant impact on the genre. Jules Verne, Arthur C. Clark, Ursula K. Le Guin, and Philip K. Dick are among the many authors who have made significant contributions to the science fiction genre. The scope of this investigation is restricted to the analysis of two books written by Jules Verne: *From the Earth to the Moon* and *Twenty Thousand Leagues Under the Sea*.

2. Literature Review

2.1 Overview of Multidisciplinary Approach

The multidisciplinary method is not new; it has been around for a while. People thought this method could only be used in science and technology. In the last few years, considerable changes have occurred in the area of study. Their reach has grown thanks to new trends and creative study methods. A multidisciplinary method has also been used in the social sciences, the arts, and other fields. English literature research cannot avoid these changes (Banerjee, 2021). Because writers are part of society, the changes that happen around them affect them. English literature is not just about analyzing texts, studying people, figuring out ideas, or studying language. Its roots have grown more profound, and it is now being used in other fields to understand better the book being studied. With the help of a diverse method, literature is now being read and revised. Texts that are written are no longer just seen as lovely works of art with lovely words and phrases. There are also views from anthropology, feminism, post-colonialism, psychology, history, and philosophy that are used to look at them. Text has changed over time, but it is still an important part of English writing. In the past, it meant a story, book, essay, poem, or play. It can also mean ads, billboards, art, songs, and movies. This essay tries to show the importance of using various methods when studying science literature.

2.2 Multidisciplinary Approach and Science Fiction

The intersection of multidisciplinary approach and science fiction presents a captivating landscape where diverse fields such as technology, sociology, psychology, and more converge to explore speculative and imaginative concepts. This dynamic fusion allows for examining futuristic scenarios, the impact of innovation on society, and the potential of scientific advancements. Exploring science fiction via the integration of multiple fields creates a complex and diverse collection of concepts that amuse and provide significant insights into the potential outcomes of our quickly changing world (Rokade, 2022).

Studying science fiction literature or media frequently necessitates a multidisciplinary approach because of the genre's numerous and complicated characteristics. The methodology section details the essential stages and strategies for using a multidisciplinary framework to study science fiction literature.

A multidisciplinary approach in science fiction is integrating knowledge from several scientific fields to construct a believable and consistent fictional universe. This method prioritizes scientific correctness and realism to ensure that the scientific ideas and technology depicted in the tale are in line with our present knowledge of the cosmos. It can be beneficial for "hard" science fiction, which focuses on scientific accuracy and explores the implications of advanced technology and scientific advancements (Ibid).

3. Methodology

The idea of a multidisciplinary method is not new. It might not have had a name before, but it was used in book research or study. There are stories in epics like the Mahabharata, the Ramayana, and Paradise Lost that show how different fields of study work. These fields include

politics, religion, psychology, philosophy, economics, sociology, and more. Because people from different fields work together, we think that in old times, writings were not split up into different areas or subjects but were seen as a whole. The need to classify things may have arisen as man progressed in different areas. So, a wide range of knowledge was spread across different fields, and speciality or niche fields were created. With the progress in science and technology, many new fields were also created in later stages. Multidisciplinary research involves exploring solutions to problems by integrating knowledge and methodologies from several subjects or specialities. The interdisciplinary approach is characterized by using several disciplines to redefine challenges beyond conventional bounds and develop solutions based on a fresh comprehension of intricate circumstances (Hans, 2015). The International Bureau of Education describes the interdisciplinary approach as integrating curriculum that emphasizes the many disciplines and their distinct views to demonstrate a subject, theme, or problem. The multidisciplinary approach aims to transcend the limitations imposed by traditional techniques or approaches and embrace new disciplines in order to achieve exceptional and distinct outcomes. Research in English literature is no longer limited to exploring themes, characters, and linguistic analysis. It is increasingly branching out into other academic fields as well. When engaging with a book, tale, poetry, or novel, we scrutinize it, decipher its meaning, and provide our reactions to the artistic creation. However, often, our perceptions are limited to being literal or superficial. Upon thorough investigation, we start uncovering the concealed layers underneath. In this investigation process, we must seek help or aid from various professions or domains to get an expert perspective. Regardless of our field or area of study, our curiosity to unravel the secrets compels us to adhere to several limits. Adopting a multidisciplinary approach involves preserving the fundamental aspects of a particular topic while simultaneously exploring other subjects that have commonalities or provide distinct perspectives (Baker, 2006).

4. Discussion

4.1 Jules Verne's work

Jules Verne is the father of science fiction (Taves, 2015). His novels, including "*Twenty Thousand Leagues Under the Sea*", "*From the Earth to the Moon*", and "*Journey to the Center of the Earth*," captivated readers with their imaginative portrayals of future technologies and daring adventures. Verne's works inspired generations of scientists and explorers and predicted technological advancements such as submarines, space travel, and even lunar missions. Most of his literary writings were about existing scientific inventions or discoveries he predicted would serve humanity, such as trips and adventures. He was one of those who adopted the new international language (Esperanto) idea and promised to write a novel about it, but he did not complete it. His writings varied and were not limited to science fiction, but this is what dominated him.

4.2 *From the Earth to the Moon* (1865)

Since the beginning of creation, the alien world still represents a vague mystery shrouded in many secrets, and there is no doubt that the Moon, that cosmic body that the Lord of the universe swore by in the Holy Qur'an, has inspired poets and writers with rich material for their stories and poems (Maravelia, 2011). Not only had that, but also ancient civilizations and religions interacted with it. When we examine ancient mythology, we find moon gods such as Selene, Phoebe, Diana and others. Of course, literature was not far from this world, but rather, many works were presented that explored the depths of that mysterious world, and it is not surprising that the novel *From the Earth to the Moon* by the French writer Jules Verne is at the forefront of these works. It preceded science, and through it, the writer Jules Verne predicted the ascent to the Moon a hundred years before Neil Armstrong's flight, known as the Apollo 11 flight in 1969 (Estébanez Camarena, 2020).

Perhaps surprising is the closeness between the details imagined by Jules Verne and the facts that science later reached. For example, Jules Verne wrote about the spacecraft as "nine feet in diameter and fifteen feet long" (Verne, 1889, p.184), while Apollo-11 was ten feet seven inches high and twelve feet ten inches in diameter. In addition, Jules Verne chose Florida as a launch site for his spacecraft, and the Apollo spacecraft was launched from the Kennedy Space Centre in Florida (Lipartito, 2007). Besides, Jules Verne wrote, "Those three men," said he, "have carried into space all the resources of art, science, and Industry" (Verne, 1889, p. 209), stating that the spacecraft carried three people and the real one carried the same number as he imagined. Even more astonishing, it took the gun club's trip four days to reach the Moon, and indeed, it took Neil Armstrong nearly four days. "It will meet the moon four days after its discharge, precisely at midnight on the 4th of December, at the moment of its transit across the zenith..." (Verne, 1889, p. 34). The director of the Cambridge Observatory also followed Jules Verne's spaceship through an advanced telescope, which is what happened. In the same context, the Houston Space Center in Texas took over the task of supervising the Apollo-11 flight, and in the novel, we will read how Texas struggled to the last breath to win the honour of hosting the Columbian or the Columbiad. (Yu, Hansen & Oard, 2014). Despite those as mentioned earlier, which leaves no doubt about the genius of Jules Verne, his genius transcended scientific boundaries to the social and political aspects, as the writer was able, with his insight and analytical ability, to predict that the American people would be the first to ascend to the Moon, highlighting the American nature that does not hesitate to ignite wars for economic gains, which is what we have been witnessing it since the Cold War to the present time. As one of the members of the gun club (crew) said after the end of the federal war, The writer goes deeper, referring between the lines to the arms race and the American-European competition, which appeared later when the Second World War was about to end, and the Cold War era began to shine. He did not release his imagination on his mind but instead studied the scientific aspects thoroughly and accurately, so his proactive works filled the world and occupied people.

Almost 145 years ago, in his *From Earth to the Moon*, the creative French novelist Jules Verne imagined how science would facilitate man's access to the Moon. What was most impressive about his narration was that his imagination nearly matched everything that

happened in the summer of 1969 when the first human astronauts landed on the Moon during the Apollo 11 flight.

Thus, it can be said that Jules Verne was one of the greatest science fiction writers of his time in the middle of the nineteenth century in which he lived. About a century before the Americans ascended to the surface of the Moon, Jules Verne, in his "*From the Earth to the Moon*", imagined the real journey more than 100 years before it happened. Interestingly, the novel predicted many actual events in numbers, which made scholars praise the genius of its author, who crossed time with his imagination to know what would happen.

The novel tells about the members of a post-Civil War gun club in Baltimore who build a space capsule to launch themselves to the Moon using a giant cannon. The novel explores their ambitious and adventurous journey and the scientific and technical challenges they face. It is a pioneering work of science fiction that captures the spirit of exploration and discovery. The book can be classified as a science fiction book where science forms an integral part of the story, which analyzes the potential impact of technical innovations on nature and discusses the tensions between the economy and society resulting from scientific innovation.

4.3 *Twenty Thousand Leagues Under the Sea* (1869)

The French novelist Jules Verne (1828-1905) wrote more than a hundred novels and books ahead of his time in his thinking and predicted inventions that did not exist in his time, such as electricity, submarines, and missiles. Some of the titles of his many novels illustrate this clearly, including the novels "*Five Weeks in a Balloon*" 1862, "*A Journey to the Heart of the Earth*" 1864, "*From the Earth to the Moon*" 1865, "*Twenty Thousand Leagues Under the Sea*" 1869. This is why Jules Verne was considered the pioneer of fantasy and scientific literature (Angenot, 2021). Because of that, we can understand why he was one of the most prolific writers whose works have been translated into international languages.

4.3.1 Submarine «Nautilus»

Jules Verne was skilfully able to convince his readers of what he talked about in his novels of the possibilities of the emergence of inventions that he touched upon in precise details and an integrated description, with exciting and scientific adventures in his many novels, the most prominent and most important of which was the invention of the submarine in his novel "*Twenty Thousand Leagues Under the Sea*". It suffices to point out that the name of the submarine he spoke about in this novel, which he called "Nautilus", became actual several decades after the publication of the novel when the United States named its first submarine the USS Nautilus" honour of Jules Verne, who paved the way for this brilliant invention (Lutz, & Falkowski, 2012). The invention of the submarine means discovering the depths of the seas and oceans, including the secrets that have remained unknown for centuries.

The novel's events began in 1866 when a vast, mysterious black monster hundreds of feet long appeared in the sea and was seen by several ships; its size was more significant than all creatures known to scientists. The monster was emitting a frightening glow from under the water that

shot it hundreds of meters away, "The monster had been but a huge misshapen mass, an enormous, vague bulk, the very image of a formless, shapeless, and fantastic creature." (Verne, 1998, p.180). People saw it close to the coast of Australia, and after three days, they saw it more than 2,000 miles away in the Pacific Ocean. It has been described as "But at that moment, the Nautilus, carried along by the torrent, shot up with inconceivable rapidity, rising like a balloon, and falling, striking, and rebounding like a ball. We were thrown upon each other and lay helpless, with our heads whirling in the confusion. The Nautilus was no longer under control." (Verne, 1998, p. 188). It was moving so fast that people saw it two weeks later in the mid-Atlantic, more than 6,000 miles away.

4.3.2 Facing the Monster

There were rumours about this strange and wondrous creature, which raised a lot of astonishment and fear. Newspapers discussed it, and scientists were confused about whether such a vast creature existed: "The monster, who had been but a problem to us, was soon to become a terrible reality" (Verne, 1998, p. 189).

It was believed that the monster rammed several ships, sinking some of them and piercing and disabling others, including the "Scotia ship", "Suddenly a dreadful shock was felt, and the Nautilus was violently thrown into the air. ... The monster had rammed it with its terrible head." (Verne, 1998, p. 252). This prompted marine biologist Pierre Aronnax to speculate that the very large narwhal was the cause of all these events.

The United States also equipped the warship Abraham Lincoln, commanded by Captain Farragat, to pursue and kill the beast, which Aronnax joined after taking his faithful servant Conseil with him. The ship's loyal and enthusiastic crew included Ned Land, the most skilled Canadian spear fisherman. The scientist, Aronnax, soon formed a good relationship with the hunter, Ned Land.

The Atlantic Ocean was being surveyed day and night in search of that mysterious beast, and soon, three months had passed while they were at sea, during which boredom and despair crept into the sailors, so Captain Farragat asked them to continue searching for only three days, and if they did not find the beast during which they would return home. Suddenly, Ned Land shouted, pointing to a glowing oval, "There he is!" Aronnax shouted, "Look over there... it is moving." (Verne, 1998, p. 74).

They fired their cannonballs at him, and Ned fired his spear as well, before a terrible collision occurred, after which Aronax and his servant Conseil and Ned Land fell into the water to find themselves, after a struggle with death, on the back of a smooth metal body consisting of metal sheets tied together tightly in the shape of a fish. They knocked on the plates for help, and from a metal door came out two men wearing beaver hats and loose clothes, then eight men came and pushed them by force into the heart of that metal body.

4.3.3 Discovering the secret

Aronax and his servant Conseil, along with Ned Land, soon realize that they are captives as they watch their cruel treatment and lock them in a dark place. The submarine's captain, Nemo, came and talked to them so that they knew through him that he knew them well. He addressed them by their names. Then, they realized they would not be released because they discovered the secret of the submarine. Nevertheless, they will be free to roam inside the submarine, and Captain Nemo asks Aronax to benefit from this experience by increasing his knowledge of the sea world after he tells him that he has read his valuable research and that by being in the submarine, he would discover what no one had seen of the secrets of the seas.

Aronax told Captain Nemo that his curiosity to know new secrets of the seas exceeded his desire for freedom. However, Ned Land was looking forward to escaping and freedom. He urged Aronax to do so, especially since Aronax found that the submarine contained a diverse library and in it his book *Mysteries of the Ocean Depths*, musical instruments, and rare paintings and beautiful statues, some of which seem to have been picked up from sunken ships, especially those jewels, shells, precious stones, pearls, and priceless coloured coral reefs, and they represented a rare museum. In addition, Aronax watched the secrets of making this submarine as it renews the air by floating above the surface, using electricity and desalination water, and saw the glass submarine's cockpit.

Exquisite marine creatures can be seen swimming in the vicinity of the submarine's light, and Captain Nemo took him to see one of the sea forests and toured it after he wore a diving suit and saw underwater volcanoes, mountains of snow, and expansive water tunnels, one of which they moved through from the Red Sea to the Mediterranean Sea, under the Suez Canal. Captain Nemo stated, "Unfortunately," he continued, "I cannot take you through the Suez Canal, but you will be able to catch a glimpse of the long breakwaters of Port Said the day after tomorrow, when we are in the Mediterranean" (Verne, 1998, pp. 184-85). Also, a group of substantial wild squids attacked the submarine with its multiple and powerful arms until it almost drowned it.

During ten months of captivity, Aronax witnessed what no human had seen before and realized that Captain Nemo, who picks up treasures from the tombs of sunken shipwrecks and exchanges them near the island of Crete for money to help those in need, is the same one who takes revenge by sinking ships regardless of their nationality because he lost his family and parents a day because of it. Thus, Aronax yearns for freedom, like his friend, the hunter Ned Land.

Soon, a barge commanded by Captain Farragut attacked them with its shells. Nemo decided to collide with and sink it, which affected the submarine. A conversation occurred between the sailors about a nearby vortex, and then came the opportunity to escape when they approached the land. As Ned Land came to tell Aronax the opportunity, so Aronax sneaked lightly from the submarine and heard Captain Nemo echoing in his room: "God almighty! Enough! Enough!" (Verne, 1998, p.19).

4.3.4 Scientific foundations

The novel represents a beautiful example of this fertile, mature imagination, as Jules Verne was able, with his literary ingenuity, to portray the personality of its leader and maker, Captain 'Nemo', in an accurate and vibrant depiction of a symbolic figure for the educated and learned man who did not find from the people of his world on land other than cruelty and ingratitude, so he preferred to exploit his knowledge and money in creating a submarine equipped with all the reasons for life underwater. It is stated that "Captain Nemo, with a few strokes of the pen, had created a submarine equipped with all the necessities for life under the sea. It was a marvel of engineering and innovation, a testament to his ingenuity and determination to explore the depths of the ocean." (Verne, 1998, p. 72)

The reader can only go on reading the novel with eagerness and fascination. He lives with Captain Nemo, sympathizes with him, admires him, appreciates his circumstances, and wishes he had the opportunity to spend a few months on this beautiful submarine, to see behind its crystal windows this wondrous world as "The Nautilus is not only a boat, it is also a place of refuge for those who, like its commander, have broken with the world above" (Verne, 1998, p. 230).

The truth is that Jules Verne shows us the world of the seas with a brilliant and vibrant presentation based on honest scientific foundations and recognized research preceded by many professors of natural and marine sciences. There is no doubt that factors of astonishment and fascination will possess the reader. He sees through the eyes of the heroes of the story colours of the wonders of the seas, as he will witness in every sea and ocean type of fish, marine monsters, oysters, shells, marine mammals, and plants with bright colours, coral reefs, plant fossils and mineral elements that are stored in the depths of the sea. All of them are in beautiful chapters that come alive, are based on sound scientific foundations, and seem to come from the core of reality without imagination.

5. Conclusion:

In conclusion, this research has demonstrated the significant role of literature in anticipating the future. Studying different literary works demonstrates that literature is a great instrument for imagining prospective future situations and social advancements. Studying the themes, trends, and human experiences portrayed in literature may provide vital insights that can help us prepare for and influence the future. Studying literature enhances our comprehension of historical and current events and provides insightful viewpoints for dealing with future challenges. Utilizing a multidisciplinary approach enables a thorough investigation of science fiction, taking into account its complex and diverse characteristics. Researchers may enhance their comprehension of the cultural, social, and technical importance of science fiction by combining knowledge and approaches from many fields. This method provides new opportunities for investigating the genre and its wider consequences, providing novel perspectives and enhancing the examination of science fiction.

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